

**SELF-EVALUATION REPORT FOR EVALUATION OF
RESEARCH ORGANIZATIONS IN THE SEGMENT OF HIGHER
EDUCATION INSTITUTIONS IN YEAR 2025**

HIGHER EDUCATION INSTITUTION NAME: Czech University of Life Sciences Prague – CZU (Česká zemědělská univerzita v Praze – ČZU)

COMPANY REGISTRATION NUMBER (CRN): 60460709

THE LIST OF EVALUATION UNITS IN MODULE 3:

Faculty of Economics and Management - FEM (Provozně ekonomická fakulta - PEF)

Faculty of Agrobiolology, Food and Natural Resources - FAFNR (Fakulta agrobiologie, potravinových a přírodních zdrojů - FAPPZ)

Faculty of Engineering - FE (Technická fakulta - TF)

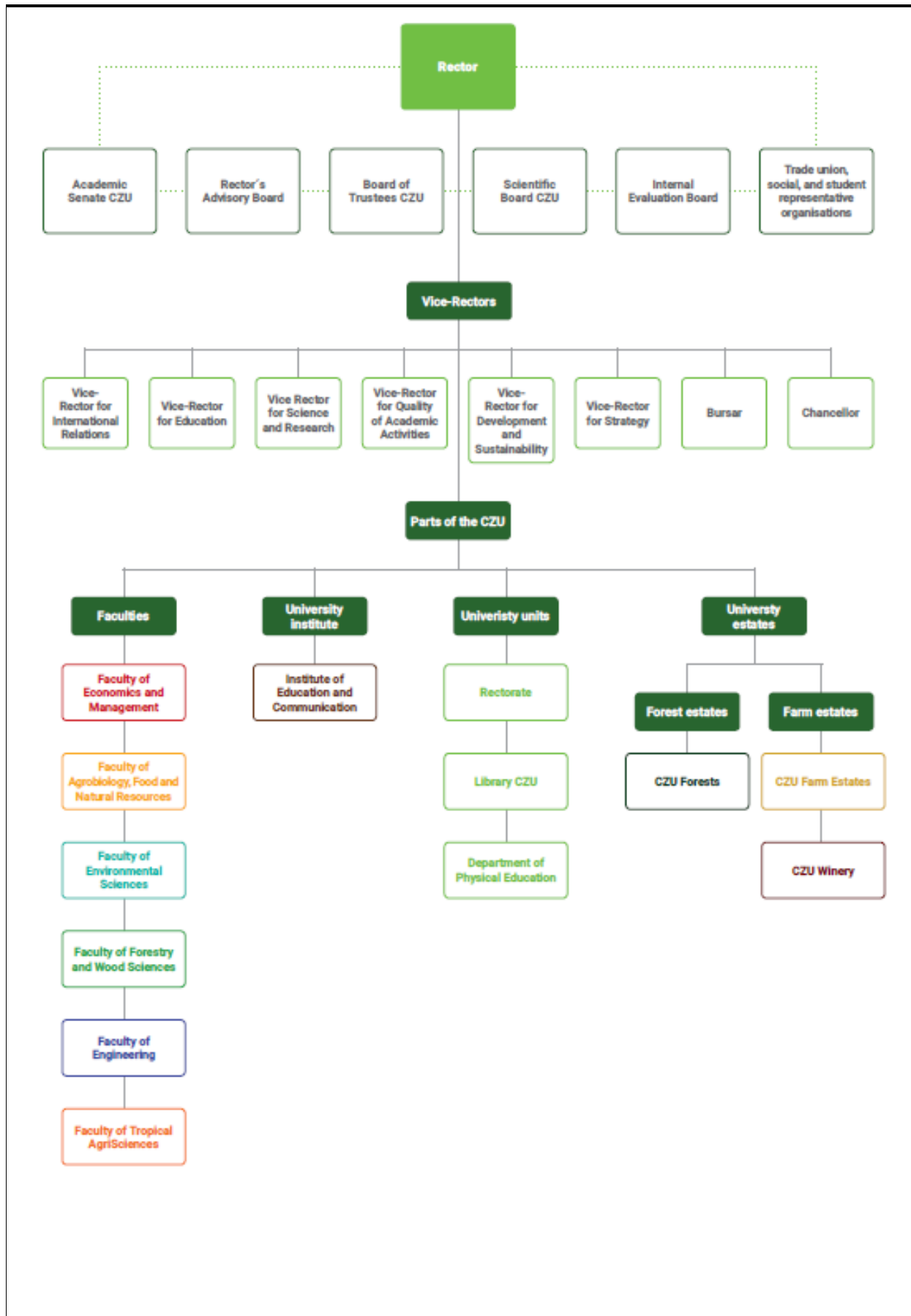
Faculty of Environmental Sciences - FES (Fakulta životního prostředí - FŽP)

Faculty of Forestry and Wood Sciences - FFWS (Fakulta lesnická a dřevařská - FLD)

Faculty of Tropical AgriSciences - FTA (Fakulta tropického zemědělství - FTZ)

Institute of Education and Communication - IEC (Institut vzdělávání a poradenství - IVP)

ORGANIZATIONAL STRUCTURE OF THE HIGHER EDUCATION INSTITUTION



HIGHER EDUCATION INSTITUTION WEBSITE (HTML LINK): <https://www.czu.cz/en/>

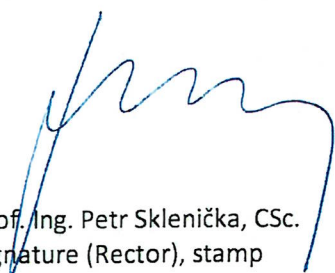
THE HIGHER EDUCATION INSTITUTION CONTACT PERSON

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Prof. Ing. Petr Sklenička, CSc.
Signature (Rector), stamp



29-04-2025

Introductory information about the evaluated higher education institution

The HEI briefly introduces itself. The organizational chart, the position of the HEI within the research, development and innovation system and the system of HEIs in the Czech Republic may be commented on, the mission and vision, the size of the HEI, the number and focus of the units evaluated will be briefly presented.

Maximum 500 words.

Description:

Czech University of Life Sciences consists of six faculties (Faculty of Agrobiology, Food and Natural Resources (FAFNR), Faculty of Economics and Management (FEM), Faculty of Forestry and Wood Sciences (FFWS), Faculty of Environmental Sciences (FES), Faculty of Tropical AgriSciences (FTA) and Faculty of Engineering (FE) and Institute of Education and Communications (IEC).

FAFNR used to be the main centre for the education and training of experts, mainly for agricultural enterprises, research, and state administrations, however recently the shift to a broader focus comprising newly emerging issues in natural resources management and food quality has occurred.

FEM, offers supreme and complex education with focus on enhancement of economic, scientific, creative, academic, cultural and social abilities of each individual student.

FFWS provides a comprehensive forestry education system to encourage and support rational forest management and sustainable utilization of its huge natural resources.

FES offers programmes focused on nature and landscape monitoring, conservation, protection, and management, blending biological, technical and engineering methods with real-world applications in both public and private sectors.

FTA is a unique institution in the Czech Republic with over fifty years of tradition in tropical agriculture, rural development and the sustainable management of natural resources in the tropics.

FE has a multidisciplinary focus in agriculture, mechanical and material engineering with a slight overlap in environmental and civil engineering with the focus on development of structures used in agricultural production and food industry.

IEC is a higher education institute with a long tradition in the field of education and counselling.

In terms of number of staff involved in research and development, at the end of 2024, there were 1648 FTE. In terms of number of students, there were about 19 thousand at the end of 2024. This number makes ČZU 4.-5. in the Czech Republic.

The **ČZU mission** is to be a leading representative of the academic world in education, science and research, as well as in its social activities, and an entity in promoting the sustainability principles. It is the mission of ČZU to be an excellent university primarily in its profile areas of education and creative activities (which include the agriculture, food, forestry and wood industries, earth sciences, biology, ecology and the environment, economics, informatics and engineering, technology and materials), and to develop its activities in other areas that form an integral part of ČZU operations, such as architecture and urbanism, veterinary medicine, social aspects of human life or cyber security.

The ČZU vision is to be a sustainable education, research and society responsible university focusing on Un sustainability goals, namely

- bioeconomics, smart circular economy and clean energy
- agriculture and food principles leading to food security and sovereignty
- smart technologies and technical solutions
- intelligent natural resources management ensuring the protection of the environment and human, animal and plant health
- reduction of negative impact of climate change and reasonable responses to major natural disturbances
- strengthening the resilient nature of rural areas and cities

SWOT ANALYSIS

Strengths

- continuously growing funds from national and international projects
- growing funds received on the basis of research results publication (LTCRO)
- growing attitude of employees towards publication in prestigious international journals
- research topics of the university creates suitable conditions for cooperation with the international institutions and practice
- long-term and steady mechanisms of university management supported by formal written rules (e.g., HR Award, Code of Ethics, Career Regulations, Gender Equity Plan)
- successfully solved projects dealing with sustainable development and social responsibility of the university
- existence of structures to support start-ups
- increasing number of cooperation agreements with foreign universities
- functioning student organizations at ČZU
- existence of evaluation system for academics at all levels
- flexibility of working hours in relation to family and professional duties
- very good background for employees' children
- clearly specified and quantified requirements for associate professor and professor appointment
- compact campus combining landscape architecture with university facilities
- high quality information service and instrumentation in the campus
- increasing interest of the Czech as well as foreign students for study at ČZU
- sufficient number of quality supervisors for Ph. D. students
- increasing number of foreign academics at ČZU
- project teams at Faculties (helping to administrate projects)

Weaknesses

- not high enough effectivity in international grant competitions, especially prestigious ones
- unequal distribution of publications among all academics
- low support of companies to fund the research at ČZU
- high fluctuation of administrative and technical employees
- lack of time of senior researchers (mostly due to administration burden) to develop and lead young academics
- weak interest of some academics to achieve higher academic positions (self-satisfaction)
- problems to keep IT specialists as these leave to private companies which can offer better financial conditions
- unbalanced interest of students for various Ph. D. study programmes
- low motivation of student to finish the Ph.D. study
- unbalanced approach of supervisors towards research activities including high quality publications

Opportunities

- new grant proposals and arrangements aimed at gaining knowledge on project proposal
- creation more contacts with partners from abroad
- employment of high quality researchers from abroad
- to keep close contacts with existing partners from highly ranked universities abroad for creating joint research teams in particular research subjects
- creation of interest of alumni for cooperation and funding joint projects with ČZU
- potential of participation in international networks of universities towards better management of the university
- interest of SMEs and large corporations in cooperation with ČZU
- start-ups supported by ČZU
- the increase of financial sources from both national and EU providers
- student mobility outside the ERASMUS+ programme (short-term study mobilities)
- funds for harmonizing family and professional lives
- support of women returning back after the maternity leave
- potential of the use of operational programmes to acquire new material and high-tech equipment
- creation of new study programmes which would combine both high and less profile study programmes
- quality international Ph.D. students in ČZU programmes

Threats

- constant changes in rules from grant agencies
- changes in methodology of research outputs evaluation are unpredictable and make it difficult to focus on highly valuable outputs
- low interest companies for contract research
- inability to keep top IT and administration employees because of better financial conditions offered by private sector
- no system of research topic selection, lack of unambiguous topic selection
- no steady and clear system of governmental and EU financial support
- political situation in certain parts of the world
- administration burden connected with mobilities (both from and to the ČZU)
- low and slow coordination of development plans of municipalities (Prague, Pague 6, Prague-Suchdol) with developmental needs of the ČZU
- increase of administration loads at all levels connected with project bookkeeping and data management
- rigid requirements of visa departments of the Czech Embassies which slow down or reject visa issuing to foreign students
- economic growth and job market make the doctoral study less economically interesting due to low stipend

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Economics and Management

FORD: 5 - Social sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

Mission and Vision

The Faculty of Economics and Management at the Czech University of Life Sciences Prague (FEM CZU) is positioned as a leading academic and research institution with a unique interdisciplinary approach. The faculty integrates economic, environmental, sociological, and technological sciences to reflect current scientific trends and contribute to the development of the knowledge economy.

Unlike traditional economics faculties in the Czech Republic, FEM focuses on specific areas such as **agricultural economics, environmental economics, the circular economics, and bioeconomics** within agri-food verticals. Additionally, it addresses issues related to **regional and rural development, management, and business informatics**, systematically integrating new technological approaches with economic and environmental topics

The long-term goal of FEM is to strengthen its scientific excellence in interdisciplinary and transdisciplinary research in the knowledge economy, synergistically connecting the scientific domains of the individual faculties at CZU.

Long-term Goals in Fields

The long-term goals in the fields are structured according to the strategic priorities of the faculty and relevant R&D&I fields (FORD), with the rounded achieved values for the monitored period indicated in parentheses (see Table 3.1.6):

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

Primary Long-term Goal:

Social Sciences (46 %)

- **5.2 Economics and Business (30 %) - Balanced Basic and Applied Research**
 - Conduct research on the impacts of economic policies, efficiency of natural resource use, and sustainable management.
 - Model the economic impacts of policies in agriculture, the circular economy, and the bioeconomy (e.g., Green Deal, ESG, Common Agricultural Policy).
 - Contribute to advances in production economics.
 - Develop theoretical and empirical models of the agri-food market functioning and market power in agri-food chains.
- **5.7 Social and Economic Geography (12 %) - Applied Research**
 - Support sustainable rural development and analyse socio-economic factors affecting regional and rural growth.
 - Strengthen the link between academia, public administration, and the business sector in regional planning.
- **5.3 Education (4 %) - Applied Research**
 - Examine methods of innovative education and assess the effectiveness of pedagogical strategies.
 - Apply modern digital technologies in education and develop methodologies for lifelong learning.

Secondary long-term goals:

Engineering and Technology (24 %)

- **2.7 Environmental Engineering (24 %) - Applied Research**
 - Conduct supporting research on environmental technologies and their applications in sustainable agriculture.

Natural Sciences (18 %)

- **1.5 Earth and Related Environmental Sciences (18 %) - Applied Research**
 - Examine the economic impacts of climate change on ecosystems.
 - Model and design intelligent environmental systems using computer technologies.

Agricultural and Veterinary Sciences (12 %)

- **4.1 Agriculture, Forestry, and Fisheries (4 %) - Applied Research**
 - Conduct research on new technologies, innovations, and innovative agricultural and forestry strategies focused on sustainable and precision management.
- **4.4 Other Agricultural Sciences (8 %) - Applied Research**
 - Explore the bioeconomy, circular economy, and the sustainable use of agricultural resources.

Research Activity Distribution

The faculty's interdisciplinary focus directs its research activities primarily toward applied research. The structure of FEM and its departments is not solely oriented toward economic disciplines but also includes departments specializing in informatics, statistics, humanities, psychology, law, and languages. To support its long-term research priorities and meet accreditation requirements for study and doctoral programmes, the faculty has implemented a bonus system within its incentive program for academic staff. This system focuses on three preferred FORD fields:

1.2 Computer and Information Sciences (aggregated into 1.5 in Annex Table 3.1.6) - Applied Research.

5.2 Economics and Business – Balanced Basic and Applied Research.

5.4 Sociology (aggregated into 5.7 in Annex Table 3.1.6) – Applied Research.

FEM has long been characterised primarily within the **social sciences R&D&I field**, aligning with its study programmes and the requirements of the National Accreditation Bureau for Higher Education. It maintains an overall share of 46% in this group, with a preference for **FORD 5.2 Economics and Business**, which accounts for over 30%. The faculty has achieved significant scientific results, evidenced by publications in prestigious D1/Q1 journals, assessed by impact factors in the WoS database.

Within this preferred FORD, FEM has produced high-impact publications, including six articles classified as **Highly Cited Papers in the WoS database**. The findings of FEM research have been included in leading academic journals published by:

- Taylor & Francis (25 publications)
- Czech Academy of Agricultural Sciences (19 publications)
- Elsevier (12 publications)
- Springer Nature (7 publications)
- Wiley (5 publications)
- Other prestigious or scientifically recognized publishers.

Given CZU's focus, FEM's research activities cover a broad spectrum of economic and social science topics with significant scientific and practical impacts, including applied research in natural sciences, agriculture, and modern technologies. The faculty distinguishes itself from other economics faculties in the Czech Republic through its interdisciplinary and transdisciplinary approach, where scientific outputs often contribute to new theoretical frameworks that cannot be clearly classified into a single field. By leveraging synergies with other CZU faculties, FEM consistently achieves unique research outcomes.

Organizational Structure and Size

FEM maintains a stable academic team comprising:

- 11 professors, 32 associate professors, 142 assistant professors, and other research staff,
- A total of 286 full-time equivalents, approximately 48 % of whom are women.

The age structure of employees is balanced, with a significant representation in the 40–49 age category (121 individuals, including 53 women).

FEM consists of 12 departments.

Gender – FEM can be characterised as gender-balanced across teaching, research, and other activities.

Students and Study Programmes

FEM offers a wide range of study programmes and lifelong learning opportunities. In 2023, the faculty provided:

- 13 bachelor's study programmes (including one professionally oriented program),
- 17 master's study programmes,
- 8 doctoral study programmes,
- 16 lifelong learning courses.

The faculty receives over 8,000 applications annually. Demand for FEM study programmes consistently exceed available capacity.

FEM offers students a diverse selection of elective courses, opportunities for international exchanges at numerous partner institutions, and modern facilities comparable to those of renowned European universities. The educational process is closely linked to research, allowing students to participate in scientific projects (e.g., student and research projects within IGA) and develop their

professional profiles (e.g., entrepreneurial support through the PointOne incubator, career counselling via Jobs.pef.czu.cz, and other initiatives).

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	11,269/ 5,000	12,014/ 5,000	11,874/ 5,000	11,248/ 4,000	11,541/ 3,637	11,589/ 4,527
Associate Professor	26,590/ 5,441	26,808/ 6,492	30,116/ 8,083	32,282/ 9,307	32,480/ 9,237	29,655/ 7,712
Assistant Professor	140,501/ 66,139	140,141/ 64,962	137,611/ 61,339	141,314/ 65,339	142,546/ 65,815	140,423/ 64,719
Assistant	0,320/ 0,020	0,317	0,408/ 0,104	0,358/ 0,058	0,308/ 0,008	0,342/ 0,048
R&D Personnel ³	26,190/ 14,059	19,016/ 9,726	13,714/ 8,551	14,785/ 8,361	5,980/ 2,148	15,937/ 8,569
Researchers in other categories ⁴	5,996/ 4,215	6,988/ 5,151	10,041/ 5,733	9,294/ 4,922	12,375/ 6,168	8,937/ 5,238
Technical and economic staff ⁵	73,099/ 44,901	74,047/ 45,082	75,894/ 47,458	77,141/ 47,464	76,958/ 47,215	75,428/ 46,424
Scientific, research and development staff involved in teaching activities	2,858/ 0,484	4,831/ 1,704	3,870/ 1,771	3,782/ 1,886	4,273/ 2,130	3,923/ 1,595
Out of which: Early career researchers ⁶	53,669/ 27,375	48,302/ 25,214	49,69/ 25,934	38,335/ 20,171	39,102/ 21,612	45,820/ 24,061
Total ⁷	286,823/ 140,259	284,162/ 138,117	283,528/ 138,039	290,204/ 141,337	286,461/ 136,358	286,235/ 138,832

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					2		2	1	4	3	6	1
Associate Professor			1	1	8	1	7	2	7	1	9	2
Assistant Professor	3	2	45	13	56	28	24	14	20	8	8	3
Assistant					1							
R&D Personnel ⁹	2	2	3	2	2	1						
Researchers in other categories ¹⁰			2	2	2	1	1	1	1	1		
Technical and economic staff ¹¹	9	5	16	7	16	9	18	16	8	7	4	3
Scientific, research and development staff involved in teaching activities			2		2	1						
Out of which: Early career researcher ¹²			49	22	10	7	6	6	5	3		
Total ¹³	14	9	69	25	89	41	52	34	40	20	27	9

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					4	1	2	1	4	2	6	1
Associate Professor			2	1	17	5	8	2	7	3	5	1
Assistant Professor	1		41	17	71	31	30	19	18	10	12	4

agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

Assistant					1							
R&D Personnel ¹⁵	1	1			3						1	
Researchers in other categories ¹⁶	1		2	1	3	2	3	2	4	2		
Technical and economic staff ¹⁷	9	5	21	12	18	10	16	11	8	7	2	2
Scientific, research and development staff involved in teaching activities	1				4	4	1					
Out of which: Early career researcher ¹⁸	1	1	28	12	11	8	6	6	5	3		
Total ¹⁹	13	6	66	31	121	53	60	35	41	24	26	8

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	4869	2377	5821	2773	6243	2897	6293	2836	5894	2493	5824	2675
Master's ²⁰	3202	1908	3095	1823	3118	1793	3004	1555	2897	1502	3063	1716
Doctoral	134	48	135	45	117	45	112	44	97	36	119	43
Lifelong Learning Courses	756	458	771	471	622	368	613	318	637	377	679	398
Total	8961	4791	9822	5112	10100	5103	10022	4753	9525	4408	9686	4833

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes											
	2019		2020		2021		2022		2023		Total	
Undergraduate	8/3	1/0	13/3	1/0	13/3	1/0	13/3	1/0	13/3	1/0	12/3	1/0

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

Master's	10/4	0/0	18/4	0/0	18/4	0/0	17/5	0/0	17/6	0/0	16/5	0/0
Doctoral	12/12	0/0	8/8	0/0	8/8	0/0	8/8	0/0	8/8	0/0	9/9	0/0
Lifelong Learning courses	15/7	0/0	15/7	0/0	15/7	0/0	15/8	0/0	16/8	0/0	15/7	0/0
Total	45/26	1/0	54/22	1/0	54/22	1/0	53/24	1/0	54/25	1/0	52/24	1/0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics	-	Zvolte položku.	18,174
	1.2 Computer and information sciences	-	Zvolte položku.	
	1.3 Physical sciences	-	Zvolte položku.	
	1.4 Chemical sciences	-	Zvolte položku.	
	1.5 Earth and related environmental sciences	18,174	Applied Research	
	1.6 Biological sciences	-	Zvolte položku.	
	1.7 Other natural sciences	-	Zvolte položku.	
2. Engineering and Technology	2.1 Civil engineering	-	Zvolte položku.	23,705
	2.2 Electrical engineering, Electronic engineering, Information engineering	-	Zvolte položku.	
	2.3 Mechanical engineering	-	Zvolte položku.	
	2.4 Chemical engineering	-	Zvolte položku.	
	2.5 Materials engineering	-	Zvolte položku.	
	2.6 Medical engineering	-	Zvolte položku.	
	2.7 Environmental engineering	23,705	Applied Research	
	2.8 Environmental biotechnology	-	Zvolte položku.	
	2.9 Industrial biotechnology	-	Zvolte položku.	
	2.10 Nanotechnology	-	Zvolte položku.	
	2.11 Other engineering and technologies	-	Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine	-	Zvolte položku.	-
	3.2 Clinical medicine	-	Zvolte položku.	
	3.3 Health sciences	-	Zvolte položku.	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	4,477	Applied Research	12,291
	4.2 Animal and Dairy science	-	Zvolte položku.	
	4.3 Veterinary science	-	Zvolte položku.	
	4.4 Other agricultural sciences	7,814	Applied Research	
5. Social Sciences	5.1 Psychology and cognitive sciences	-	Zvolte položku.	45,829
	5.2 Economics and Business	30,114	Balanced basic and applied research	

	5.3 Education	3,512	Applied Research	
	5.4 Sociology	-	Zvolte položku.	
	5.5 Law	-	Zvolte položku.	
	5.6 Political science	-	Zvolte položku.	
	5.7 Social and economic geography	12,203	Applied Research	
	5.8 Media and communications	-	Zvolte položku.	
	5.9 Other social sciences	-	Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology	-	Zvolte položku.	-
	6.2 Languages and Literature	-	Zvolte položku.	
	6.3 Philosophy, Ethics and Religion	-	Zvolte položku.	
	6.4 Arts (arts, history of arts, performing arts, music)	-	Zvolte položku.	
	6.5 Other Humanities and the Arts	-	Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

The Position of FEM within the Scientific Community (2019–2023)

The faculty is ranked among the top five economics faculties in the Czech Republic, according to the Czech government's evaluation, and holds a significant position within the research community. During the evaluated period, the faculty produced 241 scientific outputs in the field of Economics and Business and has a total record of 889 articles and 41 review articles in the WoS database. The faculty's prominence in the international scientific environment is further demonstrated by:

- 59 Highly Cited Papers (articles ranking in the top 1% based on the number of citations relative to other papers published in the same field and year),
- 1 Hot Paper, and
- 306 Enriched Cited References.

Additionally, the faculty's research standing is reinforced through awarded distinctions, FEM staff representation on editorial boards of journals, scientific councils of other faculties and universities, involvement in project evaluations, and other contributions to the scientific community.

During the evaluated period, FEM academic staff received several prestigious awards, recognising their significant contributions to the field of science. Notable awards include:

- The repeated inclusion of four FEM staff in the **Highly Cited Researchers** ranking (Stanford University, 2020–2023).
- **The Josef Hlávka Medal** (2019) awarded by the "Nadání Josefa, Marie a Zdeňky Hlávkových" Foundation to Dr. Tereza Pilařová (F).
- An **award from Elsevier** for a scientific article related to the UN sustainability goals granted to Assoc. Prof. Jan Tyrychtr (M).
- An award for Prof. Ivan Vrana (M), as an **Inductee of the Albert Nelson Marquis Lifetime Achievement** (2019).
- Czech Academy of Agricultural Sciences Medal.

During the evaluated period, more than two dozen **academic staff (26)** served on the editorial boards of over seventy international scientific journals (generally indexed in WoS and/or Scopus). Notable appointments include:

- **Dr. Umer Shahzad (M)** – Financial Innovation, Editorial Board Member (Springer Nature, IF 6.9)
- **Assoc. Prof. Lukáš Zagata (M)** – Sociologia Ruralis, Editorial Board Member (Wiley, IF 3.2)
- **Prof. Judit Olah (F)** – Amfiteatru Economic, Associate Editor (IF 2.6).

- **Prof. Yuriy Bilan (M)** – Journal of Business Economics and Management, Editor (Taylor & Francis, IF 2.5).
- **Prof. Lukáš Čechura (M)** – Agricultural Economics-Zemědělská ekonomika, Editor-in-Chief (CAAS, IF 1.9).
- **Dr. Jarmila Curtiss (F)** – Agricultural Economics-Zemědělská ekonomika, Co-editor (do 2024) and Board Member (CAAS, IF 1.9).

FEM academic staff have been elected to various **national and international professional societies**, underscoring their scholarly contributions. Notable appointments include:

- **Prof. Michal Lošťák (M)** – President of the CASEE Association, comprised of 16 universities focused on sustainable development (2018–2024).
- **Prof. Helena Brožová (F)** – President of the Czech Society for Operations Research (since 2023).
- **Assoc. Prof. Irena Benešová (F)** – Member of the ifo World Economic Survey (WES) expert group, which provides economic policy advisory services to the German government (since 2019).
- **Assoc. Prof. Lukáš Zagata (M)** – Member of the Executive Committee of The European Society for Rural Sociology (2017–2023).
- **Prof. Lukáš Čechura (M)** – Member of the Czech Academy of Agricultural Sciences, Chair of the Department of Economy, Management, Sociology and Information Technology (2019–2023).

During the evaluated period, FEM academic staff delivered 51 **invited lectures** at prestigious universities and conferences around the world. Notable appointments include:

- **Dr. Jana Kholova (F)** – Digital agri-systems and AI for a green future, University of Bonn.
- **Dr. Jana Pitrová (F)** – Business models and leadership, Bielefeld University of Applied Sciences.
- **Dr. Umer Shahzad (M)** – Environmental regulations and climate transition, Globelife Conference, Uppsala University (2022).
- **Prof. Michal Lošťák (M)** – Agricultural sustainability and food security, Ukraine (2022).
- **Assoc. Prof. Tatiana Guy (F)** – Dynamic distributed decision making, Edinburgh (2023).

At FEM, over two dozen (28) **key lectures** were also delivered by scientists from foreign institutions and experts from business, practice, and the public sector in the Czech Republic, with an additional 16 lectures). Lectures were delivered by experts from Wageningen University and Research, Dalhousie University, and the University of Augsburg, as well as by specialists from national advisory bodies, including the Czech National Bank (CNB), the Agrarian Chamber, the Ministry of Labour and Social Affairs (MPSV ČR), the Ministry of Finance (MF ČR), and the European Parliament. Prominent guest speakers include:

- **Dr. Martin Daumiller** (University of Augsburg) – Faculty Motivation Matters (2021).
- **Dr. Konstantinos Kotis** (University of the Aegean) – Real-time data and automation (2023).
- **Prof. John Stephen Clark** (Dalhousie University, Canada) – Analysis of agricultural area loss (2023).
- **Assoc. Prof. Rico Ihle** (Wageningen University) – Synchronization of global commodity prices following the Russian invasion of Ukraine (2023).
- **Ing. Jiří Rusnok** (Governor of CNB) – Current aspects of the monetary policy of the Czech National Bank in a global context.

FEM staff participated in the evaluation of a number of **national and international project instruments, agencies, and initiatives**:

National Evaluations (9 Organizations):

- TAČR, NAZV, GAČR, NAKI, MŠMT ČR, MZE ČR, MPSV ČR, Government Council of the Czech Republic, etc.

International Evaluations (14 Organizations):

- European Research Executive Agency, European Commission, National Center of Science and Technology Evaluation in Kazakhstan, National Science Center Poland, Ministry of Education and Science Ukraine, Slovak Research and Development Agency, Ministry of Education of the Slovak Republic, etc.

Key contributions include:

- **Assoc. Prof. Irena Benešová (F)** – Member of the Erasmus+ Programme Board and the European Solidarity Corps Programme.
- **Prof. Lukáš Zagata (M)** – Evaluator for TAČR Sigma and GAČR projects.
- **Prof. Luboš Smutka (M)** – Evaluator for VEGA (Slovakia), OPUS and SONATA (Poland), TAČR, and GAČR projects.
- **Prof. Lukáš Čechura (M)** – Evaluator for NRDl projects – Hungarian Scientific Research Fund (OTKA) (Hungary).
- **Prof. Lucie Severová (F)** – Evaluator for the R&D&I Council, and the Research Institute of Labour and Social Affairs of the MPSV ČR.

FEM also contributed additional services to the scientific community:

- Organising over 20 **workshops and conferences** on agrarian economics, environmental economics, regional development, and applied informatics.
- Hosting **summer schools** on sustainability, agriculture, and regional development (with more than 60 events held between 2019 and 2023). For instance, FEM hosted an annual summer school for students from Ohio State University and Missouri University since 1992.
- Organising the **European Association of Agricultural Economists (EAAE) Congress** in 2021.

Collaborating on interdisciplinary projects with CZU faculties and international universities (e.g., Wageningen University, University of Bonn).

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
Prof. Subal C. Kumbhakar, PhD	Highly Cited Researchers in the Top 2% of the World, 2020–2023	Stanford University, USA
Prof. Judit Olah, PhD	Highly Cited Researchers in the Top 2% of the World, 2021–2023	Stanford University, USA
Prof. Ing. Yuriy Bilan, PhD	Highly Cited Researchers in the Top 2% of the World, 2020–2023	Stanford University, USA
Umer Shahzad, MSc., PhD	Highly Cited Researchers in the Top 2% of the World, 2022–2023	Stanford University, USA
Tereza Pilařová, Ing., PhD	The Josef Hlávka Medal (2019). Originally intended for students, this award recognises outstanding contributions to Czech science.	The "Josef, Marie, and Zdeňka Hlávka Talent Foundation"
Prof. Ing. Ivan Vrana, DrSc.	Albert Nelson Marquis Lifetime Achievement Award. This award honours individuals who have	Marquis Who's Who

	demonstrated leadership, excellence, and longevity within their respective fields.	
Doc. Ing. Jan Tyrychtr, PhD	Award for a scientific article related to the United Nations Sustainable Development Goals, contributing to addressing some of the world's most pressing challenges. (certificate)	Elsevier
Doc. Ing. Edita Šilerová, PhD	Honourable Mention	Czech Academy of Agricultural Sciences
Lukáš Moravec, Ing., PhD	Registered on the European list of "recognized independent persons" (tax dispute arbitrators), nominated by the Ministry of Finance of the Czech Republic in connection with the new EU tax dispute resolution mechanism, pursuant to Council Directive (EU) 2017/1852 of 10 October 2017 on tax dispute resolution mechanisms in the EU	Ministry of Finance of the Czech Republic (Ministerstvo financí ČR)
Prof. Judit Olah, PhD	Top 20 researchers research recognition award	University of Johannesburg College of Business and Economics South Africa - in special recognition and appreciation for research excellence in the year 2022.

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
Umer Shahzad, MSc., PhD	Financial Innovation, ISSN 2199-4730
Doc. Ing. Lukáš Zagata, PhD	Sociologia Ruralis, ISSN 0038-0199
Prof. Judit Olah, PhD	Amfiteatru Economic, ISSN 1582-9146
Prof. Ing. Yuriy Bilan, PhD	Journal of Business Economics and Management, ISSN 1611-1699
Prof. Ing. Lukáš Čechura, PhD	Agricultural Economics –Zemedelska Ekonomika, ISSN 0139-570X
Jarmila Curtiss, Ing., PhD	Agricultural Economics –Zemedelska Ekonomika, ISSN 0139-570X
Prof. Ing. Mansoor Maitah, PhD et PhD	International Journal of Trade and Global Markets, ISSN 1742-7541
Oldřich Ludwig Dittrich, MPH, PhD	International Advances in Economic Research, ISSN 1083-0898
Doc. Ing. Karel Tomšík, PhD	Economic and Regional Studies, ISSN 2083-3725
Pavel Kotyza, Ing., PhD	Annals of the Polish Association of Agricultural and Agribusiness Economists, ISSN 2657-781X

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year

Jana Kholová, Mgr., PhD	“Digital agri-systems and AI for a green future”	University of Bonn – Indo-German Collaboration Programme (IGSTC)	2023
Jana Pitrová, Ing., PhD	“Business models and leadership”	Bielefeld University of Applied Sciences	2023
Umer Shahzad, MSc., PhD	“Environmental regulations and climate transition”	Globelife Conference, Uppsala University, Sweden	2022
Prof. PhDr. Michal Lošťák, PhD	“Agricultural sustainability and food security or food sovereignty?”	Building a European Model of Agricultural Land Use in Terms of the Sustainable Development (Ukraine, online)	2022
Doc. Tatiana V. Guy, PhD	“Dynamic distributed decision-making”	International Conference on Modelling Information Flow in Biological Coding Systems	2023
Doc. Vladimír Krepl, Ing. CSc	“Environmental engineering in developing economics of developing countries”	NIMS University, Rajasthan, Jaipur, India	2022
Pavel Kotyza, Ing., PhD	“Plenary panel session: Situation of small farms managed by young farmers in Poland, the Czech Republic, Slovakia, Hungary and Lithuania.”	SERIA conference, Olsztyn	2023
Elena Kuzmenko, Mgr., PhD	“Business Cycles – empirical evidence and econometric modelling”	Niederrhein University of Applied Sciences (Germany), Elective Module MBM 106MBM 10602 Business Economics.	2021
Prof. Ing. Luboš Smutka, PhD	“Global economy transformation”	FH Münster	2019
Prof. Ing. Yuriy Bilan, PhD	“Best practices in scholarly publishing”	Lappeenranta-Lahti University of Technology (LUT), Finland	2023

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer’s employer at the time of the lecture	Invited lecture title	Year
Martin Daumiller, PD Dr. habil.	University of Augsburg, Germany	Faculty Motivation Matters: Theoretical Approaches, Relevance for Learning and Performance, and Future Directions	2021
Konstantinos Kotis, PhD	University of the Aegean	Real-time data and automation	2023
Prof. John Stephen Clark, PhD	Department of Business and Social Sciences, Dalhousie University in Canada (CA)	Analysis of agricultural area loss	2023
Assoc. Prof. Rico Ihle, PhD	Agricultural Economics and Rural Policy Group of Wageningen University (NL)	Russia’s invasion of Ukraine increased the synchronization of global commodity prices	2023
Jiří Rusnok, Ing.	Governor of the Czech National Bank (CNB)	Current Aspects of CNB's Monetary Policy in the Global Context	2022

Aleš Michl, Ing.	Czech National Bank (CNB)	Fiscal Policy of the Czech Republic in the Context of EU Integration	2016
Hajar Hammouch, PhD	SAMOVAR, Telecom SudParis, Institut Polytechnique de Paris Mohamed V University	Using convolutional neural networks for prediction of Nitrogen content from UAV-captured images	2022
Prof. Karolina, Pawlak, Dr. Hab., PhD	Poznan University of Life Sciences	Agrarian foreign trade	2023
Derek Shepherd, Dr.	University of Plymouth – Plymouth Business School, UK	Common Agricultural Policy – Development, Principles, Measures and Reforms	2023
Seyyed Hassan Pishgar-Komleh, Dr.	Wageningen University & Research (NLD)	Modelling undesirable factor in efficiency assessment of agri-food sector in EU-27.	2020

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
Doc. Irena Benešová, Ing.	Erasmus+ Programme and European Solidarity Corps	Ministry of Education, Youth and Sports (MŠMT)	2021
Doc. Lukáš Zagata, Ing. Mgr. Ph.D.	Standard Projects of GAČR (Standardní projekty GAČR)	Czech Science Foundation (GAČR)	2023
Luboš Smutka, prof., Ing., PhD	Standard Project, Junior Projects; The Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA), and Programme OPUS and SONATA calls.	National Grant Agency (GAČR) Czech Republic; Ministry of Education, Slovak Republic; National Science Centre, Poland	2019-2023
Prof. Lukáš Čechura Ing., PhD	NRDI Projects (NRDI Projekty)	Hungarian Scientific Research Fund (OTKA), Hungary	
Prof. Lucie Severová, PhD. Ing., PhD	Expert Body for the Evaluation of Research Organisation Results according to M17+; General Call of Research Institute for Labour and Social Affairs	1) Council for Research Development and Innovation (Office of the Government of the Czech Republic); 2) Ministry of Labour and Social Affairs	1) 2017+ 2) 2023+
Zdeňka Gebeltová, Ing., PhD	Research and Innovation Actions to Support the Implementation of the Soil Health and Food Mission (HORIZON-MISS-2022-SOIL-01)	European Research Executive Agency (REA), Horizon Europe	2023-2026
Prof. Mansoor Maitah, Ing. PhD. et PhD	Eco-Ready – Achieving Ecological Resilient Dynamism for the European Food System Through Consumer-Driven Policies, Socioecological Challenges, Biodiversity, Data-driven Policy, Sustainable Futures (HORIZON-CL6-2022)	European Research Executive Agency (REA), Horizon Europe	2022-2024
Doc. Michal Malý, Ing., PhD	General Call of Science and Research	Slovak Research and Development Agency, Slovakia	2013-2024

Pavel Kotyza, Ing., PhD	Erasmus+, VISYFARM – Viability of Small Farms Managed by Young Farmers	European Commission, Erasmus+	2020–2023
Elena Kuzmenko, Mgr., PhD	Support for the Development of International Mobility of Research Workers at ČZU in Prague (PROMO II)	OP VVV MŠMT, Czech Republic Reg. no CZ.02.2.69/0.0/0.0/18_053/0016979	2020–2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

FEM has successfully integrated interdisciplinary research in economics, agriculture, and informatics. Projects such as **PoliRural**, **MOVING**, and **CROPDIVA** demonstrate a strong focus on sustainability and rural development, while initiatives like **BrightSpace** and **GRANULAR** provide tools to support policymaking at regional and European levels. The faculty is also engaged in application-oriented projects, such as CEVEMA, Duality in Czech Agriculture: Advantage or Disadvantage for the Next Generation of Farmers?, CARSHARING UNIQUWAY, and UNDP: Assessment of the Cost and Benefits of Climate Change Adaptation in Agriculture, Forestry, and Water Management Sectors of Tajikistan. These projects highlight the faculty's expertise in collaborating with business and applied research partners, including the **Czech Agrarian Chamber**, **ŠKODA AUTO a.s.**, and the **United Nations**. The successful implementation of these projects underscores the FEM's ability to coordinate large international initiatives and transfer research findings into practice, thereby shaping public policies in agriculture, food security, and regional development.

Research Projects (2019–2023)

Between 2019 and 2023, FEM CZU participated in 80 diverse projects, spanning R&D initiatives, practical applications, and educational activities. These projects were funded by both national and international sources, demonstrating the faculty's capacity to secure funding from multiple streams.

- Number of R&D projects: 28
- Number of contract research, educational, and applied projects: 50

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

These projects covered a wide range of research and education domains:

- **Economics (34 projects):** A key research domain at FEM, addressing food supply chains, agricultural policy, market transparency, sustainable development, and tax systems.
- **Agriculture (19 projects):** Focused on digitalization in agriculture, sustainable food production, and farm management. A notable example is CROPDIVA, which focuses on the diversification of climate-resilient crops.
- **Informatics (11 projects):** Investigating digitalization and IT applications in agriculture and economics, including CODECS, which explores digital agricultural technologies and their socio-economic impacts.
- **Sociology and environmental aspects (11 projects):** Featuring interdisciplinary projects such as MOVING and PoliRural, which integrate social and environmental factors in rural development.

FEM as a Project Coordinator: 39 Projects.

The faculty has established itself as a leading institution in coordinating both national and international projects. Notably, FEM has led key initiatives such as **VALUMICS** and **PoliRural**, which have significantly influenced the food industry and rural development policies.

Funding Sources for FEM Projects:

- **European Commission:** Horizon 2020 and Horizon Europe projects form a substantial part of the faculty's research funding, reinforcing its international standing.
- **National Research Grants:** The faculty actively engages in national funding programs such as TAČR, NAZV, and GAČR, demonstrating its commitment to addressing domestic challenges in sustainable agriculture and rural development.

FEM has successfully bridged economics with informatics, sociology, and ecology through projects such as:

- **PoliRural** – Multi-actor approaches for rural development.
- **GRANULAR** – Connecting rural communities with technology and policymaking through multi-source data collection.
- **CROPDIVA** – Research on crop diversification for climate resilience, linking agriculture, ecology, and the food industry.

These projects have contributed to multiple key impact areas:

- **Economic impact:** FEM research on food industry management and food supply chains have contributed to more efficient market systems and production processes.
- **Social impact:** Projects focused on rural communities (e.g., MOVING) have directly improved the quality of life in various regions.
- **Technological advancement:** Digitalization projects such as CODECS and GRANULAR have driven the adoption of modern technologies in the agricultural and economic sectors.

FEM research activities between 2019 and 2023 demonstrate remarkable dynamism, an interdisciplinary approach, and strong application potential. The faculty has established itself as a key player not only in the Czech academic landscape but also at the European level. By integrating economics, agriculture, and digital technologies, FEM ranks among modern research institutions equipped to tackle both current and future challenges.

The following section presents a selection of the ten most significant projects, highlighting their results and contributions to the faculty's mission—particularly in the fields of sustainable agriculture, food security, and regional development.

1. Price Transparency Model in the Food Supply Chain – Pork Meat (CEVEMA)

Programme: TAČR ÉTA (2017–2020)

FEM Role: Project Coordinator

Budget: 5,032,952 CZK

Description and Results:

The CEVEMA project analysed price transparency in the food supply chain, with a specific focus on pork meat. The primary objective was to develop an effective model for monitoring and analysing price formation throughout the entire production and distribution chain—from primary agricultural production to processing and retail sales.

The project addressed the growing need for improved transparency in food pricing, which is essential for the sustainability and efficiency of the agricultural and food sectors. To achieve this objective, a mathematical model was developed, integrating economic and statistical methods to assess price movements and key determinants. The model identified critical points in the production and distribution chain where significant price changes occur and examined market factors such as input costs, demand trends, and profit margins. A key outcome was the development of a real-time price prediction tool, enhancing market stability and providing valuable insights for farmers, processors, and retailers. The project's findings informed policy recommendations aimed at regulating price fluctuations and ensuring fair value distribution across the food supply chain. A key strength of CEVEMA is its strong interdisciplinary approach, integrating economics, agriculture, trade, and statistics. The project entailed active collaboration with industry stakeholders, including agricultural enterprises, meat processors, and retail chains, who provided practical feedback on the model's implementation. By successfully delivering these results, CEVEMA increased price transparency in the Czech pork market, strengthened competition, and contributed to sector stabilisation, protecting consumers from unjustified price fluctuations.

2. Duality in Czech Agriculture: Advantage or Disadvantage for the Next Generation of Farmers?

Programme: NAZV Program ZEMĚ (2018–2021)

FEM Role: Project Coordinator

Budget: 9,536,000 CZK (376,174 EUR)

Description and Results:

The project examined the impact of the dual structure of Czech agriculture on the competitiveness and sustainability of both large enterprises and small-scale farms. The findings provided a foundation for developing policies that support an optimal agricultural structure.

Conducted by FEM under the NAZV Program ZEMĚ (2018–2021), the project analysed the coexistence of large-scale agribusinesses and small family farms in the Czech Republic. The key research question was whether this duality offers a competitive advantage for Czech agriculture or presents a barrier to its sustainable development. The study used both qualitative and quantitative methods, including field data collection, interviews with farmers and agricultural institutions, economic and production performance analysis, and comparative studies with other EU countries. The research identified key factors influencing the economic efficiency, risk resilience, and innovation capacity of both small and large farms. The key outcomes of the study included policy recommendations aimed at balancing agricultural structures and the development of specific tools and measures to support small farms, such as improving access to financial resources and technology and creating a more favourable environment for farm succession. At the same time, the project

emphasised the crucial role of large enterprises in maintaining the global competitiveness of Czech agriculture. The results were presented to key stakeholders, including the Ministry of Agriculture of the Czech Republic, and served as a basis for discussions on the direction of future agricultural policy. The project had a strong interdisciplinary focus, integrating economics, agronomy, sociology, and public policy. Collaborating with agricultural associations and organisations helped validate the applicability of the results in real-world agricultural practices.

3. VALUMICS – Understanding Food Value Chains and Network Dynamics

Programme: Horizon 2020 (2017–2022)

FEM Role: Project Coordinator

Budget: 5,999,999 EUR

Description and Results:

The VALUMICS project analysed the dynamics of food value chains, evaluating their impact on consumers and providing recommendations for optimising value chain management to support sustainable food production.

Implemented under Horizon 2020 (2017–2022), FEM was a key partner in this initiative, which brought together 19 universities, research institutions, and non-academic organisations across Europe. The project focused on value chains in meat, grains, dairy, fish, and fruits/vegetables. The main objective was to understand how different actors in the food supply chain—from producers to consumers—interact and how these relationships can be improved for economic efficiency, environmental sustainability, and social fairness. The research identified key factors affecting the fair distribution of value and risks among stakeholders and assessed barriers preventing effective market functioning. FEM played a critical role in conducting economic and environmental impact analysis of food production and distribution, modelling market structures, and identifying bottlenecks in supply chains. A robust analytical platform was developed, integrating data from multiple industries and regions to simulate strategic decision-making scenarios at business and policy levels. The key project outputs included: a comprehensive analysis of value chains for major food commodities across multiple countries; policy recommendations to enhance food security and sustainability; tools and methodologies to assess the impact of economic and environmental changes. The results were presented to key stakeholders, including EU institutions, national ministries of agriculture, and private sector entities. These contributions contributed significantly to enhancing transparency, efficiency, and sustainability in European food systems.

The project had a strong interdisciplinary focus, integrating economics, food technology, agriculture, environmental science, and sociology. By bridging academic research with practical applications, VALUMICS supported the development of a more competitive and sustainable European agricultural and food sector.

4. PoliRural – Future Oriented Collaborative Policy Development for Rural Areas and People

Programme: Horizon 2020 (2019–2022)

FEM Role: Project Coordinator

Budget: 5,999,875 EUR

Description and Results:

The PoliRural project aimed to enhance the attractiveness of rural areas through foresight methodologies and action research. A key outcome was the development of text analysis software and a policy support tool for regional development.

Funded by the European Commission under Horizon 2020 (2019–2022), PoliRural was coordinated by CZU and involved 37 partners from 16 countries. The project sought to improve the quality of life in rural regions across Europe by combining modern technologies with participatory research. Local stakeholders, including farmers, municipal authorities, and researchers, assessed the current state of rural life and evaluated the effectiveness of rural development policies in 12 selected regions in Europe and Israel. The foresight methodology applied in the project combined qualitative and quantitative approaches to model future rural development scenarios. PoliRural provided a practical way to assess policy impacts at the regional level, with several project partners directly engaged in local governments, regional associations, or organisations working with farmers and policymakers at both national and international levels. The geographical diversity of the consortium enabled a comprehensive analysis of common challenges in rural settings, including climate change adaptation. One of the major project outputs was a multilingual text analysis software, designed to process unstructured data from various sources, including official documents, global news, and social media. By integrating insights from sources such as Twitter posts on regional events, this big data-driven approach provided real-time updates that complemented traditional data sources for future scenario modelling up to 2040. The project’s findings became a valuable source for local communities and policymakers and were applied in pilot regional initiatives. In addition, the findings contributed to the development of evidence-based rural development strategies across Europe.

5. MOVING – Mountain Valorization through Interconnectedness and Green Growth

Programme: Horizon 2020 (2020–2024)

FEM Role: Project Partner

Budget: 6,000,399 EUR

Description and Results:

The MOVING project focuses on exploring the resilience and sustainability of mountain regions in Europe, integrating science, society, and policy to develop effective strategies for regional development. Its primary objective is to enhance local capacities and co-develop sustainable value chain policies that support through participatory processes involving local communities, businesses, and policymakers.

MOVING analyses socio-ecological systems and value chains across diverse mountain regions, providing a comprehensive understanding of the interactions between natural and societal factors. The project aligns directly with the mission and purpose of universities by promoting scientific excellence, social responsibility, and sustainability. Research on mountain region resilience in Europe directly addresses global challenges such as climate change while offering scientifically grounded solutions for regional development. This focus is particularly relevant to one of the core study programmes at FEM, reinforcing the faculty’s commitment to interdisciplinary research. The integrated nature of the project is reflected in its combining of natural sciences, sociology, economics, and political science, enabling a holistic approach to policy development. This comprehensive perspective considers environmental, economic, and socio-cultural aspects, ensuring that policy recommendations are both practical and sustainable. By fostering collaborations between researchers, local stakeholders, and decision-makers, MOVING contributes to a deeper understanding of the dynamics shaping mountain regions and their long-term sustainability.

6. CROPDIVA – Climate Resilient Orphan Crops for Increased Diversity in Agriculture

Programme: Horizon 2020 (2020–2025)

FEM Role: Project Coordinator

Budget: 5,998,257 EUR

Description and Results:

The CROPDIVA project focuses on enhancing the diversification of climate-resilient crops to improve the sustainability and adaptability of European agricultural systems.

FEM, in collaboration with 18 partners from across Europe, including universities, research institutions, and non-academic stakeholders, aimed to enhance biodiversity and climate resilience in European agriculture by expanding the cultivation of lesser-known and traditional crops, known as orphan crops. By promoting the cultivation of traditional and underutilised crops, the project contributes directly to the objectives of the European Green Deal and Farm to Fork initiatives. These climate-resilient species offer both environmental and economic benefits, supporting long-term agricultural sustainability.

The project adopted an interdisciplinary approach, integrating agricultural, economic, and environmental sciences while also facilitating transdisciplinary collaboration between farmers, policymakers, and researchers to develop practical strategies and innovative solutions for agricultural practice. Six selected crops were tested across various European regions to evaluate their resilience to climate risks and economic feasibility. FEM conducted value chain analyses of these crops, including assessments of their socio-economic impact. Farmers in pilot regions received access to practical guidelines, economic analyses, and sustainability tools to enhance decision-making and resilience. Additionally, the project established a knowledge-sharing platform for scientists and farmers to strengthen cooperation between academia and agricultural practice. This platform facilitated the exchange of new findings among project partners and within regional networks and farming communities. A key outcome of CROPDIVA was enhancing the resilience of small and medium-sized farms to extreme climate events while developing supportive strategies for their long-term sustainability. Ultimately, the project contributed to improving ecological stability, increasing the economic efficiency of European agriculture, and reinforced the role of universities in applying academic research to real-world agricultural challenges.

7. GRANULAR – Giving Rural Actors Novel Data and Re-usable Tools to Lead Public Action in Rural Areas

Programme: Horizon 2020 (2022–2026)

FEM Role: Project Partner

Budget: 6,633,494 EUR

Description and Results:

The GRANULAR project provides new data and tools for analysing rural communities, contributing to the development of more effective rural development policies.

Funded by the European Commission under Horizon Europe (2022–2026), with CZU as a project partner, the initiative addresses limitations in existing rural classifications. Traditional definitions of rural areas often focus solely on population density or size, failing to capture the complex dynamics, driving forces, and fluid relationships between rural and urban spaces across Europe. Although there is growing recognition of rural diversity, a lack of fine-scale data hinders innovation in policy and

planning. To overcome these challenges, GRANULAR applies a multi-actor and interdisciplinary approach to develop new insights into rural diversity. Using findings from Multi-Actor Labs, the project generates new datasets by combining advanced methodologies, including remote sensing, crowd-sourced data, mobile phone data, and web scraping. These datasets are then integrated with institutional data sources to create key indicators for rural communities. The data will support the Long-Term Vision for Rural Areas (LTVRA) by helping measure resilience, well-being, quality of life, and regional attractiveness. A major outcome of GRANULAR is the development of a "rural compass", a tool that considers various factors influencing rural communities and their functional characteristics. This tool will enable policymakers and local stakeholders to design tailored rural policies. To ensure scalability and long-term impact, the project will provide datasets, data visualisations, and analytical tools on a dedicated digital platform, designed by and for rural stakeholders. One application of this platform includes the forecasting of property prices over a 10-year period and the creation of real estate price maps. The project's findings will be continuously accessible to government bodies and local authorities, supporting evidence-based rural policy and planning.

8. BrightSpace: Designing a Roadmap for Effective and Sustainable Strategies for EU Agriculture

Programme: Horizon 2020 (2022–2027)

FEM Role: Project Partner

Budget: 9,666,775 EUR

Description and Results:

The BrightSpace project provides strategies for sustainable agriculture, providing tools for assessing environmental impacts. Implemented under the Horizon Europe programme (2021–2025), FEM played a key role as a project partner. The initiative brought together universities, research institutions, and industry stakeholders from across Europe to develop sustainable agricultural strategies aligned with the principles of the Safe and Just Operating Space (SJOS).

The project aimed to identify environmental, economic, and social limits affecting European agriculture and to create a comprehensive roadmap to help farmers and policymakers respond to climate change, biodiversity loss, and food security challenges. Using advanced analytical and modelling tools, BrightSpace simulated various scenarios for transitioning to more sustainable agricultural practices. FEM contributed by conducting economic evaluations of different agricultural production models, analysing regional and local impacts, and identifying mechanisms to support farmers in adopting eco-friendly practices.

The research involved interdisciplinary collaboration with environmental and social scientists, ensuring a holistic approach to addressing sustainability challenges. The project's key outputs included strategic frameworks for the sustainable development of European agriculture, integrating economic and environmental factors; practical tools for farmers and policymakers to facilitate the implementation of recommended strategies; a data-sharing platform that connects scientific knowledge with practical applications. BrightSpace has contributed to raising awareness of the safe and just limits of agricultural production while promoting innovations in sustainable farming. The project's findings have been presented at both national and European levels, significantly influencing EU policies on agriculture, climate action, and environmental protection.

9. BETTER Life: Bringing Excellence to Transformative Engaged Research in Life Sciences through Integrated Digital Centres

Programme: Horizon 2020 (2022–2025)

FEM Role: Project Coordinator

Budget: 1,871,843,75 EUR

Description and Results:

The BETTER Life project aims to establish a European Digital Centre of Excellence for socially responsible (engaged) research in life sciences. It promotes both interdisciplinary research, integrating socio-economic sciences with life sciences, and transdisciplinary research, which addresses complex challenges through collaboration between researchers and stakeholders, ensuring the practical application of scientific knowledge.

Coordinated by FEM, the project involves eight European universities and two non-academic institutions. It develops nine digital tools, including the Academic Bridge at FEM, alongside five-month boot camps, summer and winter schools, designed to equip early-career researchers with the skills to design and conduct studies within a new transdisciplinary research paradigm. In the Czech context, the project addresses challenges in national parks such as Bohemian Switzerland and the Krkonoše Mountains. In the Krkonoše region, the conflict between nature conservation and tourism development is examined, while in Bohemian Switzerland, the project explores strategies for balancing post-wildfire recovery with ongoing tourism and local business activities. BETTER Life facilitates collaboration across disciplines by linking sociologists, economists (FEM CZU), and forestry experts (FLD CZU) with residents and stakeholders. Research findings are discussed with local communities, leading to jointly developed sustainable solutions tailored to specific regional needs. A key innovation of the project is the Academic Bridge tool, which has helped connect universities (CZU, CTU) with small municipalities, providing expert consultations in critical areas such as green infrastructure, waste management, and local economic development through interactive scientific discussions, referred to as “science pubs”. This effort helps foster direct engagement between academics and local communities. The success of BETTER Life has attracted interest from the Prague City Council, recognising its role in fulfilling the third mission of universities—engaging academia in solving real-world societal challenges.

10. FRAMEwork: Farmer Clusters for realising agrobiodiversity management across Europe

Programme: Horizon 2020 (2020–2025)

FEM Role: Project Partner

Budget: 7,999,853 EUR

Description and results:

As the Czech representative in the FRAMEwork project, CZU Prague aims to establish the first farmer cluster in the Czech Republic. In collaboration with international partners, the project supports the implementation of various landscape management measures that contribute to the protection and conservation of biodiversity.

FRAMEwork introduces an innovative approach to agricultural biodiversity, integrating ecological, social, and economic aspects to develop a biodiversity-sensitive farming system. The project seeks to develop a biodiversity-sensitive farming system, enabling farmers to adopt sustainable practices while benefiting from ecosystem services without facing excessive economic risks. A key component of the initiative is the Advanced Farmer Clusters concept, which fosters cooperation among farmers, scientists, and local stakeholders at the landscape level. This collaborative environment promotes shared innovation and adaptive biodiversity management.

The research aligns closely with the university's mission, applying cutting-edge scientific knowledge for the benefit of society and the environment. In addition to generating new insights in agroecology, the project provides practical tools such as decision-support systems and monitoring platforms, helping to implement sustainable farming practices directly in the field. An interdisciplinary approach is central to the project, combining ecology, agriculture, economics, and social sciences to develop comprehensive solutions. This integration enables a scientific, technological, and socio-economic perspective on agricultural biodiversity management. FRAMEwork reflects the growing need for holistic strategies in sustainable development, bridging academic research with practical applications and ensuring that biodiversity conservation is an integral part of agricultural policy and practice.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
Grant Agency of the Czech Republic (GA ČR)	Study of the Sociotechnical Transition of the Agrarian Sector in the Czech Republic Towards Greater Sustainability (Studie sociotechnické tranzice agrárního sektoru České republiky směrem k vyšší udržitelnosti)	521/ 21				
Ministry of Education, Youth and Sports (MŠMT ČR)	Office for Supporting International Projects Focused on Life Sciences within the European Research Area II (Kancelář pro podporu mezinárodních projektů zaměřených na Life Sciences v rámci Evropského výzkumného prostoru II)	4125/ 165	4125/ 165			
Technology Agency of the Czech Republic (TA ČR)	Development of a Risk Analysis for the Implementation of the Reverse Charge VAT System in the Czech Republic (Vytvoření rizikové analýzy pro účely implementace	4088/164	2726/ 109			

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

	režimu samovyměření DPH v ČR)					
Technology Agency of the Czech Republic (TA ČR)	Price Transparency Model in the Food Supply Chain – Pork Meat (Model transparence cen v potravinové vertikále – vepřové maso)	2013/81	2013/81	1007/40		
Ministry of Culture of the Czech Republic (MK ČR)	Cultural Traditions of Czech Fisheries in the Context of Their Use in Tourism and Landscape Management (Kulturní tradice českého rybářství ve světle jejího využití v cestovním ruchu a krajínotvorbě)	3600/144	4800/192	3600/144		
Technology Agency of the Czech Republic (TA ČR)	Identification of the Importance of the Corporate Income Tax Gap in the Czech Republic with the Development of a New Risk Analysis Model (Identifikace významu daňové mezery daně z příjmu právnických osob z pohledu ČR s návaznou tvorbou modelu nové rizikové analýzy)	1761/70	1937/77	2172/87		
Technology Agency of the Czech Republic (TA ČR)	Rural 3.0 – Social and Technical Conditions for the Use of 21st Century Development Potentials in Rural Areas (Venkov 3.0 – Sociální a technické podmínky pro uplatnění rozvojových potenciálů 21. století ve venkovských oblastech)	1997/80	1997/80			
Technology Agency of the Czech Republic (TA ČR)	Study of Drivers' Perception of Selected Types of Pedestrian Crossings (Studie vnímání vybraných typů přechodů pro chodce řidiči motorových vozidel)	739/30	739/30	369/15		
Technology Agency of the Czech Republic	Knowledge-Structured Texts: An Effective Tool for Knowledge Transfer	570/23	950/38	380/15		

Republic (TA ČR)	in Human Resource Management (Znalostně strukturované texty: efektivní nástroj pro transfer znalostí v oblasti řízení lidských zdrojů)					
National Agency for Agricultural Research (NAZV)	Duality in Czech Agriculture: Advantage or Disadvantage for the Next Generation of Farmers? (Dualita v českém zemědělství: výhoda nebo nevýhoda pro zemědělství nové generace?)	3178/127	3178/127	3178/127		
Grant Agency of the Czech Republic (GA ČR)	Mechanisms and Strategies of Generational Transmission of Family Memory in Selected Social Groups (Mechanismy a strategie generační transmise rodinné paměti vybraných sociálních skupin)		2833/113			
European Commission (EK)	VALUMICS - Understanding Food Value Chains and Network Dynamics	60000/2400	60000/2400	30000/1200		
European Commission (EK)	PoliRural - Future Oriented Collaborative Policy Development for Rural Areas and People	30000/1200	52500/2100	52500/2100	15000/600	
European Commission (EK)	Rural Facilitator Training in Agricultural Short Food Supply Chains	600/24	3550/142	2950/118		
City of Prague (Hl. m. Praha)	XVI Congress of the European Association of Agricultural Economists (EAAE) 2020 (XVI. Kongres Evropské asociace zemědělských ekonomů (EAAE) 2020)		6829/273			
European Commission (EK)	Enterprises Growing Through Business Simulations		825/33	2450/98	1625/65	
European Commission (EK)	Sustainable Agripreneurship		700/28	2775/111	2075/83	

European Commission (EK)	Viability of Small Farms Managed by Young Farmers under the New "Farm-to-Fork" Strategy		750/30	2250/90	6750/270	20225/809
Ministry of Finance of the Czech Republic (MF ČR)	UX Design of FS ČR Forms (UX design formulářů FS ČR)		997/40	997/40		
European Commission (EK)	CROPDIVA - Climate Resilient Orphan Crops for Increased Diversity in Agriculture			29975/1199	59975/2399	59975/2399
Ministry of Health of the Czech Republic (MZ ČR)	Cognitive Medical Network s.r.o. - AI Diagnostics of Chronic Diseases from the Eye (Cognitive Medical Network s.r.o.-AI diagnostika chronických nemocí z oka)				495/20	
European Commission (EK)	IT for Interconnection of Social, Economic and Environmental Aspects in Agribusiness (ITFARM)				2200/88	2200/88
European Commission (EK)	Weed Out Occupational Violence from HORECA!				3450/138	3450/138
European Commission (EK)	Integrated Plant Protection as an Answer for Climate Change				3300/132	3300/132
National Agency for Agricultural Research (NAZV)	Precision Agriculture and Digitalization in the Czech Republic (Precizní zemědělství a digitalizace v ČR)					3776/151
Technology Agency of the Czech Republic (TA ČR)	Establishment and Operation of a Re-use Centre/Re-use Point in the Social, Legal and Economic Conditions of the Czech Republic (Založení a provoz re-use centra/re-use pointu v sociálních, právních a ekonomických podmínkách ČR)					971/39
United Nations Development	Implementation of 8 Jamoat Watersheds Action Plan Programs in the northern					33575/1343

Programme (UNDP)	Kofirnighan River Basin (Adapatation Fund - UNDP-TJK-00172)					
Total		113192/ 4529	151449/6058	134603/5384	94870/3795	127472/5099

in the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Grant Agency of the Czech Republic (GA ČR)	Eco-Habitus: Adaptive Strategies of Farmers to Increase Resilience to Climate Change (Eco-habitus: adaptivní strategie farmářů pro zvýšení reziliencie vůči klimatickým změnám)					2000/ 80
Technology Agency of the Czech Republic (TA ČR)	Direct Election of Mayors (Přímá volba starostů)	1629/65	1629/65	1629/65		
National Agency for Agricultural Research (NAZV)	Innovation of the Agricultural Land Valuation System (BPEJ) for State Administration Needs (Inovace bonitačního systému zemědělských půd (BPEJ) pro potřeby státní správy)	2932/117	2932/117	2932/117		
European Commission (EK)	dCompFra: Digital Competence Framework for Ukrainian Teachers and Other Citizens	7925/317	7925/317	7925/317		
European Commission (EK)	STEPS - MSc in Sustainable Food Production Systems	8250/330	8250/330	8250/330		
European Commission (EK)	Managers as Coaches	800/32	2625/105	1850/74		
European Commission (EK)	Nowadays Digital Media Literacy, Artificial Intelligence, and Youth Career Development	1375/55	1375/55	1375/55		
European Commission (EK)	MOVING - Mountain Valorization Through Interconnectedness and Green Growth		37500/1500	37500/1500	37500/1500	37500/1500
Technology Agency of the Czech Republic (TA ČR)	Development of Selected Technologies in the Context of the COVID-19 Crisis and Its Aftermath (Rozvoj vybraných		637/25	1485/59	1232/ 49	

²⁷ Ibid.

	technologií v podmínkách krize COVID 19 a po ní)					
Polish (NAWA)	Central European Network for Sustainable and Innovative Economy - CENETSIE	1140/46	4560/182	3420/137		
Technology Agency of the Czech Republic (TA ČR)	Centre for Socio-Economic Research on the Impact of Environmental Policies - SEEPIA (Centrum socio-ekonomického výzkumu dopadů environmentálních politik - SEEPIA)			37710/1508	45252/1810	67878/2715
European Commission (EK)	Teaching Sustainability in Higher Education in the Field of Economics and Management			1475/59	1475/59	1475/59
European Commission (EK)	Activating Agricultural and Tourism Specializations Through the Center of Taste (AGATA)			3300/132	3300/132	
European Commission (EK)	Take the Challenge and Start the 3R's: Reduce, Reuse, Recycle. Promoting a Zero-Waste Lifestyle Among Adults		275/11	3325/133	3050/122	
Ministry of the Interior of the Czech Republic (MV ČR)	Utilisation of Process Management Elements and Implementation of Standards for the Performance of Priority Public Administration Agendas (Využívání prvků procesního řízení a zavedení standardů pro výkon prioritních agend veřejné správy)		245/10			
European Commission (EK)	SAGRE - Tools for Digital and Sustainable Agriculture - Smart AGri Expert			1075/43	1850/74	775/31
National Agency for Agricultural Research (NAZV)	Implementation of BPEJ Innovations into the State Administration System (Implementace inovací BPEJ do systému státní správy)				3955/158	3955/158
European Commission (EK)	Development of Green Skills for Better Employability			250/10	3150/126	3150/126
Ministry of Industry and Trade of the	AIDIGI - Utilization of Artificial Intelligence Tools for Increasing E-				8078/323	3672/147

Czech Republic (MPO ČR)	commerce Efficiency, Especially in E-shops and Gastro Chains (AIDIGI - Využití nástrojů umělé inteligence pro růst efektivity e-commerce aktivit zejména u e-shop obchodů a gastro řetězců)					
European Commission (EK)	DEMETRA: Developing Entrepreneurial Skills & Tools for Women in Agriculture in Rural Areas				3025/121	3025/121
European Commission (EK)	EU4Advice - Multi-Actor Collaboration Dynamics and Capacity Building Network Inside and Between AKIS to Foster the Upscaling of SFSCs Across Europe				47600/1904	47600/1904
European Commission (EK)	Granting Access to Employment and Entrepreneurship in Agriculture for Women				18650/746	18650/746
European Commission (EK)	GRANULAR - Giving Rural Actors Novel Data and Re-useable Tools to Lead Public Action in Rural Areas				10350/414	41450/1658
European Commission (EK)	CODECS - Maximising the CO-benefits of Agricultural Digitalisation through Conducive Digital Ecosystems				11150/446	44675/1787
European Commission (EK)	BrightSpace: Designing a Roadmap for Effective and Sustainable Strategies for Assessing and Addressing the Challenges of EU Agriculture to Navigate within a Safe and Just Operating Space				8050/322	48325/1933
European Commission (EK)	Blockchain for Agri-Food Educators				1025/41	3125/125
European Commission (EK)	Electronic Pan-European Learning System for Sustainable Agribusiness MBA Education				1100/44	3325/133
European Commission (EK)	Utilization of Eye Movement Tracking for Decision Support Systems					1250/50
Visegrad funds	Consumer of Organic Food in the Visegrad Group Countries (Consumer of Organic					875/35

	Food in the Visegrad Group Countries)					
European Commission (EK)	Boosting Transfer of Knowledge and Skills for Smart and Sustainable Agriculture - SmartSkills					5000/200
Total		24051/962	67953/2717	113501/4539	209792/8391	337705/13508

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Forests of the Czech Republic, state enterprise (Lesy ČR n.p.)	GS Project: SMART Application for Predicting the Abundance and Prevalence of the Common Tick in Forest Ecosystems (KLÍŠŤAPKA) (Projekt GS: SMART APLIKACE PRO PREDIKCI POČETNOSTI A PREVALENCE KLÍŠŤĚTE OBECNÉHO V LESNÍCH EKOSYSTÉMECH (KLÍŠŤAPKA))				316/12,6	
Forests of the Czech Republic, state enterprise (Lesy ČR n.p.)	GS Project: Development of a SMART Application for Predicting the Abundance and Prevalence of the Common Tick in Forest Ecosystems (Projekt GS: Vývoj smart aplikace pro predikci početnosti a prevalence klíštěte obecného v lesních ekosystémech)					312/12,5
Capital City of Prague (Hl. město Praha)	Prague Voucher No. 4 - Aireen (Pražský voucher č. 4 - Aireen)			496/19,8		
Capital City of Prague (Hl. město Praha)	Prague Voucher No. 4 - Dresville (Pražský voucher č. 4 - Dresville)			404/16,2		
Capital City of Prague (Hl. město Praha)	Prague Voucher No. 4 – Digiškola I. (Pražský voucher č. 4 – Digiškola I.)			412/16,5		
Capital City of Prague (Hl. město Praha)	Prague Voucher No. 4 – Digiškola II. (Pražský voucher č. 4 – Digiškola II.)			413/16,5		
Ministry of the Interior of the Czech Republic (Ministerstvo vnitra ČR)	Contract Research (Smluvní výzkum)	122/4,9	134/5,4			
Aireen a.s.	Contract Research (Smluvní výzkum)				75/3,3	
General Financial Directorate (Generální finanční ředitelství)	Contract Research (Smluvní výzkum)					328/13,1
AGROFERT, a.s.	Contract Research (Smluvní výzkum)				99/4,0	

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

AGROFERT, a.s.	Contract Research (Smluvní výzkum)					95/3,8
ŠKODA AUTO a.s.	CARSHARING UNIQUWAY		1749/69	2332/93	1681/67	618/24
UNDP/DEKONTA	Assessment of the Cost and Benefits of Climate Change Adaptation in Agriculture, Forestry and Water Management Sectors of Tajikistan				3 722 / 155	
UNDP/Dekonta	UNDP: The Project Development of Sectoral and Regional Climate Change Adaptation Plans in Uzbekistan is part of the "Sector-driven National Adaptation Plan (NAP) to Advance Medium- and Long-term Adaptation Planning in Uzbekistan" funded by the Green Climate Fund (GCF) Readiness Program and implemented by UNDP in Uzbekistan.					983/41
Panattoni	Potential of Property Tax from the Perspective of Municipalities (Potenciál daně z nemovitých věcí z pohledu obcí)			180/8		
Directorate-General for Agriculture and Rural Development, European Commission, European Union. ECORYS	Developing a Farmers' Toolbox for Integrated Pest Management Practices from Across the Union https://datam.jrc.ec.europa.eu/datam/mashup/IPM/index.html				103/4,2	
Directorate-General for Agriculture and Rural Development, European Commission, European Union. ECORYS	Establishing an Operational Programme: Structuring the Agri-Food Sectors to Safeguard the Handing-On of Family Farms and the Sustainability of Local Agriculture https://op.europa.eu/en/publication-detail/-/publication/a9e96080-7d25-11ee-99ba-01aa75ed71a1/language-en					117/4,6
Directorate-General for Agriculture and Rural Development, European Commission, European Union. ECORYS	Evaluation Support Study on Geographical Indications and Traditional Specialities Guaranteed/Protected in the EU https://op.europa.eu/sk/publication-detail/-/publication/c1d86ba1-7b09-11eb-9ac9-01aa75ed71a1		146/6,8			
ISTOM (Agrinatura) European commission	Freshwater Aquaculture Value Chain in Georgia			296,4/11,4		
University of Greenwich (Agrinatura)/ European commission	Value Chain of Cashmere in Mongolia					1211,6 / 46,6

European Commission	ZAK 2002005 - Study on Economic Value of EU quality Schemes, Geographical Indications (GIs) and Traditional Specialities Guaranteed (TSGs)	122,5 / 4,9	-	-	-	-
European Commission	ZAK 2002006 - Evaluation Support Study on Geographical Indications and Traditional Specialities Guaranteed Protected in the EU	-	140/ 5,6	-	-	-
European Commission	ZAK 2102004 - Developing a Farmers' Toolbox for Integrated Pest Management Practices from Across the Union	-	-	95/ 3,8	60/ 2,4	-
Total		244,5 / 9,8	2169/ 86,8	4628,4 / 185,2	6056/ 248,5	3664,6 / 145,6

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-Assessment:

During the evaluation period, FEM produced numerous significant research results with positive economic and social impacts on society, public administration, and the private sector. The ten selected results represent only the most significant examples, while more than one hundred similar outputs were generated during the evaluation period. These covered key areas such as economics, taxation, corporate finance, informatics, systems and information engineering, transport psychology, and law. The research outcomes address pressing challenges and provide specific tools, methodologies, and software solutions for practical application. Many of these results directly contribute to regional and social development, with a particular emphasis on rural development, agriculture, sustainability, and public health. Key outcomes have supported the optimisation of tax systems, increased market transparency, advanced digital technologies, and enhancing public administration efficiency. The gender dimension was explicitly considered in most results, particularly in areas concerning equal access to mobility, education, and financial resources. Overall, these findings contribute to economic and environmental sustainability while strengthening public administration and ensuring equal opportunities across various sectors, both in urban and rural areas.

1) SW SEMEX – Semantic Explorer (SEMEX)

SEMEX is an advanced software tool developed as part of the PoliRural research project, funded under the EU Horizon 2020 programme. It is designed for analysing large volumes of unstructured textual data. Integrated into the PoliRural platform, SEMEX utilises AI and machine learning to extract key information, identify trends, and visualise data. Its primary purpose is to support

²⁹ See Terms definition.

foresight analysis and systemic dynamic research in regional development and data-driven policymaking.

SEMEX enables the identification of key issues and opportunities across various sectors, including agriculture, politics, and social development. It assists policymakers and researchers in analysing extensive textual data from multiple sources, such as scientific papers, government documents, social media, and news reports. Additionally, the tool can be used to analyse gender disparities in access to information and decision-making processes within regional policy and public administration. By enhancing the understanding of complex societal and economic phenomena, SEMEX facilitates more effective long-term sustainable policy planning.

2) SW VEAUX – Video Event Analyser for UX (VEAUX)

VEAUX is an advanced software tool designed for the automated analysis of audiovisual recordings, enabling real-time monitoring and evaluation of events. Its primary benefit lies in its ability to effectively analyse user behaviour and interactions with systems, making it particularly valuable for testing user experience (UX) and software usability. Developed and extensively used in the FEM HUBRU laboratory, VEAUX plays a crucial role in analysing user testing in eGovernment and public administration, including institutions such as the Ministry of Agriculture, the Ministry of Finance, and the DIA. The software has also been applied in transport psychology, security monitoring, and industrial workplace behaviour analysis, demonstrating its versatility across multiple domains. Its use improves user interface design and optimises workflow efficiency by providing detailed insights into user interactions with digital tools. Additionally, the tool enables the identification of gender-based differences in user behaviour, making it an essential asset for designing more inclusive and accessible digital solutions.

3) SW CEVEMA – Cost and Economic Value Modelling and Analysis (CEVEMA)

CEVEMA is an advanced analytical software tool developed for modelling and analysing pricing processes in the food supply chain, with a particular focus on pork meat. It was created as part of the TAČR project "Price Transparency Model in the Food Supply Chain – Pork Meat." The system facilitates detailed simulations of market mechanisms, evaluates price elasticity, and identifies key factors affecting price formation at different stages of the supply chain. CEVEMA models price fluctuations based on factors such as input costs, demand shifts, and international trade policies. By integrating macroeconomic and microeconomic models, CEVEMA allows users to simulate various pricing scenarios. The tool features an intuitive visual interface and automated reporting, supporting strategic decision-making. It provides detailed market condition analyses and predictive scenarios crucial for agricultural enterprises, the processing industry, and public administration. Its outputs support strategic planning in the food sector, including the development of subsidy schemes. The findings were presented to the Czech Agrarian Chamber and other relevant institutions. The tool enhances market transparency, reducing the risk of price manipulation, and enables businesses to plan investments and production more efficiently while mitigating financial risks. A socio-economic study conducted within the project examined the impact on family farms, where women often play a crucial role. The findings, which support gender-balanced strategies for business sustainability in the agricultural sector, were incorporated into the tool.

4) Functional Prototype of an Augmented Reality Device for Warehouse Optimisation

The developed technical solution involves an augmented reality (AR), and AI-based device designed to improve navigation within warehouses, enhance inventory handling efficiency, and ensure precise

item tracking. The device comprises a wearable mount with a fastening mechanism for the worker's hand, a scanning device equipped with a camera, a computing unit, and a communication module that includes an interactive display and speaker. The wearable mount includes a rotating mechanism allowing for 180-degree movement, ensuring universal usability. The communication module enables wireless data exchange with the central warehouse server in real time, automatically updating inventory records when goods are issued. The AR module scans and identifies stored goods, marking them visibly on the display to indicate their exact location within the warehouse, such as a specific shelf. The AI-powered communication unit facilitates direct interaction with warehouse employees through voice commands and visual cues, enhancing operational efficiency and reducing errors in retrieval and placement.

This functional prototype marks a key technological advancement in logistics management by optimising warehouse operations using AR and image-based object detection. The developed mobile application, equipped with barcode recognition technology, accelerates and simplifies product identification and location tracking, boosting productivity and reducing human error. The system seamlessly integrates with existing warehouse management software and enterprise resource planning (ERP) solutions, making it accessible for both large enterprises and small and medium-sized enterprises (SMEs). By enabling SMEs to automate processes without requiring substantial upfront investment, this technology enhances their competitiveness in both domestic and international markets.

5) Summary Research Report (Vsouhrn): ICT Utilisation in Czech Agricultural Enterprises, Including the Impact of COVID-19

This summary research report analyses the state of digitalisation in Czech agriculture and assesses the impact of the COVID-19 pandemic on the adoption of information and communication technologies (ICT) in the sector. The study surveyed over 700 agricultural enterprises managing at least 100 hectares of arable land, evaluating internet access, mobile communication usage, cloud services, IoT technologies, and social media applications in agricultural operations.

The report highlights key factors barriers to digital technology adoption in agriculture including high implementation costs and disparities between small and large enterprises. The findings serve as a valuable resource for public administration and policymakers, informing subsidy programmes, targeted financial support, and IT assistance for agricultural businesses and rural communities. The findings were presented to the Czech Ministry of Agriculture and shared with industry stakeholders, including the Czech Agrarian Chamber and the Precision Agriculture Centre at CZU. A key conclusion of the report highlights how digitalisation enhances sustainability. The study finds smart agriculture contributes to more efficient resource management, reduces environmental impact, and enhances overall productivity. The findings may influence national and EU strategies for digital agricultural transformation and serve as a foundation for further precision farming research.

6) Summary Research Report (Vsouhrn): Comprehensive Study on the Corporate Tax Gap in the Czech Republic

This 2019 study provides a comprehensive analysis on the corporate income tax gap in the Czech Republic, commissioned by the General Financial Directorate (GFŘ). The report quantified the tax gap using advanced analytical methodologies, including macroeconomic modelling and microsimulation techniques, providing alternative estimates for improved tax oversight. As of 2024, the study continues to inform corporate tax policy decisions and was still actively used by the Czech Financial Administration in 2024 for optimising corporate tax oversight. Its lasting impact includes improving tax compliance, increasing revenue efficiency, and reducing tax evasion. By fostering a

fairer tax system that balances public finance needs with taxpayer interests, this research supports sustainable economic growth. Although the study did not specifically focus on gender aspects, its outcomes contribute to equal conditions in the taxation. The study enhances sustainability by stabilising public finances through improved tax revenue forecasting and resource allocation, reinforcing the Czech economy's resilience to external challenges.

7) Research Output (Hneleg): Internal Guidelines for VAT Self-Assessment by the Czech Financial Administration

This 2020 research output developed a methodological guideline for the GŘ regarding the self-assessment of VAT. This guideline has become a key tool in optimising tax administration in the Czech Republic, enhancing the detection and prevention of fraudulent VAT refund claims. By implementing advanced analytical methods, this guideline has improved transparency in the tax system and reduced administrative burdens on businesses. The introduction of this guideline increases legal certainty for taxpayers, promotes fairer conditions, and reduces false-positive identifications of high-risk entities. This, in turn, saves time and financial resources for compliant taxpayers who are subjected to unnecessary audits less frequently than before. In the long term, the guideline builds public trust in the tax system and encourages voluntary tax compliance. Additionally, the measure helps reduce tax evasion and promotes fair market competition. While the gender dimension was not explicitly addressed, the research promotes equal conditions for all taxpayers. The guideline enhances the efficiency of public resource management, strengthening long-term fiscal stability and economic resilience.

8) Research Output (Hneleg): Methodological Framework for Advanced Risk Analysis – Internal GŘ Regulation

This 2021 research output provides a methodological framework for applying advanced risk analysis in tax administration, which has been implemented by the GŘ as an internal regulation. Developed within a TAČR project, the research focused on quantifying the corporate income tax gap and developing an advanced risk analysis model.

The newly developed algorithms enable more accurate identification of high-risk taxpayers, reducing administrative burdens on businesses and improving the effectiveness of tax inspections. The refined analytical capabilities allow for better risk prediction, enhancing transparency and reducing misclassification errors. This minimises the number of unjustified tax audits, builds public trust in the tax system, and encourages voluntary compliance. The adoption of this methodology optimises tax collection, enhances the efficiency of public finance management, and provides the GŘ with sophisticated analytical methods for detecting tax evasion, promoting fairer and more effective tax enforcement. From a sustainability perspective, this project stabilises public finances and strengthens the economy's resilience to external shocks. Although the gender dimension was not explicitly examined, the methodology ensures equal conditions for all taxpayers, regardless of business size or legal structure.

9) Pilot Operation: CARSHARING UNIQWAY – Positive Impact on Society and Sustainability

The pilot operation of the Uniqway car-sharing system, developed in collaboration with FEM, CTU, and the University of Economics in Prague, focuses on creating a sustainable transport system through the innovative use of shared vehicles. The project allows for the practical testing of theoretical concepts such as Mobility-as-a-Service (MaaS) and Mobility-on-Demand (MoD), providing valuable insights for regional transport planning. Uniqway car-sharing serves a diverse

range of users, including students, academic staff, and transport planners. The results directly impact transport accessibility, reduce the number of stationary vehicles in cities, and optimise fleet utilisation. The project’s research report analysed not only the effects of the COVID-19 pandemic but also the economic impact of the war in Ukraine, inflation, and rising energy costs. Key behavioural changes among users were identified, which contributed to the development of adaptation strategies that enhance the system’s efficiency even in challenging economic conditions.

A major contribution of this project is its sustainability aspect. Uniqway car-sharing reduces greenhouse gas emissions by promoting shared vehicle use and efficient route planning. System automation and the transition to cloud infrastructure ensure long-term operational efficiency. Research findings suggest that a sufficiently widespread car-sharing model could reduce the global vehicle fleet by up to 30%. The project incorporates gender dimensions by providing equal access to shared mobility solutions, particularly benefiting students and young professionals who may not own private vehicles. This promotes fair mobility opportunities, making Uniqway a key driver of socially just and environmentally sustainable urban transport.

10) BETTER Life Toolkit – Strengthening Socially Engaged Science

The BETTER Life Toolkit was developed as a key output of the BETTER Life (Horizon EU) project, aimed at providing effective tools for supporting socially engaged science. This toolkit includes methodological guidelines, case studies, and practical instructions to bridge academic research with the needs of public administration, municipalities, and other institutions. A core component of the toolkit is the Academic Bridge, developed at CZU, which facilitates direct interaction between researchers and real-world stakeholders. This model has been successfully implemented through Scientific Pubs, organised in cooperation with CTU, enabling open discussions between academics, municipal representatives, and other relevant actors. These platforms focus on sustainability topics, public green spaces, efficient municipal finance management, and political science recommendations regarding electoral participation.

Through the BETTER Life Toolkit, municipalities gained access to experts from CZU and CTU, enabling them to address pressing environmental and economic sustainability issues effectively. In the social sustainability pillar, the project provided political science recommendations to increase female participation in municipal elections. The international relevance of this toolkit is reflected in interest from foreign institutions. For instance, the South Korean city of Gwacheon has expressed interest in implementing the BETTER Life Toolkit as a model for strengthening collaboration between academia and public administration. This approach is recognised as an innovative way of integrating research into practical municipal decision-making processes, reinforcing the role of engaged science in sustainable regional development.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Software	2021	SEMEX – <i>Semantic Explorer</i>
Software	2021	VEAUX – <i>Video Event Analyser for UX</i>
Software	2021	CEVEMA – <i>Pricing Process Model in the Pork Meat Supply Chain (Model procesů tvorby cen ve vertikále vepřové maso)</i>

³⁰ Specify the specific type of result. Add rows as needed.

Functional Prototype (Gfunk)	2023	Functional Prototype of an Augmented Reality Device for Warehouse Optimization (Funkční vzorek zařízení využívající rozšířené reality zajišťující zefektivnění práce na skladě)
Summary Research Report (Vsouhrn)	2021	Study on the Use of Information and Communication Technologies in Agricultural Enterprises in the Czech Republic, Including the Impact of the COVID-19 Pandemic (Studie využití informačních a komunikačních technologií v zemědělských podnicích České republiky, včetně dopadu pandemie COVID-19 na tuto oblast)
Summary Research Report (Vsouhrn)	2019	Comprehensive Study Defining the Corporate Tax Gap in the Czech Republic and Its Relative Significance (Studie komplexně definující daňovou mezeru korporátních daní v ČR a její relativní význam)
Hneleg	2020	Methodological Guideline of the General Financial Directorate (GFŘ) for the Application of VAT Self-Assessment (Metodický pokyn GFŘ k aplikaci samovyměření DPH)
Hneleg	2021	Methodological Framework for the Application of a New Risk Analysis – Internal Regulation of the General Financial Directorate (GFŘ) (Metodický postup aplikace nové rizikové analýzy – interní předpis GFŘ)
Other Results – Pilot Operation	2019	Pilot Operation (Poloprovoz): CARSHARING UNIQUWAY.
Other Results – Methodology	2023	BETTER Life Toolkits (Deliverable 3.2) – Socially Engaged Research Tools for Life Sciences (BETTER Life Toolkits (Deliverable 3.2) - Společensky angažované výzkumné nástroje pro vědy o živé přírodě)

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

Self-assessment:

System for Transferring Research Results into Practice

The Faculty of Economics and Management (FEM) facilitates the transfer of research results into practice through the **Centre for Projects, Innovation, and Technology Transfer (CPITT)** and the **Technology Transfer Office (OTT)** at CZU. CPITT, in collaboration with the OTT, provides consulting support in the fields of intellectual property (IP) and technology transfer, managing IP protection in both national projects (e.g., Technology Agency of the Czech Republic (TAČR)) and international research initiatives. The management of intellectual property at FEM follows CZU Rector's Directive No. 1/2023 on Intellectual Property Management, which establishes rules for the protection and utilisation of research results. As a result, FEM research outputs can be efficiently transferred into practice through technology transfer, commercialisation, and contract research.

Typical Users of Research Results and Collaborations

- Czech Financial Administration – Implementation of analytical tools for tax fraud detection.
- Local Action Groups, Ministry of Agriculture, and Institute of Agricultural Economics and Information (UZEI) – Collaboration in economic analyses, regional development, and sustainable land management.
- Mironet.cz a.s. and Databig s.r.o. – Partnerships in AI technology, software, and hardware development.
- ŠKODA AUTO a.s. – Collaboration on machine learning projects for automated user activity classification.
- UNDP/Dekonta – International cooperation on climate adaptation projects.

Strategies for Identifying New Users

- FEM actively seeks new users of its research through:
- OTT, which connects faculty research teams with commercial partners.
- The FEM Advisory Council for Industry Collaboration, a consultative body that includes external experts identifying research application opportunities.
- The Quality Systems Consulting Centre, working with businesses to implement innovative quality and process optimisation solutions in agriculture, food production, gastronomy, and retail.
- The Career and Professional Advisory Centre, which expands FEM's network of partnerships with businesses and institutions, facilitating efficient knowledge and technology transfer.
- The Centre for International Studies on Rural Development, as well as faculty-hosted workshops and conferences.

Selected Research Results from Table 3.4.1

1) Gfunk (2023) – Functional Prototype of an Augmented Reality System for Warehouse Optimization [Functional prototype]. Partner: Databig s.r.o.

This system was developed by the Department of Information Engineering at FEM in collaboration with the FEM Artificial Intelligence Lab and Databig s.r.o. This augmented reality (AR) warehouse management system was created as part of the AIDIGI project funded by the Ministry of Industry and Trade (MPO). The CZU research team played a key role in developing a convolutional neural network model for barcode recognition, programming, and implementing an Android-based mobile application. Meanwhile, Databig s.r.o. coordinated activities and collected warehouse data systematically for AI model training.

The innovation significantly improves logistics automation and warehouse efficiency, an area crucial for large-scale distribution centres. Mironet s.r.o., one of the largest IT providers in the Czech Republic, has already integrated the system into its operations. The AR solution improves order processing time by up to 40% and reduces human error in warehouse inventory management. Given Mironet's operations in Germany, Poland, and Slovakia, this innovation has high potential for international e-commerce applications.

2) Hneleg (2020) – Internal Guidelines of the Czech Financial Administration for VAT Self-Assessment [Methodological guideline]. Partner: Czech Financial Administration

This research output provided a methodological framework for improving VAT refund verification and fraud detection. The adoption of these guidelines has significantly reduced financial losses from fraudulent VAT refunds, optimising the Czech Financial Administration's control mechanisms.

The effectiveness of this result is particularly evident in its impact on public finances. While the research did not generate direct commercial revenue, it has contributed to billions of CZK in annual tax fraud prevention. The methodology improves the accuracy of identifying high-risk entities, reducing false-positive cases and enhancing voluntary tax compliance.

3) Hneleg (2021) – Implementation of a New Risk Analysis Model in the Czech Financial Administration [Methodological framework]. Partner: Czech Financial Administration

This research developed a data-driven risk analysis model for targeted tax audits, which has been fully integrated into the Czech Financial Administration's internal procedures. The advanced analytics system allows for precise risk assessment, reducing administrative burdens on compliant businesses while increasing the effectiveness of tax fraud detection.

The methodology has led to enhanced efficiency in tax collection, ensuring a more transparent and fair tax system. Although the research did not generate direct commercial revenue, it has prevented tax fraud amounting to billions of CZK per year.

Funds Received from Non-Public and Non-Grant Sources (2019–2023)

A summary of financial contributions from private entities, sponsorships, and contract research is detailed in Table 3.5.1. Major contributions came from donations, sponsorships, and contract research agreements with commercial entities and international organizations.

Donations from Česká spořitelna a.s. were used for the Senoseč Online and Včelstva Online projects, with the highest contribution recorded in 2021 for Včelstva Online, amounting to 132,000 CZK (€5,206). ŠKODA AUTO a.s. provided continuous support between 2020 and 2023, contributing 198,000 CZK (€7,812) annually. Hoppy s.r.o. maintained a consistent sponsorship of 60,000 CZK (€2,366) per year. The Carsharing Uniqway project generated revenue throughout 2020–2023, with the highest earnings in 2021, reaching 2.3 million CZK (€90,765). In 2021, Panattoni contributed 180,000 CZK (€7,098) for a property tax study. UNDP/Dekonta a.s. provided significant funding for climate adaptation projects, with the largest allocation of 3.7 million CZK (€145,949) in 2022 for Tajikistan, followed by 983,000 CZK (€38,779) in 2023 for Uzbekistan.

The total non-public funding received during the evaluation period exceeded 12.7 million CZK (€500,000), with 2022 being the most financially successful year, generating over 5.6 million CZK (€220,775).

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Donation for the Senoseč Online Web Portal Project from Česká spořitelna a.s.	116	56	60		
Donation for the Včelstva Online Web Portal Project from Česká spořitelna a.s.	111		132		
Donation from Škoda Auto, a.s. r. 2020		198			
Donation from Škoda Auto, a.s. r. 2021			198		
Donation from Škoda Auto, a.s. r. 2022				198	
Donation from Škoda Auto, a.s. r. 2023					198
Hoppy, Sponsorship Donation	60/2,4	60/2,4	60/2,4	60/2,4	60/2,4
CARSHARING UNIQUWAY		1749/69	2332/93	1681/67	618/24
Panattoni / Potenciál daně z nemovitých věcí z pohledu obcí (The potential of property tax from the perspective of municipalities)			180/ 8		
UNDP/DEKONTA / „Assessment of the Cost and Benefits of Climate Change Adaptation in Agriculture, Forestry and Water Management Sectors of Tajikistan“				3722/155	
UNDP/Dekonta / UNDP: The Project Development of Sectoral and Regional Climate Change Adaptation Plans in Uzbekistan is part of the “Sector-Driven National Adaptation Plan (NAP) to Advance Medium- and Long-term Adaptation Planning in Uzbekistan” funded by Green Climate Fund (GCF) Readiness Program and implemented by the UNDP in Uzbekistan.					983/41
Total	287	2063	2902	5661	1850

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

Popularisation activities represent a crucial and actively supported component of academic and scientific work at FEM. To facilitate these efforts, FEM utilises the services of the Marketing Centre. Below are selected examples of popularisation activities, including events for the general and professional public, as well as specific initiatives promoting R&D results by selected research groups, centres, and individuals.

1) Science Fair and Researchers' Night (Veletrh vědy, Noc vědců)

Researchers' Night is an annual event that promotes science and technology to the public. The programme is interactive and designed for all age groups, encouraging active engagement and

fostering a stronger connection with scientific knowledge. It enhances scientific literacy, inspires new generations to explore science, and stimulates discussions on contemporary scientific issues. With its engaging and educational format, it helps build a positive perception of scientific discovery and innovation.

The Science Fair is the largest event of its kind in the Czech Republic, spanning three days, with 100 exhibitions and 46,000 visitors in 2023. It aims to showcase the latest scientific advancements across various disciplines, including natural sciences, engineering, humanities, and social sciences. Visitors can participate in experiments and scientific games while engaging in discussions with leading scientists who share their expertise and perspectives on the future of research and innovation.

FEM participated in the Science Fair and Researchers' Night in 2022 and 2023 by demonstrating applications of system dynamics modelling in the socio-economic field. Visitors had the opportunity to engage with an interactive management simulator, which enabled them to model managerial decisions and analyse their impacts using a touch-screen interface.

2) Consulting Centre in Quality Systems

The Consulting Centre in Quality Systems under FEM, led by **Dr. Petra Šánová (F)** focuses on providing consultancy and training to both established and emerging businesses in agriculture, food processing, gastronomy, and retail. Its activities are ongoing, with key examples including:

- 2020: Course "How to Become a Successful Organic Farmer", organised in cooperation with Institute INPRO a.s. – including lecture and workbooks on "Requirements and Conditions for Organic Farming and Organic Products" and "Bioproduction Training".
- 2018–2019: Training for the Czech Agriculture and Food Inspection Authority (SZPI) on the GLOBALG.A.P. standard applied in primary agricultural production.
- Professional assessments of new and existing retail and small gastronomy operations, integrating the latest industry approaches and expertise.

3) Centre of International Rural Development Studies

The Centre of International Rural Development Studies (CIRDS) at FEM focuses on research, education, and the support of rural development in both national and international contexts. The centre's key activities include research on rural sustainability, social innovation, and economic development. It conducts analyses of agricultural value chains, with a particular emphasis on the connections between producers, processors, and markets. CIRDS actively participates in national and international projects aimed at rural development. It organises specialised courses and workshops focused on strategic rural development planning, entrepreneurship in rural areas, and the implementation of European policies. The centre collaborates closely with partners in developing countries and the EU, including the FAO, the OECD, and the UNDP. It provides expert consultations and analyses for policymakers at both the national and European levels. Additionally, CIRDS works with local governments and non-profit organisations to design and implement rural development strategies.

4) Tax Centre at FEM

The Tax centre consists of **14 academic staff members, including 10 women**. Researchers within the unit select current topics and define research questions based on practical needs, often with the aim of disseminating findings among the professional public. This group frequently comprises the primary users of research or those who derive direct or indirect benefits from research outcomes.

As a result, popularising research findings is an integral part of planned outputs from the outset, taking the form of established workshops, conferences, or the publication of popular science articles. One key initiative is the annual workshop, "Tax Havens: Harmful or Beneficial Competition," which has been held every May for nearly two decades. This event has become a recognised platform for Czech and Slovak experts in international taxation, bringing together professionals from academic, commercial, and governmental spheres. Each year, the event features presentations on the latest research findings, not only from the host university but also from other institutions. Additionally, as part efforts to promote knowledge on re-use centres by municipalities, two workshops have been held for municipal representatives and experts. These sessions focused on presenting and discussing examples of good practices in re-use centres in both the Czech Republic and globally.

5) Ing. Tomáš Maier, PhD, (M) Department of Economics, Expert in Agricultural Economics

Dr Maier regularly provides expert commentary in the media on current issues and developments in the agri-food sector. He has made several dozen television and radio appearances and has contributed articles to both daily newspapers and professional journals. His primary focus is on economic aspects of agriculture, agricultural policy, and market trends of selected commodities, particularly beer. Below is a selection of his published articles and media appearances from the evaluation period:

- *Christian Democrats Shift Stance, Coalition Considers Taxing Still Wine*
- *Beer Prices in Prague Could Exceed 70 CZK per Pint*
- *Czech Farmers Selling Wheat at Prices 45% Lower than Last Year*
- *Paprika at the Centre of Attention: Who is to Blame for the High Prices?*
- *One in Four Beers Sold is Now in a Can: Even Microbreweries Have Embraced Aluminium*
- *Rising Wheat Prices Will Make Bread and Meat More Expensive*
- *Czech Beer Exports to Russia Declining: Breweries Cutting Off a Key Market*
- *Forget Radler, Breweries Are Launching a New Summer Hit*
- *"They Just Want to Save Money," Expert Says About Producers Justifying Dual Food Quality with Various Explanations*
- *Drought Threatens Barley and Other Crops: Will Beer Prices Go Up?*

6) Prof. PhDr. Michal Lošťák, PhD, (M) Head of the Department of Humanities

Prof. Lošťák provides media commentary on issues related to rural areas and their development, as well as socio-economic topics concerning food and its quality. His contributions include interviews on the popularisation of science and the connection between research and society (e.g. <https://vesmir.cz/cz/casopis/archiv-casopisu/2022/cislo-12/okna-prilezitosti-dokoran.html>).

He actively participates in public debates on topics such as the future of rural football (e.g. <https://www.seznamzpravy.cz/clanek/vymirajici-vesnicky-fotbal-chce-asociace-zachranovat-80-zapalovaci-horvatha-i-kohaka-presel-humor-54872>), and consumer trends in food shopping (e.g. <https://ekonom.cz/c1-66923740-pandemie-naucila-lidi-kupovat-udrzitelne-potravinu>).

In addition to in-depth interviews, he also provides short media commentaries on current topics related to rural development and food quality such as the debate on dual food quality (e.g., <https://www.novinky.cz/clanek/ekonomika-v-italii-smetana-v-cesku-odstredene-mleko-na-dvoji-kvalitu-je-zakon-kratky-40483962>).

7) Prof. Ing. Luboš Smutka, PhD, (M) Head of the Department of Trade and Finance

Between 2019 and 2023, Prof. Smutka was actively contributing to scientific and research discussions for general and professional audiences through lectures, media appearances, academic conferences, and international collaboration. His areas of expertise included topics such as sustainable development, agricultural policy, agricultural value chains, and the impacts of geopolitical events on food security.

Among his most recent engagements, in May 2023, he appeared on **ČT24** (Czech Television's news channel), analysing China's role in circumventing sanctions imposed on Russia and its impact on international trade relations. In March and April 2023, he completed interviews with **Slovak Radio** where he addressed the effects of Russian sanctions and Ukrainian grain imports on the European market. In July 2023, he spoke on **Czech Radio** about the impact of the new harvest on grain prices and the stability of food supply chains in Europe.

Beyond his media engagements, Prof. Smutka plays an active role within CIRDS FEM, contributing to educational initiatives focused on rural development and sustainable agriculture. In November 2022, he spoke at the Management Forum for Farmers, Food Producers, and Rural Development, where he discussed the impacts of the European Green Deal on the agricultural sector.

8) **Mgr. Milan Školník, PhD, (M) Political Scientist, Department of Humanities**

Dr Milan Školník regularly provides commentary for national media as part of the popularisation of research, development, and innovation, as well as analyses of political situations. As an expert in political communication, he connects his research activities with the university's societal role. For instance, he analysed the use of TikTok in Romania, where, according to intelligence reports, activities on the platform led to the annulment of the presidential elections. Similarly, he commented on the political interventions of Elon Musk in European affairs, having previously studied the impact of Musk's transformation of Twitter into the platform, X.

He discussed these issues, for example, on TV Nova's flagship political programme: <https://tn.nova.cz/zpravodajstvi/clanek/592276-vliv-socialnich-siti-vyrazne-roste-mohou-mit-dopad-i-na-volby-tvrdi-politolog>.

9) **Assoc. Prof. Ing. Mgr. Petr Wawrosz, PhD, (M) and the team from the Department of Economic Theories**

Assoc. Prof. Wawrosz appeared on **Czech Television** in the programme *Televizní noviny* on the following dates:

- **21 November 2023** – Topic: *The cost of strikes in the Czech Republic*
<https://www.ceskatelevize.cz/porady/10101491767-studio-ct24/223411058321121/>
- **24 October 2023** – Topic: *Sugar beet production in the Czech Republic*
<https://www.ceskatelevize.cz/porady/10122978233-udalosti-v-regionech-ostava/423231100031024/>
- **10 October 2023** – Topic: *Inflation trends in the Czech Republic*
<https://www.ceskatelevize.cz/porady/12026085531-byznys-ct24/223411058021010/>
- **26 September 2023** – Topic: *Ukrainian grain*
<https://www.ceskatelevize.cz/porady/10101491767-studio-ct24/223411058320926/>
- **4 July 2023** – Topic: *Czech Republic's state budget development*
https://www.ceskatelevize.cz/porady/11412378947-90-ct24/223411058130703/29.24?fbclid=IwAR1De_y-8iwl2LdYcUy86ktSf-KppTaq9OpoJF5NXQ5kH844tWAAMjJpMzw

- **21 December 2022** – Topic: *Increase in CNB interest rates*
https://www.ceskatelevize.cz/porady/10101491767-studio-ct24/222411058061221/?fbclid=IwAR1a0lm7rreUsCsBvhyBFAsjrDdvqNs9uSO7a-ZcmffR-V4O1h_5nMwnE
- **12 December 2022** – Topic: *Inflation trends in the Czech Republic*
<https://www.ceskatelevize.cz/porady/10101491767-studio-ct24/222411058061212/?fbclid=IwAR3ilQOjOczpFAmeRoK-owYlc3v4JIUwswEAqhUA9FNYpdPNECHLxjslgqQ>

10) Ing. Michal Blahout, PhD, (M) Department of Economic Theories

- Dr Michal Blahout appeared on Czech Television in the programme Televizní noviny (News) on 8 December 2022, discussing unemployment in the Czech Republic.
- On 2 May 2024, from 10:30 to 13:45, Dr Michal Blahout delivered a voluntary popularisation lecture on the Fermi Paradox for CZU students upon request.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

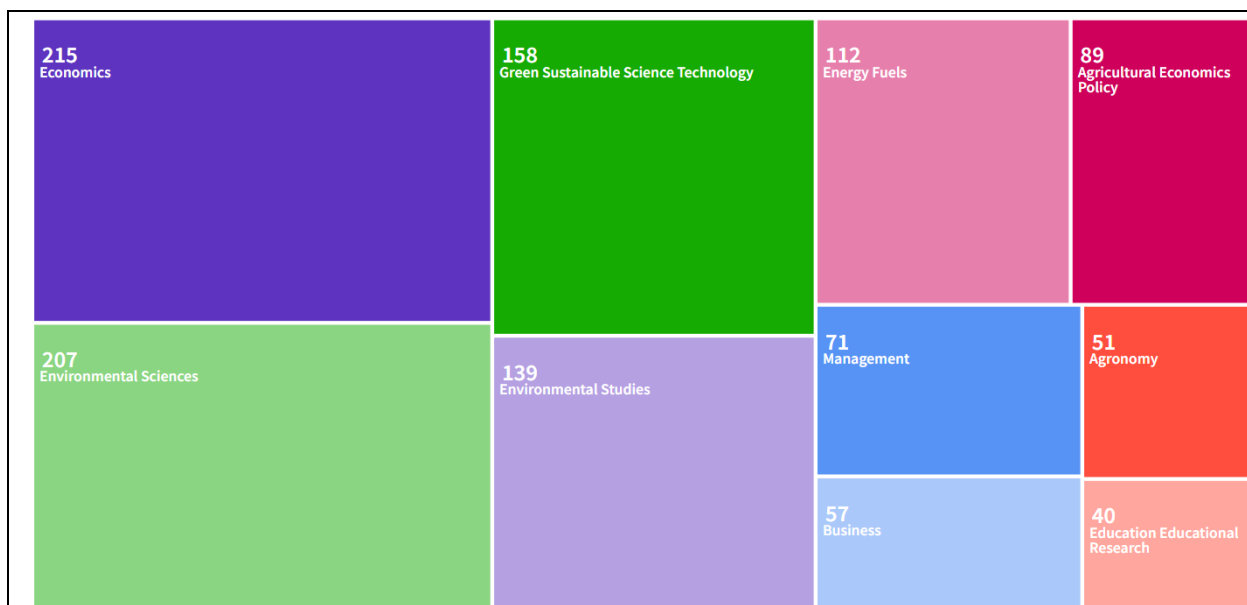
The previous evaluation by the International Evaluation Panel (IEP) provided key conclusions and recommendations as follows:

- 1) A key competitive advantage of the faculty is its broad research scope, ranging from tax systems to beekeeping, encompassing economic, social, and environmental dimensions. The faculty must continue engaging in research that has economic, social, and environmental implications for society, thereby enhancing its relevance and utility for society.
- 2) The faculty's academic staff are actively engaged in scientific activities and enjoy international recognition. FEM should capitalise on this by strengthening its international collaborations to attract foreign researchers to Prague for both research and teaching.
- 3) The faculty has successfully secured funding from diverse public and private sources and established an extensive network of partnerships with public institutions, private associations, and businesses. These efforts demonstrate its societal contribution, particularly in addressing practical challenges in evolving economic conditions. This progress should be maintained.
- 4) The faculty should further develop its communication strategy to engage both professional and the general public effectively.

During the evaluation period, these recommendations were addressed as follows:

Ad 1) Maintaining Interdisciplinary Research Focus

In accordance with the IEP's recommendation, FEM acknowledges its competitive advantage in integrating economic, social, and bio-environmental themes and continues to develop this systematically. The research profile outline in Section 3.1 of this self-evaluation report is further supported by a visual representation of the disciplinary structure of the faculty's key publication outputs for 2019–2023, as recorded in the WoS database.



The faculty will continue to prioritise its interdisciplinary focus. While greater emphasis will be placed on strengthening activities in Economics, Agricultural Economics and Policy, Business, and Management, this will not come at the expense of other important areas, particularly Environmental Economics, which is relevant to FEM but is not classified as a separate category. Additionally, economic topics related to energy and other related fields will remain a focus.

Ad 2) Strengthening International Collaboration

During the evaluation period, CZU adopted its Internationalisation Strategy, to which FEM actively contributed and continues to support. In research and development, FEM has expanded international collaboration through grant and publication activities while also focusing on the internationalisation of doctoral studies and the establishment of Centres of Excellence.

In doctoral studies, FEM has successfully engaged foreign experts not only in teaching but also as dissertation consultants, opponents, and members of doctoral programme boards. During the evaluation period, these boards were internationalised, with each doctoral study programme now including at least three foreign experts. Additionally, the scope of required doctoral student outputs in English has expanded (e.g. research proposals, dissertation methodologies, and thesis abstracts), enabling greater involvement of international reviewers.

Furthermore, discussions have been initiated to establish systematic consultation partnerships for doctoral students with selected universities, such as FH Bielefeld, the University of Cagliari, the University of Szczecin, Rzeszow University, the University of Debrecen, Wageningen University and Research, and Aarhus University.

To systematically involve foreign experts in FEM's research activities, Centres of Excellence were established and further developed during the evaluation period. These virtual research structures were designed to facilitate research teams or working groups for specific research, grant, or publication collaborations, aligned with FEM's key research areas. Notable examples of successful and long-term foreign expert involvement through these centres include:

- Prof. Kumbaker (M) – Department of Economics
- Prof. Kholová (F) – Department of Information Technology
- Assoc. Prof. Guy (F) – Department of Information Engineering
- Prof. Balsalobre (M) – Department of Management and Marketing
- Prof. Bilan (M) – Department of Trade and Finance

Ad 3) Expanding Research Funding Sources

In line with the IEP's recommendation, systematic efforts were made during the evaluation period to support faculty researchers and research teams in securing funding for scientific activities from both public and private sources. The effectiveness of these efforts can be demonstrated by comparing the volume of secured funding during the evaluation period with the preceding period.

Research Projects (total, without distinction of role or funding source):

Year	Thousand CZK / EUR	Year	Thousand CZK / EUR
2014	9,225 / 369	2019	137,243 / 5,490
2015	10,764 / 430	2020	219,402 / 8,776
2016	10,206 / 408	2021	248,104 / 9,924
2017	8,318 / 332	2022	304,662 / 12,186
2018	11,601 / 464	2023	465,177 / 18,607

Contract Research Activities (without distinction of the client):

Year	Thousand CZK / EUR	Year	Thousand CZK / EUR
2014	30 / 1.2	2019	244.5 / 9.8
2015	404 / 16	2020	2,169 / 86.8
2016	439 / 18	2021	4,628.4 / 185.2
2017	7,107 / 284	2022	6,056 / 248.5
2018	1,319 / 53	2023	3,664.6 / 145.6

Revenue from Non-Public Sources:

Year	Thousand CZK / EUR	Year	Thousand CZK / EUR
2014	154 / 6	2019	287 / 11
2015	142 / 6	2020	2,063 / 83
2016	134 / 5	2021	2,902 / 116
2017	276 / 11	2022	5,661 / 226
2018	367 / 15	2023	1,850 / 74

The data presented above demonstrate a significant increase in financial resources for these activities, in some cases exponentially. The objective for the upcoming period is to sustain this trend and further enhance FEM's funding from these sources.

Ad 4) Strengthening Communication Strategy

The IEP's recommendation has been interpreted as the need to intensify the communication of the faculty's research topics. As stated in Section 3.6, these topics are communicated through university-wide activities as well as at the level of individual researchers, research teams, and centres.

Beyond this, the faculty organises annual scientific conferences, including:

- *Agrarian Perspectives*
- *Efficiency and Responsibility in Education*

- *Qualitative Methods in Social Sciences*

FEM also publishes two scientific journals, indexed in the WoS and Scopus databases:

- *Agris On-Line*
- *Journal on Efficiency and Responsibility in Education and Science*

These activities contribute to the faculty's visibility in academic and professional circles, ensuring its research remains impactful both within and beyond the university.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
FEM brochure – Faculty of Economics and Management ... faculty for life	3.1	https://www.pef.czu.cz/dl/140253?lang=cs

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Agrobiology, Food and Natural Resources

FORD: 4 - Agriculture and veterinary sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

The Faculty sees the focus of its activities in the area of 4. Agriculture, Forestry and Fisheries, where CZU was highly ranked in QS WUR (Agriculture and Forestry, 2023) at 62nd place and in Shanghai ARWU (Agricultural Sciences, 2023) at 51st-75th place. However, there is overlap with other areas in terms of the multidisciplinary nature of the Faculty, which reflects the current view of solving problems in agriculture and food security. The Faculty sees its contribution to society as an authority in the creation and provision of information in the fields of agricultural sciences, food sciences, landscape and natural resource management. The Faculty also has a profile in companion animal science and welfare. At a time when agricultural paradigms are changing to eliminate negative impacts such as pollution, erosion, water scarcity and soil degradation, the Faculty creates knowledge to achieve sustainable agriculture and a higher quality of life for humans and animals. The Faculty's activities have traditionally been closely linked to the agri-food complex enterprises and related state institutions. The activities of the Faculty mainly have an impact in the Czech Republic, but the vision of the Faculty is gradually being fulfilled by the growth of the overall international context. This is evidenced by the activities of the Faculty's staff and its participation in various international consortia and projects, such as the Euroleague for Life Sciences (ELLS). The Faculty is active in popularising new and traditional knowledge of agricultural production, especially in the Czech environment.

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	21,5/6,8	24,7/8,0	26,1/8,5	26,9/9,1	28,5/9,8	25,54/8,44
Associate Professor	38,1/7,0	37,3/7,0	36,4/6,2	38,0/7,6	42,8/10,9	38,52/7,74
Assistant Professor	67,4/30,3	68,3/33,0	69,6/33,9	70,3/34,9	71,5/36,4	69,42/33,7
Assistant	6,7/3,3	11,0/6,2	12,0/6,9	14,9/9,4	13,5/6,9	11,62/6,45
R&D Personnel ³	61,5/27,7	52,8/25,3	48,8/24,1	45,0/21,6	40,4/18,3	49,7/23,4
Researchers in other categories ⁴	0	0	0,4/-	0,5/0,1	1,1/0,8	0,4/0,18
Technical and economic staff ⁵	85,2/57,5	90,6/60,0	86,6/55,6	90,2/55,0	99,1/61,6	90,34/57,94
Scientific, research and development staff involved in teaching activities	53,1/22,5	62,5/25,3	70,2/30,6	70,9/30,9	63,4/27,0	64,02/27,26
Early career researchers ⁶	17,2/5,9	24,3/9,0	25,3/12,5	32,9/15,0	35,0/14,6	26,94/11,4
Total ⁷	333,4/155,2	347,3/164,8	334,8/165,8	356,2/169,0	359,2/170,8	346,18/165,12

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					3	3	8	4	10	1	6	

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

Associate Professor			3		25	5	7	1	8	1	1	
Assistant Professor			30	18	29	9	9	5	11	5		
Assistant	1	1	3	1	3	1	1		1	1		
R&D Personnel ⁹	12	8	16	5	9	6	1	1				
Researchers in other categories ¹⁰												
Technical and economic staff ¹¹	19	9	30	14	22	13	28	24	12	8	4	1
Scientific, research and development staff involved in teaching activities	3	2	33	12	16	7	8	4	3	1	2	
Early career researcher ¹²	3	1	16	6								
Total ¹³	35	20	115	50	107	44	62	39	45	17	13	1

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					5	1	10	4	12	5	6	
Associate Professor			5	5	25	5	10	1	5	1	5	
Assistant Professor			19	11	40	21	13	6	10	4		
Assistant	1		11	5	6	3	4	2	3	1		
R&D Personnel ¹⁵	4	3	14	7	7	2	1	1				
Researchers in other categories ¹⁶					1				2			

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

Technical and economic staff ¹⁷	17	10	18	6	34	22	27	20	13	10	2	1
Scientific, research and development staff involved in teaching activities	4	2	27	11	16	9	7		5	2	1	
Early career researcher ¹⁸	5	3	32	13								
Total ¹⁹	26	15	94	45	134	63	72	34	50	23	14	1

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	2573	1934	3041	2301	3094	2358	3003	2284	2524	1939	2394	1817
Master's ²⁰	1020	789	1109	851	1078	813	1136	846	1040	777	1053	804
Doctoral	198	113	223	120	236	122	225	114	213	120	191	117
Lifelong Learning Courses	18	13										
Total	3791	2836	4373	3272	4408	3293	4364	3244	3777	2836	3638	2738

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes											
	2019		2020		2021		2022		2023		Total	
Undergraduate	15/2	4/0	13/2	0/0	14/2	0/0	14/2	0/0	12/2	0/0	12/2	0/0
Master's	15/3	0/0	15/3	0/0	17/3	0/0	17/4	0/0	17/5	0/0	18/5	0/0
Doctoral	3/3	0/0	4/4	0/0	9/9	0/0	9/9	0/0	10/9	0/0	10/9	0/0
Lifelong Learning courses	2/0	1/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Total	32/5	5/0	28/5	0/0	31/5	0/0	31/6	0/0	29/7	0/0	30/7	0/0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	38
	1.2 Computer and information sciences		Zvolte položku.	
	1.3 Physical sciences		Zvolte položku.	
	1.4 Chemical sciences	5	Applied Research	
	1.5 Earth and related environmental sciences	10	Balanced basic and applied research	
	1.6 Biological sciences	21	Balanced basic and applied research	
	1.7 Other natural sciences	2	Applied Research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	11
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering	2	Applied Research	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies	9	Applied Research	
3. Medical and Health Sciences	3.1 Basic medicine		Zvolte položku.	5
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences	5	Applied Research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	26	Balanced basic and applied research	46
	4.2 Animal and Dairy science	8	Applied Research	
	4.3 Veterinary science	6	Balanced basic and applied research	
	4.4 Other agricultural sciences	6	Applied Research	
5. Social Sciences	5.1 Psychology and cognitive sciences		Zvolte položku.	
	5.2 Economics and Business		Zvolte položku.	
	5.3 Education		Zvolte položku.	
	5.4 Sociology		Zvolte položku.	
	5.5 Law		Zvolte položku.	

	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences		Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	
	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion		Zvolte položku.	
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

The scientific community respects Faculty staff in many areas, not just agriculture. The selection of activities in the following tables illustrate a cross section in different areas covering the Faculty's missions. More than 30 foreign scientists visit the Faculty every year, and Faculty staff give more than 20 lectures a year at various events. The Faculty's academic staff are members of more than 90 editorial boards of various scientific and professional journals. Faculty members are elected members of more than 50 professional and scientific societies. During the evaluated term, the faculty's academic staff received more than 35 different awards, including the university's internal awards.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
Asa Gholizadeh, assoc. prof.	President's Award of the Czech Science Foundation (GA CR) (2022)	Czech Science Foundation (GAČR)
Jiří Balík, prof.	Danubius Award 2019	Austrian Federal Ministry of Education, Science and Research
Marek Špínka, assoc. prof.	Honorary Fellow of the International Society for Applied Ethology (2019)	International Society for Applied Ethology
Matěj Malík, Ph.D.	Award for dissertation thesis 2023	Czech Academy of Agricultural Sciences and National Agricultural Museum
Matouš Jebavý, assoc. prof.	Grand Prix of Architects 2020	National Architect Association
Nikol Modráčková, Ph.D.	Award for Young Researchers (2021)	National Association for Probiotics and Prebiotics
Pavel Tlustoš, prof.	Doctor honoris causa (2019)	Slovak University of Agriculture, Nitra
Radim Vašát, Ing.; Tereza Zádorová, assoc. prof.; Vít Penížek, assoc. prof. (members of team)	Minister of Agriculture Award for Implemented Research Results 2022	Ministry of Agriculture of the Czech Republic
Tereza Hřebečková, Ph.D.	Award for dissertation thesis 2021	Czech Academy of Agricultural Sciences and National Agricultural Museum

Zuzana Hroncová, Ph.D.	Minister of Agriculture Award for Young Researchers 2019	The Ministry of Agriculture of the Czech Republic
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Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
Aleš Hanč, prof.	International Journal of Environmental Science and Technology, 1735-1472
David Modrý, prof.	Frontiers in Veterinary Science, 2297-1769
Filip Mercl, Ph.D.	Chemical and Biological Technologies in Agriculture, 2196-5641
Josef Hakl, prof.	Grass and Forage Science, 1365-2494
Kateřina Hamouzová, assoc. prof.	Phytoparasitica, 1876-7184
Luboš Borůvka, prof.	Frontiers in Soil Science, 2673-8619
Luděk Stádník, assoc. prof.	Czech Journal of Animal Science, 1805-9309
Karel Douša, Ph.D.	Aquatic Conservation: marine and Fresh water Ecosystems, 1052-7613
Martin Možný, assoc. prof.	Discover Atmosphere, 2948-1554
Michaela Kolářová, Ph.D.	Advances in Weed Science, 2675-9462

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
Eva Vlková, prof.	Probiotics, prebiotics and other -biotics in animal nutrition	Slovak Academy of Sciences, 17th International Conference Animal Physiology, Slovakia	2022
František Hnilička, assoc. prof.	Changes to the calorific value of ecosystems due to anthropogenic stressors	Endeavor Research Group, USA	2021
Jiří Patoka, prof.	Invasive species in Indonesian fishery and related socio-economic and environmental risks	Institut Pertanian Bogor, Indonesia	2021
Josef Hakl, prof.	Forage research at CZU with focus on root morphology and forage nutritive value	Swedish University of Agricultural Sciences, Sweden	2023
Josef Soukup, prof.	Integrated Weed Management - the Key to Sustainable Agriculture	National Research and Development Center for Sustainable Agriculture, Saudi Arabia	2023
Josef Soukup, prof.	Herbicide resistance - mechanisms, monitoring and management	Bayer Crop Science, Germany	2021
Lenka Kouřimská, prof.	Insects as sustainable alternative food and feed protein source	Sociedade Portuguesa de Química, Lisboa, Portugal, XXI EUROFOODCHEM Conference	2021
Marek Špinko, assoc. prof.	What are affective states and why they matter	American Dairy Science Association, Annual Meeting, USA	2022

Pavel Klouček, assoc. prof.	Advances in the antimicrobial activity of essential oils – back or forward?	University of SS. Cyril and Methodius in Trnava, 7th International Scientific Conference Applied Natural Sciences, Slovakia	2019
Pavel Tlustoš, prof.	Biochar - Soil Amendment or Organic Fertilizer	Osaka Metropolitan University, 9th Annual World Congress of Food and Nutrition, Japan	2023

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Alessandro Piccolo, prof.	University of Naples Federico II, Italy	Soil organic matter. A paradigm change and the implications in soil science	2022
Deepak Kaundun, Ph.D.	Syngenta Limited, Jeallot Hills, UK	DNA and OMICS technologies in herbicide resistance research	2019
Gadea Joaquín Mateos, prof.	University of Murcia, Spain	Modifications of oocytes and sperm cultivation systems	2019
Jiří Šimůnek, prof.	University of California, USA	Advanced modeling of water flow and contaminant transport in porous media using the HYDRUS and HP1 software packages	2019 2023
Manuel Mota, prof.	University of Évora, Portugal	Nematodes in Europe - research and development	2022
Naftali Lazarovitch, prof.	Ben-Gurion University of the Negev, Israel	The effect of the atmospheric demand on plant sensitivity to salinity	2022
Olfs Hans Werner, prof.	University of Applied Sciences, Osnabrück, Germany	Injection of Liquid Manure in Maize Cropping: Reducing Nitrogen Losses and Enhancing Nutrient Use Efficiency	2023
Per Kudsk, prof.	Aarhus University, Denmark	Glyphosate Use in the European Agricultural Sector and a Framework for Its Further Monitoring	2022
Rajeev Bhat, prof.	Estonian University of Life Sciences, Estonia	Sustainability issues and challenges	2019
Salonen Jukka, PhD.	LUKE, Jokioinen, Finland	Weed surveys – a window to changes in agriculture	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
Eva Vlková, prof.	Member of Working Group III. Sustainable Food Production, evaluator of project proposals	National Agricultural Research Agency (NAZV)	2019 - 2022
Jana Poláková, assoc. prof.	HORIZON-CL6-2022-BIODIV-01, CIRCBIO-01, ZEROPOLLUTION-01, evaluator of project proposals	European Research Executive Agency	2022
Jana Poláková, assoc. prof.	Magic, H2020-EU.3.5. - SOCIETAL CHALLENGES (final review)	European Agency for Small and Medium Enterprises	2020
Jiří Balík, prof.	Programme for Applied Research of Ministry of Agriculture: Země II, 2017-2025, evaluator of project proposals	National Agricultural Research Agency (NAZV)	2019 - 2023
Markéta Marečková, assoc. prof.	Epsilon Programme, chairman of the board, rapporteur for project proposals	Technology Agency of the Czech Republic (TAČR)	2019 - 2023
Pavel Klouček, assoc. prof.	Centre for Innovative Use and Strengthening of Competitiveness of Czech Brewery Raw Materials and Products (final review), Competence Centres Programme	Technology Agency of the Czech Republic (TAČR)	2019
Pavel Tlustoš, prof.	Resurrecting the past to direct the future: origin and evolution of psychoactive chemicals in cannabis	The Dutch Research Council (NWO)	2022
Pavel Tlustoš, prof.	Combining low-cost biochar, biogas, and cyanobacteria fertigation technologies with low-input crops for sustainable bioproducts in smart circular farming systems, CombiFarm	Slovenian Research and Innovation Agency (ARIS)	2023
Stanislav Korenko, assoc. prof.	Project N. ARRS-RPROJ-JR-Prijava-2023/712 - WellBEEing: IoT monitoring of bee colonies in the presence of external stressors (topic - Precision beekeeping).	Slovenian Research Agency (ARRS)	2023
Stanislav Korenko, assoc. prof.	Member of Panel 505 Animal and Plant Ecology, rapporteur for project proposals	Czech Science Foundation (GAČR)	2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

The Faculty is active in applied research and, in accordance with the adopted strategy, is taking measures to intensify its activities in this area in the coming period. In the given period, the Faculty dealt annually with research projects in the amount of almost CZK 250 000 000 (9860 ths. €) and research contracts in the amount of almost CZK 60 000 000 (2367 ths. €). The projects were supported by various funding agencies or commissioned by international or national companies or authorities and are fully in line with the Faculty's mission. Although the selection below highlights mainly large, prestigious international projects (1.-7.), many projects also have a national society focus (see Table 3.3.1) and provide interesting results (see Part 3.4).

Innovative contract research is also carried out for various commercial entities, where the main partners are mainly global biotechnology companies in the agri-sciences developing crop protection products and plant varieties. Another area of contract research is the control of food quality or chemical substances, identifying their natural origin and investigating their applicability. The selection below (8.-10.) represents three contracts involving an international research organisation (ESA), a national authority (Ministry of Agriculture) and a commercial company (Syngenta).

- 1) **ECO-READY** project (2022 – 2026) aims at achieving Ecological Resilient Dynamism for the European food system through consumer-driven policies, socio-ecological challenges, biodiversity, data-driven policy, and sustainable futures. The project intends to have a significant impact at micro (product/sector), meso (agri-food value chain), and macro (country, region, EU) levels by fostering resilience and ensuring food security. It aims to improve policy-making capacity by understanding the interconnections between climate change, biodiversity, and food security. This system will be a central information source for society, policymakers, the scientific community, and the agri-food industry. The Faculty (as part of CZU) is the Project Coordinator and leader of WP1; where the Faculty scientifically leads and coordinates the initial stages of the ECO-READY project, focused on understanding the drivers shaping European food security and their compound impacts related to biodiversity and climate change. The Faculty also actively participates in data-related investigations and facilitates co-creation workshops with stakeholders to ensure the relevance and applicability of developed scenarios. Furthermore, Faculty collaborates on modelling activities, integrating the identified drivers and storylines.

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

- 2) The **NutRisk Centre** (2018 – 2023) was a pioneering research initiative in which the Faculty was a beneficiary. The project investigated the synthesis and transformation of nutrients in the food chain and their interactions with anthropogenic contaminants. The project focused on exploring the behaviour of contaminants within agroecosystem components and their impact on nutritionally important substances. The research aimed to assess the impact of soil contamination on agricultural product quality by analysing the transformation and transport of contaminants through the food chain. The results confirmed that contaminants interact with biological systems in complex ways, affecting plant and animal metabolism. One of the key achievements of the project was the detection of extremely low concentrations of a wide range of common and emerging contaminants, some of which had previously only been suspected to be present in agroecosystems. The research demonstrated that soil acts as a long-term reservoir for organic and inorganic contaminants which, under certain conditions, can be mobilised and transferred to the environment, where they become accessible to living organisms. Further studies were carried out on the rhizosphere, soil fauna (edaphones), freshwater organisms (fish) and livestock to assess biochemical changes induced by contaminated feed. Even at low environmental concentrations, contaminants were found to alter the behaviour and activity of aquatic organisms, while higher doses affected physiological functions in plants and animals. With a strong focus on scientific excellence, the NutRisk Centre has produced over 260 scientific publications and three patents dedicated to the Faculty, making significant contributions to food safety, agro-ecosystem protection and sustainable agriculture. By developing cutting-edge analytical techniques and fostering international collaborations, the project has had a lasting impact on environmental health and food security.
- 3) **Drift Food** is an interdisciplinary centre of excellence (2020 - 2026) specialising in food technology and nutrition. The project aims to establish a state-of-the-art research centre for advanced technologies for high quality, safe and sustainable regional food production. This centre will link the fields of primary agricultural food production and food quality and safety assessment through food processing and technology experts, namely the ERA Chair holder and her research team. The establishment of the ERA Chair Centre of Excellence represents a very important opportunity for the development of the advanced agri-food sector and for strengthening the presence of the Czech Republic at the European and international level. The main objectives of the centre are to improve education and training in food technology, to develop innovative food products using new technologies, and to add value to industrial agricultural residues in order to reduce environmental impact. Drift Food collaborates with international universities to increase its visibility and competitiveness, attract new talent and engage in international projects. In line with the Faculty's mission, the project supports the transfer of new interdisciplinary research results to society in order to improve its knowledge of food processing and quality, as well as its nutritional value, and to provide a better understanding of the direct impact of quality food on human health.
- 4) The project „**Utilization of Advanced Technologies and Canine Olfactory Abilities to Enhance the Efficiency of Missing Person Searches in the Field**” (2017 – 2021) was funded by the Ministry of the Interior of the Czech Republic (MVČR), with the Faculty leading the main activities and cooperating with the Czech Police and the Czech Mountain Rescue Service. The project focused on two specific objectives: accelerating and optimising decision-making and management procedures for initiating and conducting search operations for missing persons in open terrain using newly developed software integrated with communication and navigation technologies directly in the field, and their subsequent documentation and statistical analysis. These newly developed data computation and analysis technologies enable more effective

initiation of search operations and provide real-time feedback communication for search management and prediction of missing person movements. These advances increase the speed and probability of locating and rescuing missing persons, where the efficiency and organisation of the search operation play a critical role. Therefore, modern training and fieldwork with search dogs by ensuring that their maximum olfactory capabilities are maintained while managing psychological and physical stress levels, the overall effectiveness and outcomes of search missions will improve. Ultimately, this will improve the safety of missing persons, search team members and the dogs involved. The outcomes of the project will be designed for practical application across all units of the IRS, including canine brigades and potentially volunteer groups, while also serving as a valuable resource for further applied research in the field of canine olfactory capabilities. Research into the ethology and physiology of rescue dogs, particularly their ability to cope with stress, may contribute to the monitoring of the workload and health of other working dogs used in human society, such as rubble search dogs, detection dogs, intervention dogs, assistance dogs or therapy dogs.

- 5) CZU participated in the **European Joins Programme SOIL: Towards climate-smart sustainable management of agricultural soils (2020-2025)**, where 26 partners from 24 countries were involved, numbering more than 400 scientists. The general objective was to improve the understanding of agricultural soil management by finding synergies in research, strengthening research communities and raising public awareness. One of the key topics was discussing how soil management could enable adaptation to climate change and what role carbon sequestration has to help mitigate of this change. The Faculty participated in stocktaking the state of knowledge about soils and the needs of research resulting in designing a roadmap for soil research in the EU. The Faculty also contributed to the harmonization of database maintenance and soil survey methods. The Faculty was included in 13 of the 26 internal research projects, focused on sustainable soil management including carbon farming, indicators of soil quality and health, bundles of soil threats and soil ecosystem services, soil biodiversity, carbon sequestration potential including plant root biomass as a source of soil organic matter, and advanced methods of soil monitoring and data collection, including remote and proximal soil sensing. The outputs of the programme, include a number of reports, scientific papers, maps, databases and metadata, policy briefs, methodologies and cookbooks, etc. Another very important result of the programme was building international cooperation and research networks between soil scientists with different specialisations and from different countries.
- 6) **METROFOOD-RI** is an international large research infrastructure focused on metrology in food and nutrition associating 48 partners from 18 countries. It has been launched on the European Strategy Forum on Research Infrastructures (ESFRI) Roadmap in the Health & Food domain since 2018. In the period 12/2019-05/2022, this infrastructure was supported by the EU project 871083 METROFOOD-PP Preparatory Phase Phara Project (H2020-Infradev-2019-2). **METROFOOD-CZ** is a partner and at the same time the national node of the METROFOOD-RI. METROFOOD-CZ is the Czech large research infrastructure for food and nutrition listed on the Roadmap of Large Research Infrastructure of the Czech Republic in the Biological and Medical Sciences domain since 2018, which is coordinated by the Faculty. The main objective of METROFOOD-CZ is to provide and support new interdisciplinary research in areas covering primary agricultural production, food processing and technology, quality, authenticity, safety and traceability of food, raw materials, food products and dietary supplements. METROFOOD-CZ not only enables the use of top instrumentation for analysing agricultural products and food, experiments on experimental fields and stables, the development of new food products and testing innovative technologies but also offers top experts in agro-food sector and metrology.

METROFOOD-CZ is financially supported by the Ministry of Education (the project “Infrastructure for promotion of metrology in food and nutrition in the Czech Republic” No. LM2018100 (financing period 01/2019-12/2022) and LM2023064 (financing period 01/2023-12/2026).

- 7) **AgroServ** is a five-year EU-funded project (2022-27) to support research and innovation in agriculture and agroecology. The project examines the threats and challenges and deepens our understanding of how to achieve a resilient and sustainable agri-food system. This transdisciplinary project brings together all stakeholders in the agricultural system. AgroServ enables researchers from academia and industry, as well as practitioners interested in agroecological research, to access facilities and services across Europe. By providing a Europe-wide data ecosystem, AgroServ aims to grow the agroecology research community and support the cross-fertilisation of knowledge. The Faculty is a member of the consortium and offers our facilities in the form of living laboratories, including analytical laboratories, experimental fields and stables, and co-creation capacity building activities with users and stakeholder.
- 8) **World Soils Monitoring System (WORLDSOILS)** is funded by the European Space Agency (ESA) from 2021, is based on 7 European partners including CZU. The main objective of the project was to provide up to date annual Soil Organic Carbon (SOC) content maps for Europe using remote sensing data and , in close cooperation with users and stakeholders, to develop a global Earth Observation Soil Monitoring System (EO-SMS) on a suitable cloud environment utilizing open source software and information available from operational, in situ and reference data and additional variables and/or indexes derived from Earth Observation (EO) data together with blending and modelling techniques. The project developed a pre-operational SOC monitoring system in a cloud environment. The system utilized spectral models to predict topsoil organic carbon content at regional and continental scales from EO satellite data with continuous cover over European territory. The SOC monitoring system results were validated using external datasets in three European regions: Wallonia (Belgium), Central Macedonia (Greece) and the Czech Republic. The WORLDSOILS project ended in 2024, although it was extended by ESA for an additional 14 months, starting from March 18, 2025. During this period, the Faculty will continue collaborating with the other partners.
- 9) The contract with SYNGENTA Czech s.r.o. supports the investigation of the current status of resistance to ALS-inhibiting herbicides and synthetic auxins in economically important dicotyledonous weed species (*Papaver rhoeas* and *Tripleurospermum maritimum*) in the Czech Republic, with reference to the situation in neighbouring Central European countries with similar cropping systems and weeds. During the project, six populations of *P. rhoeas* and several populations of *T. maritimum* were found to be resistant to the herbicides tribenuron and florasulam. In all cases, target site resistance caused by a single nucleotide mutation is the cause of resistance. In addition to the final report for the client, the results for *T. maritimum* were published as a scientific paper. The knowledge gained from this project has enriched the international database of herbicide-resistant weeds and elucidated the molecular mechanisms of resistance. It helped Czech and European farmers to prevent and manage herbicide resistance.
- 10) The contract **of the Ministry of Agriculture of the Czech Republic** to ensure the fulfilment of the objectives of the National Action Plan for the Safe Use of Pesticides. The contract is focused on determining diseases, weeds, and abiotic damage in the vegetable-growing areas of Bohemia and Moravia. The project mainly focuses on extraordinary and unusual vegetable damage that growers and commercial advisors cannot handle. The optimal methods of protection against detected harmful pathogens are recommended according to the principles of integrated crop

protection. The project also tests the use of biological products in plant protection, and in particular, growers are introduced to their selection, application, and storage. Throughout the growing period, the Faculty staff periodically report on the health status of vegetables which is published in an electronic newsletter and on the national Plant Health Portal. At the end of the year, a complete report is prepared on the occurrence of vegetable diseases and weeds for that particular year. This final report is addressed to the Ministry of Agriculture. During the main season, the Faculty staff are communicating daily with farmers, and will visit agricultural enterprises based on the grower's request or based on the need for diagnostics from previous experience. Usually, the Faculty staff gives lectures for growers 3 times a year at events organized by the Czech and Moravian Agricultural Association.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
GA CR	Coupled solid-phase speciation and isotopic record of thallium in soils: A novel insight into metal dynamics	1 292/ 50	-	-	-	-
GA CR	Behavior of pharmaceuticals in soils-water-plant system	1 589/ 62	-	-	-	-
GA CR	Environmental impact assessment and possible pathways and transformations of selected toxic	923/ 36	-	-	-	-
GA CR	Spatial prediction of soil properties and classes based on the position in landscape	1 982/ 77	-	-	-	-
GA CR	The interaction of weather with soil water dynamics, with special regard	1 083/ 42	-	-	-	-

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

	to precipitation and water retention					
GA CR	Orthologs of glutamate carboxypeptidase 2 in model organisms - search for physiological roles and therapeutic potential of the enigmatic enzyme	1 479/ 58	1 479/ 56	-	-	-
GA CR	Soil contamination assessment using hyperspectral orbital data	1 037/ 40	1 037/ 39	-	-	-
GA CR	Do neonicotinoids have sublethal effects on spiders, reducing their ability to regulate agricultural pests	579/ 23	-	-	-	-
TA CR	Use of Polyversum to increase plant resilience to stressful conditions	591/ 23	-	-	-	-
TA CR	Managerial simulator for livestock production - FARMASIM	1 212/ 47	-	-	-	-
TA CR	Practical aspects of biochar use in different soils and substrates	1 800/ 70	-	-	-	-
TA CR	Innovation in diagnosing the nutritional status of crops with phosphorus and sulfur	1 335/ 52	-	-	-	-
NAZV	Safe use of sewage sludge on agricultural land using torrefaction technology	1 576/ 61	1 576/ 60	1 576/ 61	-	-
NAZV	Two-stage treatment of the liquid fraction of fermentation	1 451/ 57	1 451/ 55	1 451/ 57	-	-

	residue enabling rational utilization of nutrients from water					
NAZV	Economic support for strategic and decision-making processes at the national and regional levels leading to the optimal use of renewable energy sources, primarily biomass, while respecting food self-sufficiency and soil protection	473/ 18	473/ 18	473/ 18	-	-
NAZV	Utilization of vermicomposting to eliminate micropollutants for the safe application of sewage sludge on agricultural land	1 417/ 55	1 417/ 54	1 417/ 55	1 417/ 58	957/ 40
NAZV	Sustainable management of natural resources with an emphasis on the non-productive and productive capacities of soil	1 253/ 49	1 253/ 47	1 253/ 49	1 253/ 51	1 253/ 52
NAZV	Research and development of medicinal mushroom production in the Czech Republic and their innovative applications in functional foods	1 654/ 64	1 654/ 63	1 654/ 65	675/ 27	675/ 28
NAZV	Minimization of the risks of active substance residues from selected herbicides contained in straw and soil on cultivated	1 723/ 67	1 723/ 65	1 723/ 67	86 907/ 3 538	86 907/ 3 620

	mushrooms, strawberries, and tomatoes					
NAZV	Innovation in integrated potato protection against the Colorado potato beetle based on new findings in genetic and biological characteristics	392/ 15	392/ 15	392/ 15	299/ 12	299/ 12
NAZV	Quality and safety of broiler meat production when feeding insect meal, limited feeding, and grazing	1 339/ 52	1 339/ 51	1 339/ 52	2 988/ 122	2 988/ 124
NAZV	New reliable methods for detecting the adulteration of goat and sheep milk and dairy products	1 631/ 64	1 631/ 62	1 631/ 64	-	-
MOI CR	Utilization of advanced technologies and dogs' olfactory abilities to increase the efficiency of searching for missing persons in the field	2 489/ 97	2 489/ 94	-	-	-
NAZV	Characterization of the compatibility relationships between the causative agents of phoma stem canker and winter rapeseed varieties as a basis for increasing the profitability of cultivating this crop in the Czech Republic	826/ 32	826/ 31	826/ 32	-	-

TA CR	Assessment of the risks of the invasive parasite <i>Ashworthius sidemi</i> for the management of game ungulates in the Czech Republic, control of ashworthiosis, and prevention of its spread	1 123/ 44	-	-	-	-
MSMT CR	Absorption and metabolism of drugs from the group of plant phenylpropanoids in the gastrointestinal tract	1 478/ 58	1 478/ 56	1 478/ 58	-	-
TA CR	Development of innovative fermentation technologies for the production of growing media for the cultivation of edible mushrooms and medicinal, aromatic, and spice plants	1 245/ 48	1 245/ 47	1 245/ 49	-	-
TA CR	Development of alternative preparations for the protection and support of hop resistance	2 392/ 93	2 392/ 90	-	-	-
GA CR	Biochar: valorization of solid waste and improvement of soil properties	926/ 36	926/ 35	926/ 36	6/ 0	-
GA CR	Individual variability and resilience of interspecies relationships in freshwater environments: insights from	1 687/ 66	1 687/ 64	1 687/ 66	74/ 3	-

	interactions between mussels and fish					
MSMT CR	Training Center for Agricultural Product Processing (TCAPP)	72 423/ 2 821	72 423/ 2 739	72 423/ 2 824	72 423/ 2 948	-
TA CR	Eco-friendly fertilizer from ash after biomass combustion	499/ 19	-	-	-	-
MSMT CR	Development of research-oriented study programs at the Czech University of Life Sciences in Prague	2 490/ 97	2 490/ 94	2 490/ 97	1 324/ 54	-
MSMT CR	Characterization of bifidobacterial strains from different hosts and environments with an emphasis on their antibiotic resistance	63/ 2	63/ 2	-	-	-
TA CR	Use of stress tests and seed stimulation for spring poppy and winter rapeseed to significantly improve seed quality and stand uniformity	531/ 21	-	-	-	-
TA CR	Development of tools and procedures for the proper and timely identification of non-native aquatic organisms as a fundamental prerequisite for limiting biological invasions	1 056/ 41	-	-	-	-
MSMT CR	Role of prolyl oligopeptidases in parasitic flukes	1 568/ 61	1 568/ 59	-	-	-

MSMT CR	Elimination of boar odor using genetic and nutritional measures	444/ 17	-	-	-	-
MSMT CR	NutRisk Center for the study of the formation and transformation of nutritionally significant substances in the food chain in interaction with potentially hazardous substances of anthropogenic origin: comprehensive risk assessment of soil contamination for agricultural production quality	48 979/ 1 908	48 979/ 1 852	48 979/ 1 910	1 080/ 44	1 080/ 45
EC	Innovative approaches in pork production with entire males	410/ 16	410/ 16	-	-	-
MHMP	Commercialization products: hazardous natural resources, hipo monuments and landmarks, service horses	4 511/ 176	4 511/ 171	-	-	-
EC	European Human Biomonitoring Initiative	106/ 4	106/ 4	106/ 4	-	-
MSMT CR	Verification of genomic procedures in small populations	680/ 26	680/ 26	680/ 27	680/ 28	-
MSMT CR	M28 family proteases from nematodes: their physiological roles and potential for novel therapeutic strategies	-	2 722/ 103	2 722/ 106	2 722/ 111	-
MSMT CR	Distribution of spider parasitoids	-	873/ 33	873/ 34	873/ 36	-

	from Polysphincta genus-group across ecological gradients in Holarctic and the importance of host manipulation for parasitoid survival					
International Visegrad Fund	Smart plants in the workplace and their impact on work efficiency and stress reduction	-	-	584/23	-	-
MSMT CR	Geochemistry, mineralogy, and isotopic systematics of thallium in soils, Allchar (North Macedonia)	-	74/3	74/3	-	-
MSMT CR	Strategic setting for human resource development at the Czech University of Life Sciences	-	23 219/878	23 219/905	23 219/945	-
GA CR	Chemistry and isotopic systematics of thallium in peat bogs	-	1 344/51	1 344/52	1 344/55	-
GA CR	Analysis of the kinematic and social aspects of play in mammals at the phylogenetic, neuroanatomical, ontogenetic, and functional levels	-	2 647/100	2 647/103	2 647/108	-
TA CR	Climate and Landscape: Water - Energy Nexus	-	-	925/36	1 267/52	1 267/53
EC	ADVANCED TECHNOLOGIES FOR HIGH QUALITY, SAFE AND SUSTAINABLE REGIONAL FOOD PRODUCTION (DRIFT-FOOD)	-	-	10 365/415	10 365/415	10 365/415

NAZV	Soil organic matter - assessment of selected quality indicators	-	-	1 356/ 53	1 356/ 55	1 356/ 56
NAZV	Development of a bee immunity support product based on probiotics, along with the technology for its production and food industry utilization of the by-product	-	-	1 924/ 75	1 924/ 78	1 924/ 80
NAZV	Fate of selected micropollutants present in treated wastewater and sludge from sewage treatment plants in soil	-	-	1 342/ 52	1 342/ 55	1 342/ 56
NAZV	Use of biologically active plant-based substances in the storage of agricultural products	-	-	1 500/ 58	1 500/ 61	1 500/ 62
NAZV	Alternative additives to boar semen extenders as a replacement for antibiotics	-	-	2 375/ 93	2 375/ 97	2 375/ 99
NAZV	Diversification and strengthening the competitiveness of aquaculture by supporting aquaponics as an innovative agricultural food production technology	-	-	3 327/ 130	3 327/ 135	3 327/ 139
TA CR	Ways to reduce the negative impact of intensive agriculture on pollinators	-	-	2 158/ 84	2 158/ 88	2 158/ 90
GA CR	Pedogenesis of colluvial soils: A	-	-	1 670/ 65	1 670/ 68	1 670/ 70

	multidisciplinary approach in modeling the dynamics of development in the soil-landscape environment					
GA CR	Defined minimal microbiota in protection against the food pathogen <i>Salmonella enterica</i>	-	-	1 459/ 57	1 459/ 59	1 459_ 61
EHP/Norway	Local air quality - public affair	-	-	-	878/ 36	-
GA CR	Sardines and sprats as a potential source of nutrients needed to support proper immune system function in in vitro and in vivo models	-	-	-	2 110/ 86	2 110/ 88
NAZV	Taxonomy - Classification system for assessing the sustainability of agriculture	-	-	-	1 151/ 47	1 151/ 48
TA CR	Soil biodiversity: protection of communities at the species level	-	-	-	3 225/ 131	3 225/ 134
EC	Characterization of key molecules secreted by the <i>Schistosoma mansoni</i> eggs	-	-	-	750/ 30	-
EC	Achieving Ecological Resilient Dynamism for the European food system through consumer-driven policies, socio-ecological challenges, biodiversity, data-driven policy, sustainable futures (ECO-READY)	-	-	-	-	9572/ 399

MOI CR	Methodology for the identification and further forensic analysis of biological material and pathogens from wild and exotic animals	-	-	-	-	7 904/ 329
GA CR	Schistosoma mansoni egg-secreted proteins: a comparative approach to identify bioactive molecules of a human parasite.	-	-	-	-	2 253/ 94
GA CR	Interactions between parasites and metals (metalloids) in small terrestrial mammals	-	-	-	-	2 411/ 100
GA CR	Systematics of stable silver isotopes in mining and metallurgy areas: Metal dynamics in soils	-	-	-	-	1 465/ 61
GA CR	Lice as a model for studying the coevolution of parasitoids with hosts – an integrative approach	-	-	-	-	1 801/ 75
MOI CR	Evaluation and improvement of the preparedness level of search teams used in searching for missing persons in the field	-	-	-	-	6 481/ 270
MSMT CR	Transformation of the Czech University of Life Sciences to adapt to new forms of learning and the	-	-	-	-	36 806/ 1 533

	changing needs of the labor market					
MSMT CR	Infrastructure for promoting metrology in food and nutrition in the Czech Republic	-	-	-	-	3 139/ 131
MHMP	Maintenance of natural vegetation in non-forest biotopes through horse grazing - Part 2	-	-	-	-	75/ 3
MSMT CR	Green manuring as a tool for improvement of soil microbiome and quality of vegetables in sustainable agriculture	-	-	-	-	62/ 3
Total		172 443/ 6 717	188 574/ 7 131	203 612/ 7 951	236 787/ 9 631	201356/ 8 370
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
NAZV	Methods for monitoring the resistance of economically significant pests and weeds to plant protection products and anti-resistance strategies	747/ 29	747/ 28	-	-	-
TA CR	New methods for assessing the status of protected areas and their biodiversity	352/ 14	352/ 13	-	-	-

²⁷ Ibid.

TA CR	Development and innovation of machines for effective soil processing technology	412/ 16	412/ 16	-	-	-
TA CR	A globally new technology for applying EthoPhyton for plant protection	750/ 29	750/ 28	-	-	-
TA CR	Development of a technical measure to prevent the migration of invasive species into ecosystems	1018/ 40	1018/ 38	-	-	-
TA CR	Research and development of machines for precise zonal systems of field crop cultivation	666/ 26	666/ 25	-	-	-
NAZV	Increasing the reliability of national genomic evaluation of dairy cattle by including cows with domestic productivity in the genotyped reference population	500/ 19	500/ 19	500/ 19	500/ 20	-
NAZV	Protection of strawberries against plant pathogens of the Phytophthora genus	1 125/ 44	-	-	-	-
NAZV	Diagnostic methods for laboratory verification of the authenticity of opium poppy	607/ 24	-	-	-	-
NAZV	Development of promising oat genotypes with low celiac reactivity and high nutritional quality	600/ 23	600/ 23	600/ 23	600/ 24	-

NAZV	Creation of detailed current maps of soil properties in the Czech Republic based on the use of Comprehensive Soil Survey data and digital soil mapping methods	715/ 28	715/ 27	-	-	-
NAZV	Reducing the burden on surface waters from diffuse agricultural pollution sources by applying drainage outflow regulation to existing agricultural drainage structures	444/ 17	444/ 17	444/ 17	444/ 18	213/ 9
MSMT CR	Pilot strategic plan of combating against the resistant strains of parasitic worms in the populations of Czech farm ruminants	412/ 16	412/ 16	412/ 16	-	-
TA CR	The role of charcoal burners from the perspective of cultural heritage and landscape protection	1350/ 53	1350/ 51	1350/ 53	-	-
TA CR	Innovation in plant protection during the production and storage of sugar beet	1188/ 46	1188/ 45	1188/ 46	1188/ 48	-
TA CR	Innovative tools for diagnosing and improving sperm fertilizing ability	1403/ 55	1403/ 53	-	-	-
NAZV	Cultivation of common wheat in mixed cropping to optimize soil nutritional status, erosion control, yield stabilization,	742/ 29	742/ 28	742/ 29	742/ 30	-

	and production quality					
NAZV	New methods for saving endangered populations of livestock	820/ 32	820/ 31	820/ 32	820/ 33	-
NAZV	Ensuring the long-term competitiveness of Czech hop growing based on the implementation of precision agriculture principles and smart farming technologies	802/ 31	802/ 30	802/ 31	802/ 33	-
NAZV	Creation of a reference population and development of procedures for estimating genomic breeding values of traits in pigs included in the Czech national breeding program	921/ 36	921/ 35	921/ 36	921/ 37	-
NAZV	Elimination of health and reproduction risk factors in dairy cows through the use of automated measurement and data collection systems	1200/ 47	1200/ 45	1200/ 47	1200/ 49	-
NAZV	Adaptation potential of wheat resistance to drought, heat, and frost	652/ 25	652/ 25	652/ 25	652/ 27	-
NAZV	Development and application of molecular genetic methods for rationalizing breeding procedures of	198/ 8	198/ 7	198/ 8	198/ 8	-

	sweet cherries (Prunus avium L.)					
NAZV	New wheat traits to enhance adaptation potential in the environment of global climate change	1183/ 46	1183/ 45	1183/ 46	1183/ 48	-
NAZV	Fattening of young boars as an economically and ethically acceptable solution to the ban and restriction of surgical castration	933/ 36	933/ 35	933/ 36	933/ 38	-
NAZV	Development and verification of spatial models of forest soil properties in the Czech Republic	812/ 32	812/ 31	812/ 32	-	-
NAZV	Innovation in potato cultivation systems in water source protection zones with limited pesticide and fertilizer inputs, leading to reduced water pollution and maintaining the competitiveness of potato growers	590/ 23	590/ 22	590/ 23	-	-
TA ČR	New fumigation technology for the eradication of invasive and quarantine pest species spread through raw materials in the Czech Republic and the EU	1 112/ 43	-	-	-	-
TA ČR	R&D extrusion lines using steam, focusing on improving the energy efficiency of	1 208/ 47	-	-	-	-

	the extrusion process in relation to the nutritional and dietary properties of animal feed					
MPO CR	Development of the dry biological products HIRUNDO and FIX-N for gardeners and seed treatment	746/ 29	746/ 28	890/ 35	-	-
NAZV	New methods for adjustment of altered crop water requirements in irrigation systems across Czechia as affected by soil and climate changes.	812/ 32	-	-	-	-
MSMT CR	Cultivation system suitable for long-term cultivation of human follicular cells	393/ 15	393/ 15	-	-	-
EC	EJP SOIL - Towards climate-smart sustainable management of agricultural soils	7534/ 301	7534/ 301	7534/ 301	7534/ 301	7534/ 301
EC	METROFOOD-RI Preparatory Phase Project	-	1 310/ 52	1310/ 52	1310/ 52	-
EC	HEDIMED - Human Exposomic Determinants of Immune Mediated Diseases	-	1 492/ 60	1492/ 60	1492/ 60	1492/ 60
MSMT CR	New strategies for the development of antiparasitic molecules as human and veterinary medicines	-	816/ 31	816/ 32	816/ 33	-
TA CR	VIBES - Embedded Intelligence Based on Advanced Methods of	-	897/ 34	897/ 35	897/ 37	75/ 3

	Machine Learning for Edge-Computing Systems with an Application in Livestock Management					
GA CR	"Living" water – a comprehensive response of aquatic animals to the presence of psychoactive substances from municipal pollution	-	1 112/ 42	1112/ 43	1112/ 45	0/ 0
NAZV	SMART FARMING - Variable profile fertilizer application into the root growth zone of conventional crops	-	-	960/ 37	960/ 39	960/ 40
NAZV	Efficient intercropping systems utilizing the principles of biotic intensification	-	-	781/ 30	781/ 32	781/ 33
NAZV	Breeding fruit species for resistance to abiotic factors combined with high antioxidant content in fruits	-	-	745/ 29	745/ 30	745/ 31
NAZV	Innovation in integrated vegetable production with changes in the spectrum of protection agents, improved monitoring of harmful organisms, and reduction of pesticide risks in products	-	-	800/ 31	800/ 33	800/ 33
NAZV	Development of methods for controlling the	-	-	1 114/ 43	1 114/ 45	1 114/ 46

	handling of milk intended for further processing and ensuring its authenticity					
NAZV	Development of methods to reduce the penetration of antibiotics into the environment in dairy cattle farming as support for preventing the development of antibiotic resistance in microorganisms	-	-	1 115/ 43	1 115/ 45	1 115/ 46
NAZV	Implementation of ecosystem services with a focus on water balance in viticulture practices	-	-	1 090/ 43	1 090/ 44	1 090/ 45
TA CR	Development of health-beneficial products based on fresh cheeses adapted for the markets in Vietnam and the Czech Republic	-	-	1 031/ 40	1 031/ 42	1 031/ 43
TA CR	Research and development of technology for cleaning and recycling used cooking oils, including a collection system	-	-	1 250/ 49	1 250/ 51	1 250/ 52
TA CR	System for improving plant production and microbiological processes	-	-	450/ 18	450/ 18	450/ 19
GA CR	INPROFF: Quality, safety, and authenticity of food and feed based on insect protein	-	-	-	2 446/ 100	2 446/ 102

MPO CR	Universal collaborative drone system	-	-	2 038/ 79	2 038/ 83	2 038/ 85
TA CR	Study of the availability of UCO waste material for its efficient processing into an energy source	-	-	-	1 641/ 67	1 641/ 68
NAZV	Changes in forest soils after calamity logging - the impact of deforestation on carbon sequestration, nutrient balance, and the mobility of hazardous elements	-	-	-	1 200/ 49	1 200/ 50
NAZV	Analysis and adjustments of compost application schemes aimed at strengthening soil protection systems within the stabilization of production capacity	-	-	-	812/ 33	812/ 34
NAZV	New methods of classification for JUT pigs	-	-	-	1 663/ 68	1 663/ 69
NAZV	Alternative methods of potato protection against diseases and pests minimizing negative impact on	-	-	-	800/ 33	800/ 33
NAZV	Integrated protection against viral disease vectors in seed potatoes and other crops	-	-	-	800/ 33	800/ 33
NAZV	Optimization of individual reproductive performance	-	-	-	1 201/ 49	1 201/ 50

	management in dairy cattle					
NAZV	Implementation of agronomic selenium management practices in the production of milk and dairy products as functional foods	-	-	-	2 500/ 102	2 500/ 104
EC	Share Your Soils	-	258/ 10	258/ 10	258/ 10	-
TA CR	Increasing the profitability of sugar beet cultivation in the context of increased incidence of viral yellowing and the sustainable reduction of pesticide usage in the EU	-	-	-	900/ 37	900/ 37
GA CR	Coevolution of lice and louse flies with their hosts and symbionts	-	-	-	-	1 160/ 48
GA CR	Cow excrement and manure as a reservoir of Acinetobacter species posing a risk to human health	-	-	-	1 171/ 48	1 171/ 49
GA CR	Ongoing global invasion of the zoonotic nematode Angiostrongylus cantonensis: risk analysis of its spread in Europe	-	-	-	1 471/ 60	1 471/ 61
GA CR	The role of microbiota in influencing intestinal immunity and vector competence of ticks	-	-	-	1 206/ 49	1 206/ 50

TA CR	Spread of invasive parasitic species and their devastating impacts on the biodiversity of native ruminant species	-	-	-	931/ 38	931/ 39
NAZV	Intensification of ecological legume production through biological agents aimed at improving their health status	-	-	-	1 125/ 46	1 125/ 47
EC	NETFOOT: Network for transdisciplinary and transregional approaches on food technologies	-	-	-	328/ 13	322/ 13
EC	Sustainability in Agriculture, Food Production and Food Technology in the Danube Region - Danube AgriFood Master	-	-	-	599/ 24	576/ 24
MHMP	Maintenance of natural vegetation in non-forest habitats through horse grazing	-	-	-	-	300/ 12
EC	Innovation of the structure and content of study programs in the field of animal genetic and food resources management with the use of digitalisation (ISAGREED)	-	-	-	297/ 12	297/ 12
EC	AgroServ - Integrated SERVICES supporting a sustainable AGROecological transition	-	-	-	-	1 221/ 51

GA CR	The effect of silicon on the spectral and physiological properties of buckwheat cultivars under water stress conditions	-	-	-	-	2 225/ 93
MoH CR	The effect of a low-carbohydrate diet on the control of type 1 diabetes and the development of islet autoimmunity	-	-	464/ 18	464/ 19	464/ 19
NAZV	Development of strategies for reducing greenhouse gas and ammonia emissions from livestock farming in the Czech Republic	-	-	-	-	400/ 17
MSMT CR	Development of new chemotherapeutics against human and veterinary parasitic infections	-	-	-	-	680/ 28
NAZV	New directions in piglet production with an emphasis on welfare, environmental protection, and production economics	-	-	-	-	1 231/ 51
NAZV	What we don't know about organic contamination of drinking and irrigation water sources: Identification of emerging compounds using non-targeted screening	-	-	-	-	1 185/ 49

MSMT CR	Primary microbiota and its importance for the health status of premature infants: A study on a gnotobiotic piglet model	-	-	-	-	1 220/ 51
GA CR	The role of prenylation and glycosylation in the anti-inflammatory activity and metabolism of natural phenolic compounds	-	-	-	-	1 188/ 49
GA CR	Metals and their isotopes in the environment of active and abandoned mining areas in Sub-Saharan Africa – understanding their geochemistry and environmental impacts	-	-	-	-	960/ 40
MOI CR	Detection of odor markers using analytical chemistry methods and their application in training service dogs	-	-	-	-	4 689/ 195
TA CR	Precise zonal application of liquid fertilizers	-	-	-	-	754/ 31
EC	MARVIC - Developing and testing a framework for the design of harmonized, context- specific Monitoring, Reporting and Verification systems for soil Carbon and	-	-	-	-	555/ 22

	greenhouse gas balances by Agricultural activities					
NAZV	Comprehensive laboratory strategies for identifying insect species intended for human consumption and processed animal protein production, food authentication based on it	-	-	-	-	1 000/ 42
NAZV	Creation and verification of model systems for long-term carbon sequestration in the Czech Republic	-	-	-	-	1 100/ 46
TA CR	Quantification of carbon stocks in forest soils of the Czech Republic and the possibility of influencing them through forest management	-	-	-	-	912/ 38
MoH CR	Bartonellosis in the Czech Republic as an overlooked disease: sources and infection risks	-	-	-	-	619/ 26
MPO CR	Robotic systems for precision agriculture	-	-	-	-	4 700/ 196
MSMT CR	Indicators of genetic diversity of autochthonous sheep and goat breeds from Slovakia, Austria, Czech Republic, Serbia and Montenegro	-	-	-	-	81/ 3
EC	Monitoring, Reporting and Verification of Soil	-	-	-	-	808/ 32

	Organic Carbon and Greenhouse Gas Balance (MRV4SOC)					
Total		33 396/ 1291	34 117/ 1 308	39 492/ 1 551	56 377/ 2 292	68 895/ 2 864

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Adama	experiments	889/ 35	1 776/ 70	938/ 37	1 174/ 46	2 608/ 103
ADDICOO GROUP	analyses	-	-	-	83/ 3	420/ 17
AGRA GROUP a. s.	project	-	-	210/ 8	-	-
AGRO PODLEŠÍ, a. s.	monitoring of flight activity of bees and bumblebees	-	-	300/ 12	-	-
AGRO PRODUKCE s. r. o.	2020 -project solution PRV, 2022 -yields	-	1 593/ 63	716/ 28	502/ 20	-
AGROFERT, a. s.	experiments	155/ 6	170/ 7	220/ 9	220/ 9	240/ 9
AGROFINAL, spol. s. r. o.		-	-	37/ 1	-	-
ANIMO Žatec	fattening pig testing	-	-	-	-	480/ 19
BASF	experiments with herbicide substances	905/ 36	553/ 22	657/ 26	441/ 17	295/ 12
Bayer – Antwerp	experiments	-	70/ 3	-	-	-
Bayer	Demonstration experiments	354/ 14	397/ 16	378/ 15	532/ 21	198/ 8
Bayer	Registration experiments	691/ 27	245/ 10	665/ 26	798/ 31	920/ 36
Bayer	Development experiments	-	-	-	-	295/ 12
Bayer	Technology for winter rape 2022, 2021 - organization, presentations, experiments, 2023 - pilot experiments	-	-	184/ 7	197/ 8	216/ 9
Bc. Ondřej Bačina	operating expenses	-	300/ -	-	-	-

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

			12			
Bertels BV	contracted research	-	1 566/ 62	-	-	-
BIOAKTIV CZ s.r.o.	small-plot experiments	-	-	-	-	63/ 2
Biocont	experiments	-	-	-	56/ 2	-
BIOCONT LABORATORY	experiments	-	-	-	-	153/ 6
Compassion in World Farming Internationa	research	-	-	10/ 0,39	-	-
CORTEVA - CRO	benefit trial	-	-	-	-	91/ 4
Corteva/Dow AgroSciences	registration trials of products	147/ 6	189/ 7	577/ 23	-	-
Corteva/Dow AgroSciences	Screening tests	-	134/ 5	244/ 10	-	-
Corteva	Winter rape technology 2021, 2022 -organization, presentations, experiments, 2023 - pilot experiments	-	-	240/ 9	205/ 8	219/ 9
Corteva Agriscience Czech s.r.o.	experiments	-	-	-	232/ 9	305/ 12
Corteva Agriscience Czech, s.r.o.	experiments	-	-	-	224/ 9	-
Corteva Czech s.r.o.	experiments	-	-	-	434/ 17	210/ 8
Česká inspekce životního prostředí	expert assessment		14/ 0,55	-	-	-
ČEZ, a.s.	photovoltaic power stations 2022, 2023 reports	-	-	-	250 / 10	560/ 22
ČR - Ministerstvo zemědělství	2021 -monitoring the NAP target, 2022 – data processing, 2023 - monitoring a reporting	-	-	890/ 35	25/ 1	720/ 28
ČR, Ústřední kontrolní a zkušební.ústav zemědělský	2022 - experiments	-	-	-	140/ 6	140/ 6
Delacon Biotechnik GmbH,	analyses	-	-	88/ 3	162/ 6	-
Soufflet Agro	Field experiment	-	-	41/ 2	-	-
Drupork Svitavy, a. s.	Final report	-	700/ 28	400/ 16	-	-
DSV Saaten	the oil seed private trial	-	118/ 5	118/ 5	-	-
Emerald Harvest Ltd.	experiments	-	-	-	909/ -	-

					36	
ENKI o. p. s.	small mammal survey	-	-	-	10/ 0,39	-
European Space Agency/WORld SOILs MONito	Soil monitoring	-	-	601/ 24	6/ 0,24	-
Eurosecur	Project expertise	1 600/ 63	-	-	350/ 14	-
FMC	Analyses	75/ 3	84/ 3	85/ 3	-	544/ 21
FMC	Analyses	-	84/ 3	-	-	-
Galleko s. r. o.	small-plot experiments	106/ 4	91/ 4	172/ 7	247/ 10	289/ 11
Crop Research Institute	Genetic analyses	-	-	-	-	149/ 6
IDENTXX GmbH	determination of the status of herbicide resistance	-	-	50/ 2	-	-
JuWital s. r. o.	trials	-	36/ 1	36/1	-	-
Kwizda \Agro GmbH	testing of XILON against fungal pathogens of maize	72/ 3	72/ 3	-	-	-
K2H s. r. o.	monitoring	-	-	24/ 0,95	-	24/ 0,95
KWS OSIVA s. r. o.	experiments	-	100/ 4	100/ 4	100/ 4	100/ 4
KWS OSIVA s. r. o.	Field experiments with winter rape	-	40/ 2	-	-	-
KWS OSIVA s. r. o.	2022 - organization, presentations, experiments, 2023 - pilot experiments	-	-	-	160/ 6	195/ 8
Crop Research Institute	Soil analysis	-	-	-	-	17/ 0,67
Lovochemie, a. s.	field-plot experiments	-	-	-	-	150/ 6
MANETECH, a. s.	field-plot experiments	129/ 5	115/ 5	48/ 2	30/ 1	-
MASARYKOVA UNIVERZITA	Laboratory analysis of seeds	-	3/ 0,12	-	-	-
Městská část Praha Vínor	project	-	-	28/ 1	-	-
MICRO-ECOLOGIC LIMITED	analyses	-	-	270/ 11	-	-
MONAS technology	experiment	-	56/ 2	-	-	-
Ministerstvo zemědělství	2021 advisory, monitoring, yield measurement, 2021,	-	991/ 39	34/ 1	890/ -	-

	data analysis, 2022 - Sample testing				35	
MZE - monitoring herbicidní rezistence	Consulting and monitoring	-	-	-	-	890/35
Ministerstvo zemědělství	Chicken data processing	30/ 1	-	-	-	25/ 1
Němec s. r. o.	Project	-	-	2 010/ 79	-	-
PAWLICA s. r. o.	analysis	-	-	20/ 0,79	-	-
Pioneer Hi-Bred Northern Europe	laboratory evaluation and small-plot experiments	-	54/ 2	-	-	-
Pošumaví, a. s.	Project and advisory	300/ 12	400/ 16	340/ 13	200/ 8	-
Povodí Vltavy	Biological monitoring	-	-	800/ 32	-	-
Povodí Vltavy / přechod Řevince	Biological monitoring	-	-	-	-	426/ 17
Povodí Vltavy / přechod Úhlava	Project	-	-	-	-	550/ 22
PRO-BIO Svaz ekologických zemědělců, z.s	experiments, field trials	217,3/ 9	108/ 4	120/ 5	172/ 7	120/ 5
PRO-BIO, obchodní společnost s. r. o.	small-plot experiments	-	22/ 0,87	22/ 0,87	-	-
Rapool CZ s. r. o.	experiments	-	-	37/ 1	-	-
Crop Research Institute	Analysis of soil samples	-	-	-	16/ 0,63	-
Řepařský institut spol. s. r. o.	Fytopathology analyses	-	-	184/ 7	-	-
SELGEN a. s.	field-plot experiments	62/ 2	233/ 9	230/ 9	-	94/ 4
Selgen s.r.o	Experiments with winter rape, impact of drought	-	-	206/ 8	196/ 8	210/ 8
SENS Foods CZ s. r. o.	analysis	-	408/ 16	-	-	-
Soufflet Agro a. s.	field testing	-	30/ 1	-	-	-
SPZO s. r. o.	Experiments with winter rape	228/ 9	160/ 6	-	-	-
SPZO s. r. o.	analyses	139/ 5	-	16/ 0,63	-	-
SPZO s. r. o.	Experiments with soybean	224/ 9	-	-	-	126/ 5
KWS OSIVA	Field plot experiments	-	-	130/ 5	204/ 8	213/ 8

Statek Bureš, s. r. o.	project of Rural Development Programme	120/ 5	339/ 13	296/ 12	357/ 14	-
SUMI AGRO CZECH s. r. o.	Field plot experiments	-	104/ 4	32/ 1	-	-
Sumiagro	Testing experiment	-	-	-	-	80/ 3
SPZO s. r. o.	Field experiments with winter rape	-	149/ 6	191/ 8	-	-
Syngenta Czech s. r. o.	demonstration experiments	-	156/ 6	195/ 8	-	-
Syngenta Czech s. r. o.	registration experiments	573/ 23	364/ 14	195/ 8	587/ 23	624/ 25
Syngenta Czech s. r. o.	Protocols and experiments	-	-	36/ 1	-	-
Syngenta Czech s. r. o.	2022,2023 - experiments	-	-	-	35/ 1	200/ 8
Syngenta Limited - UK	research, serviced according to contract research agreement	77/ 3	903/ 36	434/ 17	-	-
Biofarma Sasov	project of Rural Development Programme	915/ 36	192/ 8	-	-	-
TIMAC AGRO CZECH s. r. o.	experiments	115/ 5	120/ 5	32/ 1	32/ 1	-
ÚKZÚZ	Testing of crop protection substances	-	-	110/ 4	-	-
UNIVERZITA KARLOVA	Seed analysis	-	11/ 0,43	-	-	-
Výzkum.ústav meliorací a ochrany půdy	Cooperation on analysis and consultation	-	-	-	-	50/ 2
Výzkumný ústav mlékárenský s. r. o.	Milk product analyses	-	14/ 0,55	-	-	-
VÝZKUMNÝ ÚSTAV ROSTLINNÉ VÝROBY v. v. i.	Sample and data analyses	15/ 0,59	20/ 0,79	20/ 0,79	-	-
Wageningen University &Research	NMR analysis	-	-	1 866/ 74	-	-
SPZO s. r. o.	Winter Oil Seed rape trial	-	-	-	118/ 5	154/ 6
YARA Agri Czech Republic, s.r.o.	Experiments	-	-	-	-	56/ 2
Zemědělská spol. Sloveč, a. s.	Research cooperation	400/ 16	400/ 16	-	-	-
Zemědělské družstvo Haná	Research cooperation	200/ 8	350/ 14	510/ 20	-	-
Zemědělské družstvo Unčovice	Research cooperation	300/ 12	300/ 12	300/ 12	-	-

Zoologická zahrada hl. m. Praha	determination of species affiliation and exclusion of hybridization, genetic and laboratory analysis	-	36/ 1	20/ 0,79	132/ 5	156/ 6
BASF, ADAMA, Syngenta, FMC, AG Novachem	Herbicide testing in wheat and rape	235/ 9		-	-	-
Sumi Agro, FMC, Agroprotec, Belchim	Herbicide testing in maize and sunflower	190/ 7	-	-	-	-
Total		9 463/ 373	14 370/ 564,31	16 713/ 658,21	10 426/ 410,26	13 575/ 536,62

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

The Faculty is primarily active in the search for ways and approaches to improve the quality of the environment, where agriculture plays a key role in processes that are closely linked to the landscape and ecosystems. The Faculty is gender balanced in the production of these results and the use of the results produced is not restricted by gender. The selection below is a representative cross-section of different types of outputs, including patents, maps, as well as utility models, software, reports, access to research infrastructure, web applications or collections of microorganism strains. However, the Faculty also regularly produces a range of certified methodologies, books, analyses, expert activities, prototypes or policy outputs. These outputs have a clear high scientific, environmental and societal impact in line with the Faculty's mission.

- 1) **The patent of a multi-chamber nitrification reactor** for fugate processing and the method of its start-up into full-scale operation (Europe patent number EP 4 244 331) was developed as a part of project **NutRisk** (number 2 in part 3.3) with the Faculty in a beneficiary role. The invention relates to a unique multi-chamber design of a nitrification reactor processing the fugate, which is produced in high amounts in biogas plants. It represents the liquid fraction of the digestate. It has been shown that treating fugate by biological nitrification can lead to the elimination of several problems, in particular, the prevention of nitrogen losses. The presented operation

²⁹ See Terms definition.

method minimizes the time necessary to complete the reactor's start-up. The nature of the start-up process is based on dividing the reactor's volume into several chambers according their different volume. The fugate contains nitrogen necessary for plant development. However, the nitrogen mainly occurs, within this matrix, in the relatively unstable form of total ammonia nitrogen (TAN, the sum of N-NH₄⁺ and N-NH₃). There is a relatively high proportion of N-NH₃ in the fugate, which is highly volatile. This resulted in a significant risk of NH₃ emission into the atmosphere, losses of nutrients, and environmental pollution during its storage and application to agricultural soil. A promising option is to convert the TAN to a stable N-NO₃⁻ by the biological nitrification process. Assuming a combination of nitrification of the fugate with subsequent thermal thickening of the nitrified fugate will reduce fugate storage and transport costs. However, a unique method of the start-up of the process of nitrification presented in the discussed patent application is essential for successful process initiation. This patent can pursue a new direction of ammonia treatment and utilization as a biobased source in agriculture.

- 2) **Strain Collection of Microorganisms** of the Department of Microbiology, Nutrition and Dietetics The collection consists of 339 strains (mainly bacterial) containing type strains and wild isolates obtained from various hosts and ecological niches. The MALDI-TOF MS with Biotyper software tools (Bruker Daltonik GmbH, Bremen, Germany) was used for the first microbial screening and identification of these strains in several scientific publications. Cooperating research organizations or other users can choose a strain from the list, which can be provided to them within **METROFOOD-CZ infrastructure** (number 6 in part 3.3). Microorganisms can be provided to commercial organizations for a fee.
- 3) As key part of project supported by the Ministry of the Interior of the Czech Republic (number 4 in part 3.3), specialized **software Pátrač** was developed. It integrates all the necessary organisational and technical aspects into a single system, making it a powerful tool for the coordinator of a search operation. The Pátrač software is still undergoing further testing and is now being used in practice under the supervision of the Czech Police. Its functions include summoning available dog handlers who can arrive at the search site as quickly as possible, calculating the distance a missing person could have travelled in all directions from their last known location, and dividing the terrain into sectors for a thorough search. Based on the circumstances, Pátrač can also suggest how many dog search teams are needed and what additional equipment might be helpful in the given terrain. The software immediately indicates whether a sector has been fully searched, using GPS data from devices attached to the dog, handler or other search units. A significant advantage of Pátrač is its ability to work offline, which is crucial as missing persons are often lost in dense forests or mountainous areas with no signal. In 2024, Pátrač was used to successfully locate a missing child in the Domažlice region, where numerous rescuers from the Czech Republic and Germany were searching in extremely difficult terrain. The software will continue to be refined in future simulated and real search operations, making it an invaluable tool for saving lives.
- 4) **Patent No 308145 for a fungicidal plant protection product** based on the essential oil of *Thymus vulgaris*, method of manufacture and use. The fungicidal agent is in the form of microparticles of the essential oil of *Thymus vulgaris*, which enable its use in the protection of plants, or 10 cereal crops, against fungal diseases, whereby the packaging of the microparticles protects the essential oil against evaporation and thus enables its effectiveness to be prolonged. In addition, the concentration of essential oil in the microparticles and in the spraying clay is optimised to avoid damage to plants due to phytotoxicity. The product has potential for use in biological plant protection. The patent is an output of the project of Technological Agency of the Czech Republic in which the faculty was among the principal investigators.

- 5) **A utility model of migration fish barrier**, a groundbreaking fish migration barrier has been developed to safeguard natural fish populations by preventing the uncontrolled movement of undesirable species from the largest reservoir in the Czech Republic. This innovation supports brown trout and the endangered freshwater pearl mussel (*Margaritifera margaritifera*), both vital for maintaining the river's ecological balance. The system combines: 1) A mechanical barrier, blocking fish under normal conditions. 2) An electric barrier, activating when the mechanical barrier is compromised. Strategically deployed on the Vltava River above the Lipno Reservoir, it plays a crucial role in preserving biodiversity and improving river health. Its adaptable design makes it suitable for areas where fixed structures are impractical. Device was developed in collaboration with the Faculty, which also provided key recommendations, this innovation has gained significant media attention, emphasizing its importance in modern conservation efforts. By merging advanced technology with ecological preservation, this barrier marks a major step in protecting aquatic ecosystems and ensuring the sustainability of native species in the Šumava National Park.
- 6) The map describes new information on the occurrence of *L. maculans* and *L. biglobosa* and information on the racial spectrum of *L. maculans* in the Czech Republic. They are the causal agent of Phoma blackening of rape stems. The grower can thus use this information to select varieties with resistance genes (Rlm) incompatible with the avirulence genes (AvrLm) of the different races of *L. maculans* detected in a particular area of the Czech Republic. The map is an output of the project in which the faculty was the principal investigator.
- 7) The key mission of research infrastructures is to provide free access to **research services** for various users. As a leading partner of **METROFOOD-CZ infrastructure**, the Faculty has concluded approximately 25 contracts with both the private and scientific research sectors (farmers, primary food producers, food companies, research institutes, universities, societies and associations in the field of agriculture, food and human nutrition) with a total financial volume of almost CZK 5 million, on the basis of which more than 1,500 analyses have been carried out in the period 2019-2022. As an example, analysis for 48 users were completed: – some of them for foreign users (1H NMR analyses for University of Glasgow and Wageningen University), 5 of these services were fully in open access regime (free for users) – poppy seed nutritional value analyses for the Czech Blue Poppy (Český modrý mák z.s.), sensory analysis of cheese and butter samples for Savencia Fromage&Dairy, and sensory training of staff for Intersnack Choustník.
- 8) Maps of specific groundwater vulnerability to selected organic micropollutants from wastewater and sludge. The aim was to construct maps of specific groundwater vulnerability for 21 organic micropollutants originating from treated wastewater and sewage sludge and thus to identify areas where these substances may enter groundwater after application to agricultural land. In these areas, which are specific to each of the 21 substances within the territory of the Czech Republic, materials containing these substances should not be applied to agricultural land. Thus, sufficient groundwater protection from introducing these substances will be achieved. Such maps were created using multiple sources, including maps describing the sorption of substances in the soil environment, which were generated for each organic micropollutant. While there is an increased risk of percolation into groundwater in areas with low sorption, there may be soil accumulation in regions with high sorption. Thus, these maps can similarly be used for soil protection. The faculty contributes significantly to modelling the sorption and behaviour of substances in soil.
- 9) Stocktaking on soil quality indicators and associated decision support tools, including ICT tools, resulted in a comprehensive report in the frame of the EJP SOIL. This synthesis shows recent and current efforts in Europe related to the establishment of soil indicators as parameters used to

quantify and value impacts of agricultural soil management practices on soil quality. It also shows how the existing indicators have been used. Among the best captured soil parameters across all participating countries are carbon concentration in soils and its changes in time, macronutrients (N, P, K) and micronutrients (Cu, Mn) contents in soils, soil pH, cation exchange capacity and base saturation of soils, soil texture and bulk density, and contamination with potentially toxic elements, especially Cd, Co, Cr, Cu, Ni, Pb and Zn. However, there is only partial agreement between the measured parameters and the indicators used in the national legislations and as policy maker's tools. The preparation and creation of the report, based on the evaluation of questionnaires from 24 European countries involved in the EJP SOIL project, was led by the Faculty. The report served as a basis in the development of a roadmap of soil research in Europe.

- 10) **Web application Agropočasí (Agroweather).** In cooperation between the Czech Meteorological Institute and the Czech Agricultural University, maps of the area distribution of meteorological elements were created and measured at 320 stations of the Czech Meteorological Institute. A network of ISIDOR measuring stations cooperates with the CZU, farmers, and EMS Brno. The web application Agroweather operated on the Czech University of Life Sciences server, will help a wide range of users obtain the most accurate and up-to-date information free of charge using data provided directly by the Czech Hydrometeorological Institute. The application provides a detailed weather forecast for the selected cadastre for 3 days in advance. The portal offers rainfall forecasts for up to 10 days in terms of rainfall totals. Additionally, an overview of the previous day's weather is provided through interactive graphs. Farmers using the application can thus monitor, analyse and work with selected meteorological elements directly in their area of interest on a daily basis.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Foreign patent	2021	Multi-chamber nitrification reactor for fugate processing
Collection	2020	Strain Collection of Microorganisms of the Department of Microbiology, Nutrition and Dietetics
Software	2021	Software for Planning and Managing Missing Person Searches in the Field
Domestic patent	2019	Fungicidal product for plant protection based on essential oil from <i>Thymus vulgaris</i> , method of its production and use
Utility model	2021	migration fish barrier
Map	2021	Map of occurrence of <i>Leptosphaeria maculans</i> and <i>L. biglobosa</i> and their races in the Czech Republic
Service of research infrastructures	2019 -2022	Final report on the implementation of the large research infrastructure METROFOOD-CZ in the years 2019-2022
Map	2023	Maps of specific groundwater vulnerability to selected organic micropollutants
Report	2021	Stocktaking on soil quality indicators and associated decision support tools, including ICT tools
Web application	2023	Agri-weather portal

³⁰ Specify the specific type of result. Add rows as needed.

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

The transfer of results into practice is seen as a key activity at departmental level. There is a clear link between the described projects (part 3.3), examples of results (part 3.4) and examples of their successful transfer (part 3.5). Typical users of faculty results are different entities in the agri-food complex, including small farmers, large agri-food companies, biotechnology companies, various agricultural associations, and government agencies and public administrations at different levels. The links with many of these entities are established through long-term cooperation and the organisation of various events. In addition, the Faculty's alumni play an important role. The presentations on the Faculty website include the services offered by the Faculty. The faculty's academic staff are also continuously informed and trained about commercialisation opportunities, but this is not considered to be their main task. Individual cases of new R&D&I results with commercial potential are consulted individually at the University Centre for Innovation and Technology Transfer (CITT). The system of notification of the result and further treatment of the subject of intellectual property protection is given by the internal university directive. The head of department and the faculty management are involved in the decision-making process through the Vice-Dean for Development. The main sources of income are the sale of patents and financial donations from various companies or organisations. There is a significant increase from 2019 to 2023, as shown in Table 3.5:1. The five groups of typical users of results are described below, together with the ways in which results are transferred, examples linked to Annex Table 3.4.1. and their potential for commercialisation.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

Farmers and agribusinesses are a traditional area for transfer of results. The means of transfer are very diverse, including close cooperation in applied research, organising and participating in agricultural fairs and other events (field days, demonstration experiments) with the support of the Faculty. The Faculty has established the Commission for Cooperation with Practice and the Centre for Precision Farming, which contribute significantly to knowledge transfer. The role of alumni is also very strong. Examples of applied results could be maps or web applications (Outcomes 6, 7 and 10, Table 3.4.1). The focus here is on consultancy, which is also supported by the government or through the Rural Development Programme

For national or international authorities, various professional associations and organisations or local governments, the Faculty offers an effective expert service and research facility that can support decision making or help to find some specific solutions (Results No 5, 7, 8 and 9, Table 3.4.1). Here the potential for direct commercialisation is low, but this group has an advantage in setting up contracts, promoting the faculty or giving space for financial donations

Biotechnological or industrial companies require close cooperation with the Faculty for the development of new solutions and innovation in technologies. The Faculty oversees the management of intellectual property through project managers at the Faculty's Centre for Projects, Innovation and Technology Transfer, coordinated by the Vice-Dean for Development. The Faculty is aware that it has great potential in technology transfer in the field of agriculture and related disciplines. This challenge is reflected in the Faculty's strategy. An example could be the patents developed in collaboration with the Faculty (Outcome 1 and 5, Table 3.4.1), where the total income is summarised in Table 3.5.1

For the transfer of results to other research institutions, the establishment of new collaborations through mobility, networking, internships or joint projects is an important basis for the exchange of knowledge and research results. An example of this potential transfer could be a collection of micro-organism strains or access to research infrastructure (Outcome 2 and 7, Table 3.4.1).

As part of the transfer of results into practice and their commercialisation, the Faculty also works closely with the spin-off company Terpenix s. r. o., which was established in 2013. The turnover of the spin-off Terpenix increased significantly to around CZK 13,627 million/€ 538 million, compared to CZK 3,100 million/€ 122 million in 2018. However, the profit (about CZK 500 thousand / € 20 thousand) was not distributed among the partners and was used for further development of the company.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Spin-off Terpenix	-	-	-	-	-
Selling patents	410/16		300/12		
Financial donations	226/9	120/5	1121/44	1547/61	1422/56
Total	636/25	120/5	1421/56	1547/61	1422/56

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

Many faculty academics have their own popularisation activities, which are not directed by the faculty, but based on their professional specialisation. The Faculty motivates the academic staff for popularisation within the annual evaluation. The academic staff of the Faculty is supported by the Centre for Information Systems and Public Relations (CPIS) in popularising the achieved results. CPIS continuously monitors the results of R&D&I achieved at the Faculty and informs the public in the form of press releases in cooperation with the University, and the information is also presented on the Faculty's web pages. In this way, the Faculty provides the latest scientific findings on current cases and problems. In total, there are hundreds of popularisation activities in the given period, in both Czech and English languages. Apart from mass media, the Faculty also organises or participates in interactive popularisation events. The following overview illustrates various examples of popularisation activities

Methamphetamine pollution elicits addiction in wild fish as a result of the research project (the study of Pavel Horký et al. 2021), gained significant scientific as well as public attention, as could be verified from the altimetric summary. **There was at least in 108 newspaper articles from 87 sources**, including the prestige ones The Washington Post, BBC NEWS, The Independent, National Geographic etc. Overall, altimetric evaluates this study as the top 5% of all research outputs (i.e. among almost 20 million papers) ever scored and as a "High Attention Score" compared to outputs of the same age (99th percentile).

On the occasion of the 200th anniversary of the birth of G. J. Mendel, the National Agricultural Museum prepared a **series of interesting lectures on the topic of agricultural breeding** and new findings in the field of genetics in 2022. Assoc. Prof. Helena Chaloupková from the Department of Ethology and Companion Animal Science gave a lecture on breeding beyond the limits of viability and on the consequences of breeding animals to satisfy fashion trends.

The e-book Soil - an overlooked wealth (in Czech) was created in 2021 in an effort to provide teachers and secondary school students, as well as other interested parties, with information about soil as an important component of the environment. It focuses on the basics of soil formation, its composition and properties. It also pays attention to the living component of soil, which plays an irreplaceable role in its formation. In various natural conditions, different soil types are created by the activities of soil-forming factors; which are briefly described with their typical characteristics. It is also not forgotten that soil is threatened worldwide by encroachment for construction but also damaged by a number of degrading influences. Prof. Luboš Borůvka from the Department of Soil Science and Soil Protection significantly participated in its preparation.

International Horse Show in Lysá nad Labem: The aim of this annual September event, co-organised by the faculty represented by Dr. Cyril Neumann from the Department of Animal Science, is to present individual horse breeds, of which more than 120 are stabled at the exhibition. Visitors

were delighted by warmbloods, thoroughbreds, coldbloods, sports, historical and small breeds, ponies and miniature horses, as well as donkey breeds. All of them were on display not only in the stalls, but also on two display areas. Everything was complemented by an accompanying cultural programme.

The widespread nature trail "**Science in the Fields and Stables - The Story of Food**" takes place once a year, usually in June. The event is organized by the Research Institute of Animal Production in co-organization with the Czech University of Life Sciences in Prague. The Faculty participates in the event by organizing a field tour at its experimental station in Úhřetíněves, where many faculty employees act as guides. The nature trail is designed as a two-day event, with the Friday program intended for elementary school students and the Saturday program for the general public. Over 400 students participate in the school program every year.

Insects as the food of the future. Interview with Prof. Lenka Kouřimská from the Department of Nutrition, Microbiology and Dietetics on the topic of approving insects for use in food production. (ČT, Studio 6, January 26, 2023)

A documentary film, Charcoal Mill from the Past to the Present, produced at the Department of Soil Science and Soil Protection, describes charcoal production's role in forming certain soil forms. The team presents a multidisciplinary scientific approach. The film was presented at two film festivals. It received an Honorable Mention at the 25th Museum Film Festival and is freely available on the department's website.

Hands-on-Science: A four-day science exploration course in Prague for Czech and international high school students is organized annually by the Faculty since 2020. The course covers variable biological, agricultural, and environmental topics lectured by faculty staff or PhD students. The course is in English, and 30 – 40 students participate yearly.

Vegetable in the late summer. An interview was conducted with assoc. prof. Martin Koudela from the Department of Horticulture about harvest and utilization of various vegetable species in the late summer period (Český rozhlas 2, August 28, 2020).

The Centre for Precision Agriculture at the Czech University of Life Sciences Prague aims to coordinate the progress of research, development and subsequent implementation of knowledge from the field of precision agriculture into agricultural primary production. Currently, there is an absence of closer contact between agricultural enterprises, university and research organizations, manufacturers and importers of agricultural equipment, sensor developers and state administration in the implementation of modern technologies and results of science and research into agricultural primary production. The Centre ensures communication between these individual entities in order to ensure a flexible response to the requirements of agricultural enterprises in order to find procedures for the implementation of modern technologies into practice, including motivational aspects for the application of these technologies. The faculty is represented there by Assoc. Prof. Václav Brant who significantly contributed **to the long-term popularizing and promotion of its activities on Facebook, with more than 3 thousand followers in 2023.**

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

Recommendation from previous evaluation period were summarized below *in italic* together with response and their implementation for period 2019 – 2023.

Search link with private sector should be fostered, increase revenues from non-public sources.

The Faculty's commitment to these activities has been further reinforced, with financial incentives now being incorporated into the institution's internal evaluation framework. This has resulted in a substantial increase in income from contract research, rising from CZK 35,000,000 (equivalent to 1,340 ths. €) in the preceding five-year period to CZK 65,000,000 (equivalent to 2,564 ths. €). This growth is evident in Table 3.3.2, which provides a detailed breakdown of the Faculty's financial performance.

Results from applied research are limited to a regional and national level, dissemination and acquisition of trans-national funding should be enforced.

The Faculty has seen a substantial increase in the number of international and development projects, as well as the budget allocated to EU funding, with a total funding allocation of over CZK 1200 000 000 (approximately €47 337 000) for the five-year period. The Faculty is already a constituent of research infrastructures that provide robust support for transnational funding, scientific networking, and knowledge sharing.

Improvement of entrepreneurial activities is possible but depends on the decision of board.

There is only general support through the Faculty Centre for Projects, Innovation and Technology Transfer, but these activities are voluntary for the staff and are not required in the annual evaluation. At the faculty level, these activities have been reinforced by the establishment of a training centre for the processing of agricultural products or a veterinary teaching clinic. However, the aim is not to make a profit but to involve students in these activities as part of their education.

The Faculty is mainly active on national level, translation should also be sought internationally. International visibility of the faculty staff is limited, mobility and networking could be improved.

As demonstrated in section 3.2, the staff received significant recognition from the international research community in a variety of fields. Furthermore, the faculty improved networking, which resulted in an increase in international projects. Despite a decrease in staff mobility during the pandemic, the number of foreign trips more than 300 per year was recorded in 2023

Popularization is strong but dedicated section on the faculty webpage could help to increase links to the public.

The faculty has already established a webpage for the purpose of public information and increased support for a special department to promote the faculty and its activities in other ways, such as via social media and promotional events.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
ECO-Ready web page	3.3	https://www.eco-ready.eu/
NutRisk web page	3.3	https://www.af.czu.cz/en/r-9373-science-research/r-9515-projects/r-14716-nutrisk-centre
DriftFood web page	3.3	https://driftfood.eu/
METROFOOD-RI web	3.3	https://www.metrofood.eu/
ESFRI Roadmap	3.3	http://roadmap2018.esfri.eu
METROFOOD-CZ web	3.3	https://metrofood.cz/en/
Roadmap of Large Research Infrastructures of the Czech Republic	3.3	https://www.vyzkumne-infrastruktury.cz/wp-content/uploads/2025/01/Mapa_VV_2023_EN_aktualizace2024.pdf
EJP Soil	3.3	https://eipsoil.eu/
Agroserv web	3.3	https://agroserv.eu/
Patent for fungicidal product	3.4	https://starfos.tacr.cz/en/vysledky-vyzkumu/RIV%2F60460709%3A41210%2F19%3A81206?query=tidaaadplh3q#result-main
Utility model of migration fish barrier	3.4	https://starfos.tacr.cz/en/vysledky-vyzkumu/RIV%2F60077344%3A%2F21%3A00540548
Map of pathogen occurrence	3.4	https://www.google.com/maps/d/viewer?mid=1MxNMtxsZcnHPwZUYz2NP0m46q6nLJnjA&ll=49.75222552915087%2C16.386992509403818&z=8
Maps of vulnerability to selected organic micropollutants	3.4	https://www.chmi.cz/files/portal/docs/reditel/SIS/nakladatelstvi/assets/Mapy_komplet.pdf (Maps of specific vulnerability of groundwater to selected organic micropollutants originating from wastewater and sludge)
Report in the frame of the EJP SOIL	3.4	https://edepot.wur.nl/563875

Agri-weather portal (in Czech)	3.4	https://agropocasi.cz/
Altimetric summary of study Horký et al. 2021	3.6	https://cob.altmetric.com/details/108831155/news
Documentary film (in Czech)	3.6	http://katedry.czu.cz/kpop/media-1 (Documentary film - The role of milestones in terms of cultural heritage and landscape protection)
Facebook of Centre of Precision Farming (in Czech)	3.6	https://www.facebook.com/cpz.czu#
Hands-on Science	3.6	https://universityin.eu/hands-on-science/
Faculty webpage popularization to the Czech public	3.6 3.7	https://www.af.czu.cz/cs/r-6783-projekty-a-spoluprace-s-praxi (Popularization for Czech Public in Czech Language)

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Engineering

FORD: 2 - Engineering and technology

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

The Faculty of Engineering focuses on multidisciplinary research in agricultural and mechanical engineering, covering FORD disciplines such as mechanical engineering, materials engineering, agriculture, forestry, and fisheries, as well as other agricultural sciences, with a slight overlap with environmental engineering. The faculty aims to create innovative links between these disciplines and promote scientific excellence in applied research.

As part of the educational process, experts are trained to acquire comprehensive knowledge, practical skills, and experience with digital technologies, enabling them to respond to the challenges of a globalised society. The faculty supports cutting-edge research and interdisciplinary collaboration, establishing strong ties with academic and industrial partners at both national and international levels. Emphasis is placed on innovation and sustainable development, actively contributing to technological progress and societal transformation.

Mission and Vision

The faculty's mission is to develop modern technological solutions that support the sustainable development of agriculture, the food industry, and related fields. We strive to enhance efficiency and environmental sustainability in production and agricultural management through research, innovation, and collaboration with the industrial sector.

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

The vision of the faculty is to achieve the status of a leading research institution in the fields of engineering and agricultural technology, setting trends in technological innovation and sustainable development. The faculty is committed to educating future professionals and nurturing scientific talent capable of responding to current and future societal challenges. The fundamental premise of this vision is to develop the Faculty of Engineering into an institution that continuously addresses the needs of modern globalised society through education, creative activities, and international collaboration, with a strong focus on sustainable development.

Long-Term Goals

The long-term goals of the faculty include:

- Strengthening interdisciplinary collaboration and integrating modern scientific methods into research.
- Increasing international cooperation and participation in European research projects.
- Developing new technologies to enhance agricultural and food production efficiency.
- Implementing digital technologies and artificial intelligence in machine and process development.
- Enhancing the practical impact of research through collaboration with industry and applied sectors.

Self-Reflection and Societal Contribution of R&D&I

The faculty recognises the importance of scientific research for society and strives for maximum practical applicability of its results. It significantly contributes to the development of sustainable agricultural technologies, ecological farming, improvement of food production, and optimisation of industrial processes.

Through collaboration with industrial partners, the faculty participates in developing machines and technologies that enhance efficiency in agriculture while reducing environmental impact. By transferring knowledge and technological innovations, the faculty supports the competitiveness of the Czech industry on the international stage.

The faculty's focus is reflected in the distribution of scientific disciplines, the structure of study programs offered, and the composition of its personnel. In cases where research staff are not explicitly listed, particularly in the early stages of research, these positions are traditionally recorded as assistant professors or other research personnel in accordance with established practices at CZU.

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	15,125	13,979	11,925	12,349	14,429	13,561

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

Associate Professor	21,182/ 1,775	23,601/ 1,5	25,94/ 1,775	27,751/1,8	26,937/ 2,7	25,082 / 1,91
Assistant Professor	41,178/ 7,284	40,368/ 7,792	43,079/ 8,833	43,109/10,197	43,579/ 9,5	42,262 / 8,721
Assistant						
R&D Personnel ³	12,995/ 3,432	8,619/ 3,044	9,065/ 2,882	11,348/3,679	3,887/ 1,683	9,182 / 2,944
Researchers in other categories ⁴		0,584	1,125	1,357	2,291/ 0,5	1,134 / 0,1
Technical and economic staff ⁵	34,114/16,329	34,435/17,22	35,617/ 18,273	34,922/ 18,897	35,811/ 19,151	34,98 / 17,974
Scientific, research and development staff involved in teaching activities	1,00/0,00	2,00/1,00	2,00/1,00	2,00/1,00	2,00/1,00	1,8 / 0,75
Early career researchers ⁶	1,00/1,00	1,00/1,00	2,50/1,00	2,50/1,50	3,45/1,85	2,09 / 1,27
Total ⁷	129,499/ 30,091	126,394/ 30,414	129,033/ 32,709	134,123/ 35,49	128,558/ 33,917	129,499/ 30,091

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	2	0	1	0	5	0	9	0
Associate Professor	0	0	2		10	1	3	0	5	1	3	0
Assistant Professor	1	1	18	2	15	1	8	5	5	0	1	0
Assistant	0	0	0	0	0	0	0	0	0	0	0	0
R&D Personnel ⁹	2	1	0	0	0	0	1	1	0	0	3	0

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

Researchers in other categories ¹⁰	1	1	1	0	1	0	1	0	1	0	0	0
Technical and economic staff ¹¹	2	2	3	2	1	0	2	1	1	1	0	0
Scientific, research and development staff involved in teaching activities	2	0	5	3	7	4	11	5	8	5	1	0
Early career researcher ¹²	1	1	3	1	1	0	0	0	0	0	0	0
Total ¹³	6	3	28	6	35	6	24	11	23	6	14	0

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	1	0	4	0	1	0	5	0	7	0
Associate Professor	0	0	4	0	14	2	2	0	5	1	3	0
Assistant Professor	2	1	15	4	12	0	11	4	6	2	1	0
Assistant	0	0	0	0	0	0	0	0	0	0	0	0
R&D Personnel ¹⁵	0	0	0	0	1	1	1	1	1	0	0	0
Researchers in other categories ¹⁶	3	1	2	1	1	1	1	0	1	0	0	0
Technical and economic staff ¹⁷	7	3	10	4	9	5	6	5	10	4	1	1
Scientific, research and development staff involved in teaching activities	1	0	1	1	0	0	1	0	0	0	0	0

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

Early career researcher ¹⁸	2	1	2	1	1	0	0	0	0	0	5	0
Total ¹⁹	10	4	32	9	40	8	22	10	27	7	12	1

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	1222	123	1156	126	1114	115	1130	134	1271	159	5893	657
Master's ²⁰	241	36	284	39	309	41	284	29	233	20	1351	165
Doctoral	115	19	121	24	104	20	95	26	84	18	519	107
Lifelong Learning Courses	0	0	0	0	0	0	0	0	0	0	0	0
Total	1578	178	1561	189	1527	176	1509	189	1588	197	7763	929

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes											
	2019		2020		2021		2022		2023		Total	
Undergraduate	6/1	0/0	6/1	0/0	6/1	0/0	6/1	0/0	6/1	0/0	30/5	0/0
Master's	6/2	0/0	6/2	0/0	6/2	0	6/2	0	6/2	0/0	30/10	0/0
Doctoral	5/1	0	5/1	0	5/1	0	5/1	0	5/1	0	25/5	0/0
Lifelong Learning courses	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Total	17/4	0/0	17/4	0/0	17/4	0/0	17/4	0/0	17/4	0/0	85/20	0/0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics	5	Basic Research	5
	1.2 Computer and information sciences		Zvolte položku.	
	1.3 Physical sciences		Zvolte položku.	
	1.4 Chemical sciences		Zvolte položku.	
	1.5 Earth and related environmental sciences		Zvolte položku.	
	1.6 Biological sciences		Zvolte položku.	
	1.7 Other natural sciences		Zvolte položku.	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	95
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering	19	Applied Research	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering	19	Basic Research	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies	57	Balanced basic and applied research	
3. Medical and Health Sciences	3.1 Basic medicine		Zvolte položku.	
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences		Zvolte položku.	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries		Zvolte položku.	
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences		Zvolte položku.	
	5.2 Economics and Business		Zvolte položku.	
	5.3 Education		Zvolte položku.	
	5.4 Sociology		Zvolte položku.	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences		Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	
	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion		Zvolte položku.	

	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
	Total	100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

Academic staff of the Faculty of Engineering are members of editorial boards of journals focused on scientific and research activities conducted at the faculty. They serve on editorial boards of prestigious Q1 journals indexed in Web of Science (e.g., *Biosystems Engineering*) as well as Scopus-indexed journals that align thematically with the faculty's mission but are not included in Web of Science. In addition to scientific journals, faculty academics also contribute to editorial boards of magazines intended for the general public, such as *Mechanization of Agriculture*.

Lectures

Faculty academics have presented the results of their scientific research through lectures at various institutions, including in precision agriculture at University Technology Petronas (UTP), Vytautas Magnus University (VMU) in Kaunas, and Estonian University of Life Sciences (EMÜ) in Tartu, as well as in the development of pressing machines and modelling at Universitas Sumatera Utara (USU) in Medan. The application of robotics, particularly in connection with DARPA projects, was presented at the international IMECO conference. Additionally, invited foreign experts have delivered lectures on precision agriculture systems, agricultural product processing, and oilseed processing.

Professional Memberships

Faculty academics are members of various prestigious national and international organisations. They are part of the Czech Academy of Agricultural Sciences (CAAS), primarily in the section of Agricultural Engineering, Energy, and Construction, and the Czech Tribology Society, which is a member of the International Tribology Council (ITC), where they organise workshops for experts and the general public on friction, wear, and material development for abrasive environments. Many faculty members are also members of the Czech Mechanical Engineering Society within the Czech Association for Hydraulics and Pneumatics and have been elected as members of the Engineering Academy of the Czech Republic based on their research achievements.

Faculty academics are also members of the Czech Society for Maintenance, headquartered at CZU in Prague, which regularly organises training for professionals and the general public. At the same time, the Czech Society for Maintenance represents the Czech Republic in the European Federation of National Maintenance Societies (EFNMS), where faculty academics serve on the Training Committee.

- In the prestigious Stanford University & Elsevier Global TOP 2% Scientists ranking, three faculty members are listed among the world's most cited researchers: Prof. Mishra, Prof. Müller, and Prof. Valášek (<https://www.czu.cz/cs/r-7229-aktuality-czu/v-prestiznim-zebricku-nejcitovanejsich-vedcu-stanford-univer.html>).
- Prof. Müller is currently serving his second term as a Member of the Council for Technical Sciences at the Slovak Research and Development Agency (SRDA).
- Prof. Valášek is a member of the Doctoral Program Panel: *Ingeniería de Producción y Diseño Industrial* at Universidad Politécnica de Madrid.
- Prof. Volf is a member of the General Council of the International Measurement Confederation (IMEKO) (<https://www.imeko.org/index.php/organization/members/123-czech-republic>) and serves on the International Committee TC17 – Measurement in Robotics (<https://www.imeko.org/index.php/tc17-homepage/tc17-members>).
- Prof. Kic is a member of the editorial boards of several scientific journals, including *AMA – Agricultural Mechanization in Asia, Africa, and Latin America* (Japan), *Journal of Agricultural Engineering* (Italy), and *Agronomy Research* (Estonia). He is a full member of the *Club of Bologna*, a prestigious international institution focused on agricultural mechanisation strategy and development. Additionally, he is a member of the Society for Environmental Technology, Section 01 – Air Conditioning and Ventilation, and Chairman of the Doctoral Program Committee in *Production Process Technology* at CZU Faculty of Engineering. He also organised and delivered a Keynote Lecture for *Associazione Italiana di Ingegneria Agraria* in Udine in 2020 and gave an invited lecture titled *Energy Savings and Sustainability for Agricultural Buildings* in Udine in 2024.
- Prof. Herák is a member of the Steering Committee of the International Machine Design Association.
- Doc. Kumhálová was a Keynote Speaker at the *Annual International Scientific Conference on Geoinformatics – GI 2021 (Supporting Sustainable Development by GIST)*, held at the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers in Uzbekistan. She was also a Keynote Speaker at the *International Conference on Agriculture, Environment, and Food Security (AEFS)* on November 18, 2021, at Universitas Sumatera Utara, Medan, Indonesia.
- Prof. Kumhála is the Chairman of the Agricultural Engineering and Construction Section of the Czech Academy of Agricultural Sciences.
- Doc. Mašek is a committee member of the Agricultural Engineering and Construction Section of the Czech Academy of Agricultural Sciences.
- Doc. Ing. Petr Heřmánek, Ph.D., is a member of the Presidium of the Czech Association for Hydraulics and Pneumatics under the Czech Mechanical Engineering Society.
- Doc. Ing. Adolf Rybka, CSc., is the Chairman of the Czech Agricultural Society and a member of the Executive Board of the International Commission of Agricultural and Biosystems Engineering (CIGR).

The Czech Society for Maintenance (ČSPÚ) has several faculty members in its leadership. Among the elected members of the Executive Board are Doc. Aleš, Dr. Hladík, and Chairman Prof. Pexa, while Dr. Peterka is a member of the Supervisory Board. ČSPÚ represents the Czech Republic in EFNMS (European Federation of National Maintenance Societies), where Dr. Hladík and Dr. Peterka serve as members of the Training Committee.

Doc. Neuberger represents the faculty in COGEN Czech, an association for cogeneration (<https://www.cogen.cz/clenove/>).

Prof. Adamovský represents the faculty in the Association for the Use of Heat Pumps and serves as Chairman of the Commission for the European EHPA Quality Label (<https://www.avtc.cz/>).

The Czech Ministry of Agriculture appointed Doc. Neuberger as a Supervisory Board Member of the Research Institute of Agricultural Engineering from January 17, 2022, to December 31, 2024.

Doc. Heřmánek is the Head of the Educational and Certification Center for Machinery Operation, responsible for issuing operator licenses for earth-moving and other construction machinery. The centre certifies machine operators and reissues operator licenses when damaged or lost (<https://strojnici.czu.cz/cs>).

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
Doc. Mgr. Jitka Kumhálová, Ph.D.	Award for Teaching Excellence	Czech University of Life Sciences Prague (CZU)
Prof. Ing. Josef Pošta, CSc.	Prof. Václav Legát Award 2023	Czech Maintenance Society (ČSPÚ)
Prof. Ing. Martin Libra, CSc., dr.h.c.	Honorary Doctorate in Physics, 2023	Jagiellonian Academy in Toruń
Ing. Jana Šafránková, Ph.D.	Minister of Agriculture Award for Dissertation, 2021	Ministry of Agriculture
Robotics Team, Ing. Jakub Lev, Ph.D.	Fourth place in the International Robot Competition, 2020	DARPA SubT Virtual Cave Circuit
Doc. Ing. Abraham Kabutey, Ph.D.	BEST PRESENTER in Session Emerging Studies in Achieving SDGs	Unique Conferences Canada
Prof. Ing. Jaromír Volf, Dr.Sc.	Gangloff Medal	Czech Association of Scientific and Technical Societies (ČSVTS) 2024
Prof. Ing. Jan Malačák, Ph.D., Ing. Jan Velebil, Ing. Barbora Tamelová, Ph.D.	Rector's Award for International Cooperation in Research, Development, and Innovation (VaVal), 2022	Warsaw University of Life Sciences
Prof. Ing. Josef Hůla, CSc.	Gold Medal for Outstanding Contribution to the Development of Science and Research in the Agricultural Sector	Czech Academy of Agricultural Sciences (ČAZV)
Prof. Dr. Ing. František Kumhála	Bronze Medal for Outstanding Contribution to the Development of Science and Research in the Agricultural Sector	Czech Academy of Agricultural Sciences (ČAZV)

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the	Name of scientific journal, ISSN

evaluated unit's staff member	
doc. Mgr. Jitka Kumhálová, PhD.	<ul style="list-style-type: none"> • https://rae.agriculturejournals.cz/artkey/inf-990000-2000_Editorial-Board-RAE.php • Special Issue Editor of Agronomy, Special Issue „Geoinformatics Application in Agriculture“ https://www.mdpi.com/journal/agronomy/special_issues/Geoinformatics_Agriculture • Special Issue Guest Editor v časopise Agronomy, Special Issue „Geoinformatics Application in Agriculture II“ https://www.mdpi.com/journal/agronomy/special_issues/1LW2K078NI <p>Special Issue Guest Editor of Remote Sensing, Special Issue „Advanced in Remote Sensing Approaches for Agricultural Monitoring at Field and Regional Scale“ https://www.mdpi.com/journal/remotesensing/special_issues/RAVD7YUXWI</p>
prof. Ing. RNDr. Jiří Blahovec, DrSc.	<ul style="list-style-type: none"> • Journal of Food Engineering • International Agrophysics • Research in Agricultural Engineering <p>Czech Journal of Food Sciences</p>
prof. Ing. RNDr. Petr Němec, DrSc.	Member of Editorial Board Italian Journal of Pure and Applied Mathematics
Rostislav Chotěborský, doc., Ing., Ph.D.	Management Systems in Production Engineering, ISSN: 2450-5781
Miroslav Müller, prof. Ing. Ph.D.	Advances in Science and Technology Research Journal, ISSN 2299 8624 https://www.astrj.com/Scientific-Board,57.html
Rajesh Kumar Mishra, prof., Ph.D.	Co-editor of Textile Progress Journal, Taylor & Francis, https://www.tandfonline.com/journals/ttpr20/about-this-journal#journal-metrics Editor of Journl of Fiber Bioengineering and Informatics https://global-sci.com/journal/46/journal-of-fiber-bioengineering-and-informatics
David Herák, prof., Ing., Ph.D.	Member of Editorial Board Biosystems Engineering, Processes, Energies Co-editor Research in Agricultural Engineering
Pavel Neuberger doc, Ing., Ph.D.	Special Editor: <ul style="list-style-type: none"> • Infrastructure and Ecology of Rural Areas (Infrastruktura i ekologia terenów wiejskich Infrastructure And Ecology Of Rural Areas) Agricultural Engineering Editorial Team Agricultural Engineering
Pavel Kic, prof., Ing., DrSc.	<ul style="list-style-type: none"> • AMA-Agricultural mechanization in Asia, Africa and Latin America • Journal of Agricultural Engineering Agronomy Research
Prof. Dr. Ing. František Kumhála	Editor in chief, member of editorial board Research in Agricultural Engineering

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
Jiří Mašek, doc. Ing. Ph.D.	Agriculture 4.0 in role of supporting platform for Bioeconomy and Precision Farming	AA VDU Kaunas, Litva	2019

prof. Michal Vojtíšek, Ph.D.	Applying lessons learned from diesel exhaust to brake wear nanoparticle measurements and regulation	PAREMPI seminar, Lund University, Lund, Švédsko	2023
doc. Mgr. Jitka Kumhálová, PhD.	Use of Geoinformatics in Precision Agriculture and in Practice	Annual International Scientific Conference on Geoinformatics – GI 2021 “Supporting sustainable development by GIST”, 27-29 January 2021, Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, Uzbekistan	2021
doc. Mgr. Jitka Kumhálová, PhD.	Topography attributes for agricultural purposes	GIS DAY 2022, Technical University of Moldova, November 14th 2022	2022
doc. RNDr. Přemysl Jedlička, Ph.D.	Involutive solutions of the Yang–Baxter equation of multipermutation level 2 and their permutation groups	Algebra Days in Caen 2022	2022
Prof. Rajesh Kumar Mishra	Textile Digitization · Sustainability · Health	Natural Fibres & Medicinal Plants National Research Institute and Textile Bioengineering and informatics Society	2023
prof. Ing. David Herák, Ph.D.	Agriculture in the Digital World	University Technology Petronas, Malajsie	2022
prof. Ing. Pavel Kic, DrSc.	Energy savings and sustainability for agricultural buildings	Udine	2023
prof. Dr. Ing. František Kumhála	Yield sensors for Precision Agriculture	Technische Universität Berlin - GE, New Curricula in Precision Agriculture Using GSI Technologies and Sensing Data	2019
Doc. Ing. Milan Kroulík, Ph.D.	The potential of robotics in agriculture	Università degli studi di Bari Aldo Moro	2023

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Dr. Arkadiusz Gendek, Dr. Monika Aniszewska	Warsaw University of Life Sciences	Utilization of renewable resources in Poland	2022
Vigen Arakelyan, prof.	INSA Rennes, France	Gravity compemsation in robotics	2019

Samsuzana Abdul Aziz, prof.	FE UPM, Malaysia	Artificial Intelligence and Machine Learning for Agricultural Applications in Malaysia	2022
Egle Jotautiene, prof.	AA VDU Kaunas, Litva	Investigation of granular fertilizer application by centrifugal fertilizer spreading	2023
Davut Karayel, prof.	Akdeniz University, Turkey	No-Tillage Agriculture	2023
Anna Rudawska, prof.	Lublin University of Technology	Adhesive Bonding technology - development trends in practice	2022
Jose Machado, prof.	University of Minho	Technological trends in the automotive industry	2023
Prof. Molina Iñigo	Engineering School for Landsurveying, Geodesy and Cartography, Universidad Politécnica de Madrid	Remote Sensing and GIS for Landcover Monitoring	2022
Dr. Kuchkorov Temurbek	Tashkent University of Information Technologies named after Muhammad alKhwarizmi - TUIT, Tashkent, Uzbekistan	Satellite image processing and its pplications	2022
Dr. ŠÍRBU Rodica	Technical University of Moldova, Faculty of Constructions, Geodesy and Cadastre)	Spatial Data Infrastructure of the Republic of Moldova	2022

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name contracting of the authority/guarantor of the project/programme call	Year
prof. Ing. Martin Pexa, Ph.D.	Trend, Theta	Technological Agency of the Czech Republic	2020 - 2023
doc. Ing. Jan Hart, Ph.D.	OP PIK/OP TAK	MPO ČR (Ministry of Industry and Trade)	2023
doc. Ing. Jan Hart, Ph.D.	Security Research BV III	MV ČR (Ministry of Interior)	2019 - 2022
Rostislav Chotěborský, doc., Ing., Ph.D.	Evaluator Model for stress-dependent tool deformation due to abrasive and erosive wear" (eBer-23-437)	Deutsche Forschungsgemeinschaft (DFG)	2023

Miroslav Müller, prof., Ing., Ph.D.	Slovak research and development agency	Member of the Council for Technical Sciences – Agency for the Promotion of Research and Development	2021 dosud
Jan Malaťák , prof., Ing., Ph.D.	THÉTA	Technological Agency of the Czech Republic	2023-2024
Prof. Ing. David Herák, Ph.D.		Evaluator of the Government Council for RSI	2019 - 2023
Doc. Ing. Vladimír Šleger, CSc.	panel P101 Mechanical Engineering	Grant Agency of the Czech Republic	2015–2019
Prof. Dr. Ing. František Kumhála	Government Council for RSI	Evaluator SKV	2019-2023
Doc. Ing. Milan Kroulík, Ph.D.	Reporteur	Technological Agency of the Czech Republic	2019-2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

The faculty has long been focused on developing modern technological solutions with an emphasis on the sustainable development of agriculture, the food industry, and related sectors. Its goal is to contribute to the efficiency and ecological sustainability of production processes through research, innovation, and collaboration with the industrial sector.

The faculty actively participates in research projects with a high degree of interdisciplinary cooperation. The integration of modern scientific methods and digital technologies enables the implementation of advanced research activities that have a direct impact on practice.

Key Research and Development Areas

Development of new technologies for more efficient agricultural and food production. (Bednar FMT)

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

Application of artificial intelligence and digital tools in the design and control of agricultural machinery. (Farmet, Bednar FMT)

Collaboration with national and international partners on technological innovations. (Guardians, LENS)

The faculty engages in research projects both as the principal investigator and as a co-investigating institution in collaboration with other academic and industrial partners.

When participating as a secondary collaborator in projects, the faculty has worked with:

Other university departments (FAPPZ, FTZ, FŽP, FLD, PEF) on interdisciplinary projects.

Industrial entities (Farmet, Bednar, SMS Rokycany, Orlen) in the development and testing of new technologies.

International research institutions (Indian Institute of Technology, Kanpur) within European research initiatives.

The faculty contributes its research expertise, technological capabilities, and engineering know-how in the field of agricultural technologies.

Systems for the Application of Liquid Organic Fertilizers

This project focuses on developing innovative technologies for applying liquid organic fertilisers to improve soil conditions, increase nutrient uptake by plants, and minimise environmental impact. The research aligns with the faculty's mission of developing modern technological solutions to support sustainable agriculture and related industries.

The goal is to enhance nutrient utilisation by plants through the development of an application unit capable of delivering fertilisers to different depths during strip tillage and by creating methodologies for large-scale application across different crops, both during and outside the growing season. This approach contributes to the faculty's long-term objectives, such as improving agricultural production efficiency and integrating digital technologies into machinery and process development.

By verifying these technologies in practice, the project seeks to reduce negative impacts on soil and the environment, supporting the faculty's vision of becoming a leading scientific institution setting trends in technological innovation and sustainable development. Collaboration with the industrial sector in applying research findings further strengthens the faculty's aim of increasing the practical impact of its research.

This project not only contributes to the development of sustainable agricultural technologies but also reflects the faculty's commitment to educating future experts who can respond to current societal challenges.

Research and Development of Smart Farming Technologies for Small and Medium-Sized Farms

This project focuses on designing and validating data collection methods for field variability assessment and developing advanced algorithms for farm record processing. The aim is to enable locally targeted cultivation operations for small and medium-sized farms, particularly in managing fertiliser application rates for optimal nitrogen nutrition and adjusting seeding rates when establishing crops.

The project supports the faculty's mission to develop modern technological solutions for sustainable agriculture. It also aligns with long-term goals, such as the implementation of digital technologies and artificial intelligence in machine and process development, as well as fostering interdisciplinary collaboration. Given the complexity of farmlands, rising input costs, and legislative restrictions on chemical use, the project has significant potential for application in the Czech Republic.

Field trials will validate the proposed technologies, supporting their practical application and collaboration with industry, in line with the faculty's objective of increasing research impact.

This project contributes to the development of sustainable agricultural technologies and environmentally friendly farming, reinforcing the faculty's vision of becoming a leading scientific institution in technological innovation and sustainable development.

A New Orchard Concept with the Introduction of Industry 4.0 Technologies

This project focuses on an innovative approach to apple cultivation by integrating advanced technologies such as sensors, automation, artificial intelligence, and robotics. The aim is to establish modern orchards that produce high-quality market apples with minimal labour requirements.

The project involves selecting suitable columnar apple genotypes that are space-efficient and ideal for modern growing systems. It also proposes a new tree anchoring system designed for future robotic harvesting. The development of mechanised harvesting elements and the implementation of autonomous orchard monitoring systems will contribute to more efficient interventions at the individual tree level.

By integrating Industry 4.0 technologies, the project aims to increase fruit production efficiency and reduce labour demands, supporting the faculty's vision of becoming a leader in technological innovation and sustainable development. Collaboration with industrial partners in developing and implementing these technologies enhances the faculty's objective of increasing research impact through cooperation with the applied sector.

This project contributes to the advancement of sustainable agricultural technologies and the education of future experts capable of addressing current societal challenges.

Research on the Combination of Biostrips with Vertical Agrivoltaic Systems as Part of Agri-Environmental and Climate Measures to Support Biodiversity

This project integrates biostrips with vertical photovoltaic panels to enhance biodiversity in agricultural landscapes while simultaneously increasing the economic attractiveness of such measures through renewable electricity production.

The project involves establishing biostrips planted with grass and nectar-producing plants following agro-environmental and climate principles (AEKO). Vertical photovoltaic panels will be installed within these strips, and their impact on plant and insect biodiversity, crop performance, and power generation will be monitored.

The project supports long-term faculty goals, such as strengthening interdisciplinary collaboration and integrating modern scientific methods into research. Verified results will inform legislative adjustments and provide recommendations for agricultural practices, aligning with the faculty's objective of increasing the practical impact of research.

This project contributes to the development of sustainable agricultural technologies and ecological farming, reflecting the faculty's commitment to educating future experts who can respond to contemporary challenges.

Rational Crop Rotation Planning in Soil Blocks Under Good Agricultural and Environmental Conditions (GAEC) to Support Sustainable Farming in the Czech Republic

This project analyses the impact of GAEC 7d standards, which, since 2020, have limited the maximum area of a single crop to 30 hectares on erosion-prone soil blocks. The objective is to assess the effects of these restrictions on agricultural management, landscape structure, nutrient cycles, biodiversity, degradation processes, and farmland functionality.

The project includes an analysis of machinery movement within defined crop areas from the perspectives of soil protection, machine efficiency, and economic sustainability.

This research aligns with the faculty's mission of developing modern technological solutions for sustainable agriculture and supports long-term goals such as fostering interdisciplinary collaboration, integrating modern scientific methods, and enhancing research impact through industry partnerships.

The project's findings will provide valuable insights for optimising agricultural practices in line with current standards and contributing to sustainable farming in the Czech Republic.

Autonomous Systems as Tools for Integrated Vegetable Production

This project focuses on the development of autonomous systems for detecting weeds and cultivated plants, enabling targeted applications and thinning in integrated vegetable production. It also includes the development of mechanisms for mechanical weed suppression, contributing to residue-free cultivation and uniform crop stands. This approach aligns with the faculty's mission to develop modern technological solutions that support sustainable agricultural development. The project addresses the need to minimize pesticide use in accordance with the National Action Plan for the Safe Use of Pesticides in the Czech Republic (2018–2022), which emphasizes the promotion of non-chemical plant protection methods and the reduction of risks associated with plant protection products.

The development of autonomous systems for weed detection and mechanical suppression contributes to the implementation of digital technologies and artificial intelligence in the design of agricultural machinery and processes, which is one of the faculty's long-term goals. The project also responds to labor shortages in agriculture and supports self-sufficiency in vegetable production through innovative technologies. This initiative supports the faculty's vision of becoming a leading scientific institution shaping technological innovation and sustainable development trends. Collaboration with industry partners in developing these autonomous systems further enhances the practical impact of research and its application in agricultural practice. Through this approach, the project contributes to the development of sustainable agricultural technologies and the education of future professionals capable of addressing contemporary societal challenges.

Freely Available Satellite Images in the Microwave Spectrum as an Information Source for Optimizing Crop Production

This project focuses on refining and correctly interpreting radar satellite images, particularly data from the Sentinel-1 satellite, to optimize agronomic interventions and implement advanced techniques in crop production. This approach aligns with the faculty's mission to develop modern technological solutions supporting sustainable agricultural development. The project's goal is to define methodological procedures for interpreting these data, supplemented by optical spectrum images, soil and plant samples, and data from ground sensors. These procedures will help optimize the timing and location of agronomic interventions and apply advanced yield models for various crops while considering soil protection and ecological stability. The proposed methodological procedures will be applicable in typical agricultural practice conditions in the Czech Republic and will contribute to more efficient work by agronomists. This project supports the faculty's vision of becoming a leading scientific institution setting trends in technological innovations and sustainable development. Collaboration with the application sector in implementing these methods will strengthen the practical impact of research, aligning with the faculty's goal of increasing research impact through industry partnerships. Additionally, the project will provide valuable outputs and services to the international scientific community. Refined methodologies for interpreting radar satellite images will be shared globally, contributing to worldwide advancements in crop production optimization and sustainable agriculture. Thus, the project supports the development of sustainable

agricultural technologies and the education of future experts capable of responding to contemporary societal challenges.

Sustainability of Vegetable Cultivation Practices Using Targeted Applications and Robotic Platforms

This project focuses on designing and verifying modified vegetable cultivation technologies through the use of autonomous robotic carriers and bed-based robotic systems, such as FarmBot. The objective is to implement these platforms in the Czech Republic for both field and greenhouse crops, with an emphasis on reducing material and energy inputs through locally targeted interventions. The modified technologies will include zonal soil cultivation, targeted applications of biostimulants (bacteria and fungi) to enhance plant growth and health, improved water infiltration, and the use of cover crops to intensify cultivation while reducing herbicide and mineral fertilizer consumption. This approach aligns with the faculty's mission of developing modern technological solutions that support sustainable agricultural development. The implementation of autonomous robotic platforms, such as FarmBot, enables precise and efficient crop management. FarmBot is an open-source CNC agricultural machine that allows automated crop cultivation with high precision. Its use in this project will contribute to achieving the goals of sustainable agriculture and reducing dependency on chemical inputs. The project addresses current agricultural challenges, including labor shortages, the need for increased self-sufficiency in vegetable production, and the emergence of artificial intelligence. It contributes to the faculty's long-term goals of implementing digital technologies and artificial intelligence in the development of machinery and processes, enhancing the practical impact of research through collaboration with the application sector. This initiative supports the faculty's vision of becoming a leading scientific institution shaping trends in technological innovations and sustainable development. Moreover, it contributes to the development of sustainable agricultural technologies and the education of future professionals capable of addressing contemporary societal challenges.

Advanced Methods for the Functional Design of Agricultural Machinery Using Cutting-Edge Numerical Methods

This project focuses on the research and development of digital design and testing processes for agricultural machinery and their functional properties. The objective is to simulate machine operation in an advanced digital soil model using Discrete Element Method (DEM) and Finite Element Method (FEM). The project also includes the development of a [physical prototype](#), which will be tested in real field conditions to validate the digital simulations. This approach aligns with the faculty's mission to develop modern technological solutions that support sustainable agricultural development. The project contributes to the faculty's long-term goals, such as implementing digital technologies and artificial intelligence in machinery and process development. Its outcomes will reinforce the faculty's position as a leading scientific institution setting trends in technological innovation and sustainable development. Collaboration with industry partners, such as Farnet a.s., in developing and testing these advanced methods strengthens the practical impact of research and its application in agricultural practice. Therefore, this project contributes to the development of sustainable agricultural technologies and the education of future experts capable of addressing contemporary societal challenges.

The GUARDIANS Project: Strengthening Small and Medium-Sized Farms Through Smart Solutions

The [GUARDIANS](#) project aims to empower small and medium-sized farms through innovative digital solutions. A multi-actor co-creation framework, supported by a farmer engagement and adoption package, seeks to increase the uptake of innovative digital technologies by farmers.

Nine digital solutions will be tested across four test sites and piloted on 22 small and medium-sized farms, with a total of 95 farmers participating in the deployment and replication phase. The solutions are categorised into:

Administrative and financial reporting for the Common Agricultural Policy (CAP).

Smart agriculture workforce support (SMART).

Environmental valorisation (ENV).

The project aligns with the faculty's mission to develop modern technological solutions for sustainable agriculture and contributes to long-term objectives, including digital technology integration, AI implementation in machine development, interdisciplinary collaboration, and increased international cooperation.

By collaborating with diverse stakeholders and focusing on practical research applications, the GUARDIANS project enhances the education of future professionals and increases research impact through industry cooperation.

This project reinforces the faculty's vision of becoming a leading scientific institution shaping trends in technological innovation and sustainable development.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
National Agency for Agricultural Research	Autonomous systems as tools for integrated vegetable production				1 837/72,46	2 188/86,31
National Agency for Agricultural Research	Freely available satellite images in the microwave part of the electromagnetic spectrum as a source of information for optimizing plant production				830/32,74	830/32,74
Technology Agency of the	Development of an autonomous					778/30,69

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

Czech Republic	unit with a pump as turbine for low-potential hydropower sources					
Ministry of Education, Youth and Sports	Development of primary alcohols fueled engine prototype		750/29,58	1 212/47,81	650/25,64	
Ministry of Industry and Trade	Aid for Trade Program - Malaysia "Utilization of waste from palm oil production"	674/26,58				
Minister of Foreign Affairs of the Czech Republic	Development of science and research at the University of Battambang		712/28,08			
National Agency for Agricultural Research	Research of new growing methods of fruit species in the combined use of agricultural land with the production and local use of electricity from renewable sources					1 338/52,78
Minister of Foreign Affairs of the Czech Republic	Enhancement of The PhD Students Potential for Qualitative Research in Ukraine				1 171/46,19	
Technology Agency of the Czech Republic	Research of the systems for increasing soil tillage energy efficiency	1 333/52,58				
Technology Agency of the Czech Republic	Development of digestate stabilization technology from biogas production using degradable organic matrix for soil fertilization purposes	750/29,58				
Ministry of Education,	Research and educational	29 657/1169,9	16 110/653,50			

Youth and Sports	infrastructure for National Initiative - Industry 4.0					
Total		32 414/1278,65	17 572/693,17	1 212/47,81	4 488/177,04	5 134/202,5
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
European Commission	CUPAGIS - New Curricula in Precision Agriculture using GIS technologies and sensing data	301/11,87	301//11,87	301/11,87		
European Commission	CARES - City Air Remote Emission Sensing	201/7,92	303/11,95	303/11,95	101/3,98	
European Commission	New and Innovative Courses for Precision Agriculture - NICOPA	492/19,40	492/19,40	410/16,17		
European Commission	LENS - L-vehicles Emissions and Noise mitigation Solutions				1 080/42,60	3 241/127,85
Technology Agency of the Czech Republic	Modular automated industrial water treatment for their subsequent recycling		1 200/47,33	1 200/47,33	1 200/47,33	
Ministry of Industry and Trade	Reducing the energy intensity of transport by innovation the telematics system and introducing of evaluation driving style	694/27,37	808/31,87	694/27,37		
Ministry of Industry and Trade	Modularity of agricultural machinery with the support of advanced	409/16,13	1 005/39,64	838/33,05		

²⁷ Ibid.

	production technologies					
National Agency for Agricultural Research	Obtaining vegetable oils using modern methods			793/31,28	793/31,28	793/31,28
Technology Agency of the Czech Republic	Effect of biologically transformed organic matter and biochar application on the stability of productive soil properties and reduction of environmental risks	648/25,56	648/25,56			
Technology Agency of the Czech Republic	Application Systems of Liquid Organic Fertilizers as the Means to Improve Soil Environment, Enhance Nutrient Utilization by Plants and Minimize Environmental Impacts	823/32,46	988/38,97	988/38,97	988/38,97	165/6,5
Technology Agency of the Czech Republic	Autonomous navigation of seeders and automatic detection of over-compacted subsoil	780/30,76	792/31,24	792/31,24		
Technology Agency of the Czech Republic	Processing of coconuts for oil production	914/36,05	908/35,81			
Technology Agency of the Czech Republic	Research and development of smart farming technologies for small and medium-sized farms	498/19,64	446/17,59	446/17,59	446/17,59	
National Agency for	Rational sowing area on soil blocks			1 500/59,17	1 500/59,17	1 500/59,17

Agricultural Research	within setting conditions of GAEC to support sustainable management in the Czech Republic					
National Agency for Agricultural Research	New orchard concept using technology 4.0			1 075/42,40	1 287/50,76	1 237/48,79
Technology Agency of the Czech Republic	Predictive maintenance of machinery using statistical and operational data in Industry 4.0					972/38,34
Ministry of Industry and Trade	Maintenance management information system with benchmarking module respecting Industry 4.0	1 233/48,63	822/32,42			
Technology Agency of the Czech Republic	Research and development of innovative school furniture with application of sensor technology		2 156/85,05	3 036/119,76	2 310/91,12	
Czech Science Foundation	Function Spaces and Approximation	270/10,65	160/6,31	16/6,31		
Ministry of Industry and Trade	Design and Production of Prototype Equipment for Local Repairs of Inorganic Surfaces Functionality		92/3,6	252/9,94	252/9,94	
Ministry of Industry and Trade	Research and development of control unit for vertical transport systems in intelligent buildings		253/9,98	490/19,32	0	213/8,40
European Commission	Improving agricultural water		514/20,27	514/20,27	514/20,27	

	use efficiency by using satellite and un-manned air vehicle systems					
Ministry of Industry and Trade	Advanced methods of functional agricultural machines design using the latest numerical methods				3 685/145,36	2 127/83,90
Ministry of Industry and Trade	MAXSTO application project			880/34,71	0	1 450/57,19
Technology Agency of the Czech Republic	Research on the combination of vegetative strips with vertical agrivoltaic systems as part of agri-environmental-climate measures supporting biodiversity				200/7,88	138/5,44
National Agency for Agricultural Research	Sustainability of growing procedures in vegetable production using targeted applications and robotic platforms					2 000/78,89
European Commission	SMART SOLUTIONS TO EMPOWER SMALL- AND MEDIUM-SIZED FARMS AS GUARDIANS OF THE TERRITORY (Guardians)					978/38,58
Total		7 263/286,5	11 888/468,9	14 528/573,1	14 356/566,3	14 814/584,4

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)
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²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

		2019	2020	2021	2022	2023
Institute of Physics, Czech Academy of Sciences	Possibilities of utilizing residual heat in independent heating for electricity generation using thermoelectric generators	298/11,75	803,15			
Lidl Czech Republic	Traffic survey		143/5,64	380/14,99	37/1,45	
Graz University of Technology	Measurement of exhaust gas emissions (FTIR)		62/2,44			
Alarm Absolon	Analysis of microclimate development in the vehicle cabin environment				116/4,57	
Czech Technical University, Faculty of Mechanical Engineering	Measurement of exhaust gas emissions (FTIR)	17/0,67			75/2,95	32/1,26
Lukrom s.r.o.	Measurement of tire contact surfaces				4/0,15	75/2,95
MND a.s.	Determination of fuel properties of pyrolysis liquids		12/0,47	2/0,08	3/0,11	6/0,23
TACTICAWARE s.r.o.	Testing and preparation of materials for the certification of the accur&vision product for security systems according to relevant industry standards SIL	339/13,37	135/5,32			
Farmet a.s.	Advanced material analyses used in agricultural machinery	22/0,86	39/1,53	168/6,62	147/5,79	327/12,90
VAV Electronic, s.r.o.	Testing of heating elements		8/0,3			
Potato Research Institute Havlíčkův Brod s.r.o.	Software for implementing inputs and outputs, including regulation, with data recording and transmission via GSM (LTE) network to a designated storage			78/3,07		
University of Pardubice	Emission measurements on locomotives		17/0,67			
Orlen UniCRE a.s.	Analytical evaluation of waste biomass samples		78/3,07			
SELTON Research Center s.r.o.	Contract research: Development of tools and algorithms for automated crop evaluation (Especially wheat) on experimental plots			119/4,69		
LAVRIS s.r.o.	Contract research: Analysis of the kinematics of the high-speed mill waste closure				8/0,31	
Jan Evangelista Purkyně University in	Contract research No. 2022/0083 – Outsourcing services for special analyses at another workplace (2022)				210/8,28	

Ústí nad Labem						
Agroair, spol. s r.o.	Framework contract for contract research: Possibilities of aerial application for canola crop adhesion and dolomitic limestone liming				45/1,77	45/1,77
Forests of the Czech Republic, s.p.	Analysis and optimization of possible approaches to deploying automated mechanization in forestry					2000/78,89
G-servis Praha spol. s r.o.	Design of new technologies for drinking water treatment in developing countries		157/6,19			
MAXProgres, s.r.o.	Application project MAXSTO					144/5,68
Technical University of Liberec	Measurement of particulate matter production	40/1,57				
Agra Řisuty s.r.o.	Implementation of new and innovative precision agriculture technologies in cultivation systems	270/10,65				
ZP Otice, a.s.	Innovation in plant protection and fertilization management based on the implementation of telematic systems	171/6,74		229/9,03		
ACHP, spol. s r.o., Hradec Králové	Innovation in plant production	1450/57,19				
Mžany a.s.	Implementation of technologies for targeted soil water management	200/7,88				
Agrovýzkum Rapotín, s.r.o.	Innovation of technological procedures in the Agricultural Joint-Stock Company Mezihájí	85/3,35				
EDAG Engineering CZ, spol. s r.o.	Testing of digital mirrors	50/1,97				
Aperam Stainless Services & Solutions Tubes	Measurement on the Reichert Test	6/0,23				
EGOPEG s.r.o.	Measurement of fuel consumption without additives, with additives, and in the presence of a shaped radiator	7/0,27				
Technical University in Zvolen	Evaluation of manufacturing technologies aimed at increasing the durability of tools and components	26/1,02				

Forests of the Czech Republic, s.p.	Application of gasification technologies for the energy utilization of coniferous trees from bark beetle and calamity logging		1557/61,42			
Forests of the Czech Republic, s.p.	Analysis and optimization of possible approaches to deploying automated mechanization in forestry					2000/78,89
G-servis Praha spol. s r.o.	Design of new technologies for drinking water treatment in developing countries		157/6,19			
MAXProgres, s.r.o.	Application project MAXSTO					144/5,68
Technical University of Liberec	Measurement of particulate matter production	40/1,57				
Agra Řisuty s.r.o.	Implementation of new and innovative precision agriculture technologies in cultivation systems	270/10,65				
ZP Otice, a.s.	Innovation in plant protection and fertilization management based on the implementation of telematic systems	171/6,74		229/9,03		
ACHP, spol. s r.o., Hradec Králové	Innovation in plant production	1450/57,19				
Mžany a.s.	Implementation of technologies for targeted soil water management	200/7,88				
Agrovýzkum Rapotín, s.r.o.	Innovation of technological procedures in the Agricultural Joint-Stock Company Mezihájí	85/3,35				
EDAG Engineering CZ, spol. s r.o.	Testing of digital mirrors	50/1,97				
Aperam Stainless Services & Solutions Tubes	Measurement on the Reichert Test	6/0,23				
EGOPEG s.r.o.	Measurement of fuel consumption without additives, with additives, and in the presence of a shaped radiator	7/0,27				
Technical University in Zvolen	Evaluation of manufacturing technologies aimed at increasing the durability of tools and components	26/1,02				
Forests of the Czech Republic, s.p.	Application of gasification technologies for the energy utilization		1557/61,42			

	of coniferous trees from bark beetle and calamity logging					
Total		1 299/ 51,24	2 358/ 93,01	2 270/ 89,54	921/ 36,33	2 629/ 103,7

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-Assessment

Software - Maintenance Management Information System

This software was developed in collaboration with the company Numerica and is currently offered by the company to users—primarily businesses considering deeper maintenance planning. By optimising maintenance scheduling, the software significantly reduces machine maintenance costs, increasing operational efficiency and overall reliability. This has a profound impact on reducing energy consumption and enhancing the environmental sustainability of machine operations.

Patent - Device and Assembly for Measuring the Braking Effect of Wheeled Vehicles, Method for Measuring the Braking Effect of Wheeled Vehicles

This patent proposes a device that allows the measurement of braking effectiveness on the road without requiring a laboratory, although it is also functional in laboratory conditions. The design aims to enhance road safety by enabling service stations to quickly and efficiently check brake performance. The device could be used similarly to a mobile emissions laboratory. Its rapid measurement capabilities would make it easier to detect vehicles with insufficient braking effectiveness and direct them for precise measurement within technical inspection stations (STK).

Utility Model - Capacitive Probe for Measuring the Fill Level of a Reservoir Containing a Liquid Medium

The capacitive probe is used by the company Partner MB to monitor fuel levels in tanks of construction machinery, locomotives, and, most notably, heavy trucks. This enables the detection of unauthorised interventions in the fuel system, fuel theft, and, most importantly, inappropriate driver behaviour—such as inefficient and costly driving. Through training, the goal is to educate drivers on ecological, economical, and safe driving practices.

Utility Model - Device for Supplying Biofuel to an Internal Combustion Engine and an Internal Combustion Engine Assembly with This Device

The outcome of this project was the design of a device suitable for use in power generators. Essentially, it represents a dual-fuel engine system that allows alcohol-based fuels to be burned without requiring significant modifications to the standard operation of a spark-ignition engine.

Czech Patent No. 309605 - Device for Measuring Pressure Distribution

²⁹ See Terms definition.

This device is used to diagnose pressure distribution on seating and support surfaces. It assesses the ergonomic properties of school furniture in terms of health and pedagogical requirements. The system processes pressure data in both static and dynamic loading modes in real-time. The technology is utilised by SANTAL spol. s r.o.

Validated Technology - Stabilization of Digestate Using Thermo-Chemically Treated Organic Matrix for Producing a New Type of Soil Supplement (2019)

Within the framework of the project TJ01000281 - Development of Digestate Stabilization Technology from Biogas Production Using a Degradable Organic Matrix for Mechanical Soil Fertilization, a new technology was developed that enables the efficient reuse of waste from first-generation biofuel and biogas production. This technology maximises waste utilisation by converting it into soil supplements, thereby returning essential biogenic elements to agricultural soil without relying on conventional artificial fertilisers.

Validated Technology - Processing of Waste Viscose (2020)

As part of a contractual research project for Glanzstoff – Bohemia, s.r.o. titled "Processing of Waste Viscose Using the Technology of the Czech University of Life Sciences Prague", a new technology was developed to reduce the water content in waste viscose through heating in a semi-industrial facility at the Czech University of Life Sciences Prague.

Patent No. 309573 - Method for Processing Oilseeds and Equipment for Processing Oilseeds

Developed within the project QK21010151 - Extraction of Vegetable Oils Using Modern Methods, this patent has contributed to improving and innovating the products of the company Farnet, particularly FK conditioners and CP pressing units. Most of these products are supplied to markets in Europe, North America, and South America.

KVS - Software (https://katedry.czu.cz/storage/256/7949_soilcalc-0.1.zip)

There is a growing emphasis on soil health and sustainable technologies at both European and global levels (EU Soil Strategy for 2030), as 60-70% of EU soils are considered endangered. One of the solutions is increasing organic matter content in soils.

To address this, an analytical software tool was developed to quantify the dosage and application methods of biologically transformed organic matter, farm manure, compost, and biochar in agricultural practice at both European and global levels. The software also assesses their environmental impacts (e.g., soil parameters, compaction, infiltration) and economic impacts (e.g., yield, fuel savings, additional costs, commodity balance).

This software is an output of the project TA ČR TH02030169 and can be extended with additional modules based on customer needs. Depending on the technology, soil type, and crop, it can increase yield by up to 20% and save up to 1.5 litres of fuel per hectare in soil tillage operations. This potential provides a significant contribution to food production efficiency while also reducing fossil fuel consumption and global greenhouse gas emissions, particularly carbon dioxide. Moreover, it improves soil infiltration capacity by over 20%, which significantly contributes to water management and reduces erosion risks during heavy rainfall.

Research Contribution to Emission Control Implementation

The study "On-road detection of trucks with high NO_x emissions from a patrol vehicle with an onboard FTIR analyser" by Vojtíšek-Lom, M., Raj, A. F. A., Jindra, P., Macoun, D., & Pechout, M. (2020), published in Science of the Total Environment (Vol. 738, Article 139753), along with a related report prepared for the Ministry of the Environment, contributed to the introduction of emission controls for vehicles in operation within the Road Transport Service Center framework.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Software	2020	Quantification of the effect of technological measures using activators for the transformation of organic matter from farm manure, biochar, and auxiliary soil substances
Patent	2022	Locator for housed animals
Prototype	2022	Control unit for vertical transport systems
Functional Sample	2019	Animal Locator
Functional Sample No. 1	2021	Device for continuous monitoring and evaluation of the speed of individual drying belts in a hop belt dryer; SR-1
Functional Sample No. 2	2021	Device for continuous monitoring and evaluation of the speed of all drying belts in a hop belt dryer; SR-2
Utility Model No. 35441	2021	Device for continuous monitoring and evaluation of the speed of drying belts in a hop belt dryer
Verified Technology No. TP01010050	2022	Verified technology for continuous monitoring and evaluation of the speed of drying belts in a hop belt dryer
License Agreement	2023	License agreement for the use of Utility Model No. 35441
European Patent EP3886601	2020	Device and Method for Treatment of Food by Pulsed Electric Field
Software	2020	Information system for maintenance management
Patent	2021	Device and assembly for measuring the braking effect of wheeled vehicles, method for measuring the braking effect of wheeled vehicles
Utility Model	2021	Capacitive probe for measuring the filling level of a storage tank with liquid medium
Utility Model	2022	Device for a biomass and natural gas steam-gas cycle
Utility Model	2022	Device for supplying biofuel to an internal combustion engine and an assembly of an internal combustion engine with this device
Nmap	2023	A set of variability maps of selected crops identified based on the interpretation of satellite and aerial (UAV) images and ground sensors.
Jost – Technical Report	2023	Agricultural Water Management in the Czech Republic https://www.iwsu.com.tr/technicalreports.asp
Utility Model No. 35754	2022	Device for pressure distribution measurement
Czech Patent No. 309605	2023	Device for pressure distribution measurement
Utility Model	2023	Capacitive probe for measuring ice thickness
Utility Model	2023	Mobile device for soil adhesion assessment
Czech Patent	2023	Method for processing oilseeds and device for processing oilseeds
Book Publication	2020	BRANT, Václav; KROULÍK, Milan; KRČEK, Vítězslav; et al. Implementation of Precision Agriculture Principles in Crop Production. ISBN 978-80-87111-81-9.
Book Publication	2019	KROULÍK, M. – BRANT, V. – ZÁBRANSKÝ, P. – ŠKEŘÍKOVÁ, M. Implementation of Navigation Technologies and GPS-supported Applications. ISBN: 978-80-88351-04-7.

³⁰ Specify the specific type of result. Add rows as needed.

Utility Model	2022	KROULÍK, M. et al. Device for measuring soil electrical conductivity and a tilling machine incorporating this device. Industrial Property Office. 35920. 05.04.2022.
Utility Model	2020	KROULÍK, M. Multispectral shortwave infrared camera system for detecting plant water stress and an unmanned aerial vehicle containing it. Industrial Property Office. 33673. 04.02.2020.

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

The typical users of the results of our research and development collaborations are manufacturers of agricultural machinery (Farmet, a.s., Bednar FMT, s.r.o., SMS CZ, s.r.o.) and technologies for processing agricultural products. Cooperation with the application sector takes place through joint projects in applied and industrial research and development (Farmet a.s., Bednar FMT s.r.o., Chmelařství družstvo Žatec, Partner MB s.r.o., Agrovýzkum Rapotín s.r.o.), contractual research, and commissioned development and innovation projects.

Our corporate partners also utilise us as an expert institution that provides professional consulting, expert analyses, and specialised assessments in key areas of technological development. Our main expertise includes the optimisation of agricultural machinery design, the implementation of smart agriculture—i.e., modern digital technologies in agricultural production and the application of advanced precision agriculture concepts that enable more efficient management of soil, water, and other resources. The faculty participates in the development of analyses, feasibility studies, and expert

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

evaluations for new technologies and innovations in precision agriculture, including sensor systems, satellite monitoring, and autonomous agricultural machinery.

Another form of collaboration is the involvement of company representatives in teaching at the faculty, where they give lectures and lead specialised seminars. These activities help strengthen the connection between academia and industry, providing students not only with theoretical knowledge but also direct insight into industrial practice. Companies that have long collaborated with the faculty on research projects actively contribute to knowledge transfer in the development and design of agricultural machines, tools, storage and transport equipment for agricultural products, and the practical application of smart agriculture. This synergistic approach fosters an innovation ecosystem in agricultural technology while enabling rapid implementation of the latest scientific findings into real-world operations.

ProLab Engineering

ProLab Engineering is a spin-off technology company of the Faculty of Engineering at the Czech University of Life Sciences Prague, specialising in the development and research of autonomous technologies in agriculture, industry, and defense. The company emerged from the transformation of know-how and innovative ideas from the faculty into practice, successfully commercialising the results of academic research.

Collaborations and Licensing Agreements

- Collaboration with Alpin Umwelttechnik, GmbH (Austria) on the development and design of Kaplan turbines for small hydropower plants. The cooperation resulted in the sale of a license for the computational design of the Kaplan turbine. The know-how is included in Patent No. 307 461 – "Impeller of a Centrifugal Pump."
- Collaboration with SH Control s.r.o. on the computational design of pumps for turbine operation (license sold) and ongoing negotiations for contract research to determine the performance characteristics of these pumps.
- Sale of a license for a utility model – "Device for Continuous Measurement and Evaluation of the Speed of Drying Belts in a Hop Belt Dryer" (No. 35441).

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Revenue from main/non-commercial activities	<u>1 263/</u> <u>49,82</u>	<u>1 638/</u> <u>64,61</u>	<u>1 694/66,82</u>	<u>3 159/</u> <u>124,61</u>	<u>2 554/</u> <u>100,7</u>
Revenue from secondary/commercial activities	<u>4 059/</u> <u>160</u>	<u>2 489/</u> <u>98,18</u>	<u>2 380/ 93,88</u>	<u>3 659/</u> <u>144,3</u>	<u>4 254/</u> <u>167,8</u>
Donations	<u>180 /</u> <u>7,1</u>	<u>279/</u> <u>11</u>	<u>100/ 3,94</u>	<u>243/</u> <u>9,58</u>	<u>200/</u> <u>7,88</u>
Total	<u>5 502/</u> <u>217,04</u>	<u>4 406/</u> <u>173,80</u>	<u>4 174/</u> <u>164,65</u>	<u>7 061/</u> <u>278,54</u>	<u>7 008/</u> <u>276,44</u>

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

The evaluated unit actively participates in the popularisation of science, research, and innovation (VaVal) and effective communication with the general public through a wide range of activities. The goal of these initiatives is to bring expert knowledge closer to the general public in a comprehensible and attractive manner, promote interest in science and technology, and increase awareness of the latest trends and benefits of research for society. Emphasis is placed on interactive educational formats such as expert lectures, workshops, popularisation events, and media outputs, which enable broader public engagement in scientific dialogue.

Popularisation Activities Include:

Popularisation Lectures and Seminars – We organise expert lectures and seminars for the public, farmers, and professionals from industrial practice. A significant event is the Night of Scientists, which offers an interactive program for all age groups.

Participation in Exhibitions and Trade Fairs – We present research results at events such as the Future Forces Forum, focusing on technological innovations with an overlap in science and research. Additionally, the results of creative activities are showcased at professional fairs such as TechAgro and AnimalTech in Brno or Země žitelka in České Budějovice. Faculty staff also provide expert accompanying programs for professional fairs or participate in evaluating exhibits for awards. At the same time, faculty members take part in various open-air events, such as Naše pole and Den zemědělece, or corporate events where scientific work results and their practical applications are presented to the general public through demonstrations of developed prototypes or joint research project outcomes.

Popularisation through Professional Periodicals – We publish articles in printed media such as Mechanizace zemědělství and Zemědělec, making new findings accessible to both professional and lay audiences. Faculty staff also participate in expert discussions on various television and radio stations, including public media such as Czech Television (ČT) and Czech Radio (ČRo).

Digital Communication and Social Media – Research results, expert interviews, and educational content are shared on platforms such as Facebook, LinkedIn, and Instagram, reaching a broad audience interested in science and innovation.

Open Science Platform – The faculty manages the platform agrivoltaics.tf.czu.cz, which demonstrates the integration of photovoltaics with raspberry, apple, and blueberry cultivation, irrigation, thermal field monitoring, and mowing. This platform provides both the public and professionals with access to research findings and innovative approaches in agriculture through a monitoring digital twin.

These activities effectively disseminate research results, enhance public understanding of scientific topics, and engage society in scientific endeavours.

Collaboration with the Czech Society for Maintenance (ČSPÚ)

The popularisation of VaVal and communication with the public is reflected in the activities of staff associated with the Czech Society for Maintenance (ČSPÚ). Through ČSPÚ, international conferences are held twice a year in cooperation with the Faculty of Engineering at CZU Prague. Additionally, annual courses for Maintenance Managers, Technicians, and Supervisors are conducted in alignment with the requirements of EN 15628, a standard developed with input from the European Federation of National Maintenance Societies (EFNMS). This collaboration enables us to reach corporate users, where our goal is to further raise awareness and transfer maintenance knowledge into practice. This ultimately leads to increased operational reliability of machinery, higher production efficiency, reduced operating and maintenance costs, and increased profits.

Selected Popularization Activities and Media Appearances:

Prof. Malaták's Popularization Lecture on "Energy Utilization of Biomass and By-products with a Focus on Thermochemical Processes" for the Union of Czech Mathematicians and Physicists (April 12, 2023). "And Yet It Turns." How Additive Technologies Help Innovate Hydrodynamic Pump Impellers – A reference to cooperation between the Faculty of Engineering and the company 3Dees: 3Dees Blog (2024). <https://www.3dees.cz/blog/inovace-obeznych-kol>

Doc. Altmann is a member of the editorial board of the journal Komunální technika, where he regularly publishes. The department has also launched the Agrohovory podcast, which brings the latest trends in agriculture and agricultural research to the public: Agrohovory Podcast. <https://mze.gov.cz/public/portal/mze/poradenstvi-a-vyzkum/precizni-zemedelstvi/agrohovory>

Technology Trends Day 2023 at CZU Faculty of Engineering: Event Summary. <https://www.ctpz.cz/clanek/den-technologickych-trendu-2023-20-9-2023-1537>

Summer School at CZU within projects 597985 EPP-1-2018-1-KZ-EPPKA2-CBHE-JP "NICOPA", 597962-EPP-1-2018-1-EE-EPPKA2-CBHE-JP "CUPAGIS", and 2020-1-TR01-KA202-094374.

Media Appearances:

"A Tampered Diesel Particulate Filter Harms Even the Driver," iDNES.cz. ► [Vykuhaným filtrem pevných částic zabijíte i sami sebe, prokázal test - iDNES.cz](#), ► [Dvouseťnásobná koncentrace rakovinotvorných látek. Odstraněný filtr pevných částic auta škodí i řidičům — ČT24 — Česká televize](#)

"200 Times Higher Concentration of Carcinogenic Substances: A Removed Particulate Filter Endangers Even Drivers," ČT24 – Czech Television. [14. března 2024 10:00 - Studio ČT24 | Česká televize](#)

EURO-7 Debate on Public TV: "Studio ČT24", March 14, 2024, 10:00 (1:39:00-1:46:00)

Abstracts, Literature Reviews, Publications, and Lectures for the Agricultural Association of the Czech Republic: ZSCR Website. <https://www.zscr.cz/En>

Other Events:

Naše pole – Organizing the expert program.

Demonstration Farm – Zemědělská akciová společnost Mžany, a.s.

Science Days.

TechAgro Brno.

Země živitelka.

Vegetable Growers' Days.

Fruit Growers' Days.

Nursery Growers' Days.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

Between 2019 and 2023, the Faculty of Engineering actively worked on implementing the recommendations outlined in the Evaluation Report of the International Evaluation Panel from the previous assessment. One of the key objectives was to increase the volume of external funding obtained through collaboration with industrial partners via contract research and commissioned projects.

Based on these recommendations, the faculty intensified its efforts to establish partnerships with businesses both in the Czech Republic and abroad, leading to a significant increase in funding acquired from the private sector. Contract research and commissioned projects expanded, partially reducing the disproportion between public funding and private sources. Additionally, the faculty revised its pricing policy for applied research to better reflect the market value of the services provided and the expertise offered.

Another major step was strengthening the strategic management of contract research and developing internal mechanisms to support academic staff in identifying and executing research contracts. The faculty leadership also actively encouraged researchers to engage in international research projects and initiated broader participation in professional platforms, contributing to greater international visibility for the faculty. During the evaluation period, more than 30 cooperation agreements were signed with industrial partners (e.g., Schwarzmüller, s.r.o., Bosch, a.s.).

Beyond the economic benefits, these measures also had a positive societal impact—enhanced collaboration with industry facilitated a more efficient transfer of research findings into practice and supported innovation in agricultural engineering and related fields. The faculty intends to continue this trajectory, further expanding its cooperation with industrial partners in alignment with its long-term strategy for applied research development.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Environmental Sciences

FORD: 1 - Natural sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

The faculty is primarily focused on Natural Sciences, particularly Earth and Related Environmental Sciences and Biological Sciences. Its mission is to advance knowledge in these disciplines and to promote sustainable development. Given the multidisciplinary nature of research at the faculty, these core research areas overlap with many other fields, especially Agriculture, Forestry, and Fisheries. Furthermore, the faculty is not only focused on natural sciences but also on society, which is reflected in a considerable number of publications in the field of Social and economic geography. This multidisciplinary approach fosters collaboration across various scientific domains, integrating disciplines like remote sensing, data science, machine learning, geographic information systems, big data, and predictive modeling, enabling comprehensive solutions to both environmental and societal challenges.

The addressed topics have a direct connection to environmental research and sustainability, with a significant societal contribution. The main topics include climate change, landscape and biodiversity conservation, water and natural resource management, carbon footprint monitoring, waste management, soil, water, and air contamination, remediation, and many others, all of which contribute to sustainable development and improving the quality of life in society. The faculty also places great importance on developing advanced data infrastructures and research technologies, which are crucial for addressing complex environmental issues. Looking ahead, the faculty envisions not only remaining a leading research center in some of these fields within Czechia but also continuing to strengthen connections with European institutions. This vision includes participating in high-impact European research projects, driving forward the development of cutting-edge solutions for environmental

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

challenges, and further developing robust data and research infrastructures to support collaborative, data-driven research. The faculty aims to foster a thriving research community that contributes to sustainable environmental practices, both locally and globally.

The vast majority of topics are addressed both within basic and applied research (or rather, across the entire spectrum between these two categories), with a strong emphasis on their potential for practical application, the success of which varies across different disciplines. The faculty is engaged in the development of new tools (e.g. predictive models using spatial data) and biotechnologies (e.g. biochar) to address environmental challenges. In addition, citizen science projects, such as bird atlases, are an integral part of the faculty's research activities, empowering the public to contribute to data collection and enhancing the scope of environmental monitoring. Often, the outcome's impact is societal rather than economic, as the typical recipients of the results are the state or government institutions, and a market for the application of the results is usually not established. Many applied results do, of course, have an indirect economic impact, which is often difficult to quantify, but they generally fall within the framework of ecosystem services. This highlights the faculty's commitment to addressing urgent societal challenges, where the value of research is not solely measured in monetary terms but in its contribution to environmental sustainability, public well-being, and informed policy-making.

The evaluated unit is organized into six departments (Applied ecology, Ecology, Environmental Geosciences, Landscape and Urban Planning, Spatial Sciences, Water Resources and Environmental modeling), each focusing on specific areas of research. Within these departments, various research groups are established: Bulla lab, Modelling of Biodiversity Lab, Insect Ecology Group, Behavioral Ecology Research Group, Community Ecology and Conservation Group, Environmental and Isotope Geochemistry Group, Hydrological and Climate Variability Group, Land Research Group, Plant Biodiversity Research Group, Spatial Science in Ecology and Environment Group, Wetlands Group.

The faculty staff is around 250 employees, with a well-distributed age range, the largest share being between 30 and 40 years old. This reflects a young and dynamic team with immense potential for further development. On the other hand, the proportion of women in professorial positions is problematic. This, however, is not caused by the faculty's approach but is a societal and nationwide issue that can only be addressed to a limited extent at the university level. Encouragingly, the number of early career researchers suggests that progress is already being made in this matter, as the gender balance in this category is perfect.

The number of students at all levels (Bachelor's, Master's, PhD) is stable, ranging between 2,500 and 3,000 students, and is also gender-balanced. The number of study programmes offered by the faculty reflects its comprehensive approach to education, with a range of academic opportunities designed to meet the needs of both undergraduate and PhD students. The faculty offers study programmes in both Czech and English. In total, it offers six undergraduate programmes (e.g. environmental data science, Environmental Engineering), nine Master's programmes (Environmental Geosciences, Landscape Planning), and three doctoral programmes (Ecology, Applied and Landscape Ecology, Environmental Earth Sciences).

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	12.157/ 1.929	13.398/ 2.000	14.584/ 2.000	14.222/ 2.000	13.908/ 2.000	68.269/ 9.929
Associate Professor	14.860/ 3.804	15.104/ 4.450	15.450/ 4.100	16.021/ 4.150	16.825/ 4.841	78.260/ 21.345
Assistant Professor	37.822/ 9.726	38.875/ 9.175	39.661/ 8.862	39.394/ 9.409	43.923/ 11.114	199.675/ 48.286
Assistant		0.124	0.587	0.492		1.203
R&D Personnel ³	102.591/ 43.128	93.050/ 42.197	79.974/ 41.179	76.965/ 39.194	65.129/ 31.786	417.709/ 197.484
Researchers in other categories ⁴	9.334/ 6.020	10.597/ 6.618	12.001/ 6.050	12.359/ 5.597	12.519/ 5.477	56.810/ 29.762
Technical and economic staff ⁵	24.881/ 18.339	27.102/ 20.318	29.468/ 20.266	34.127/ 22.020	37.598/ 23.354	153.176/ 104.297
Scientific, research and development staff involved in teaching activities	31.060/ 15.403	30.403/ 14.331	30.159/ 15.167	33.445/ 15.950	36.317/ 17.818	161.384/ 78.669
Early career researchers ⁶	41.760/17.400	32.500/15.700	28.880/15.100	30.450/16.900	30.150/15.600	163.740/80.700
Total ⁷	232.705/ 98.349	228.653/ 99.089	221.884/ 97.624	227.025/ 98.320	226.219/ 96.390	1.136.486/ 489.772

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					4	1	5		4		2	1
Associate Professor			4	2	8	2	2		5	1	1	
Assistant Professor	5		24	8	18	5	3		1			
Assistant												
R&D Personnel ⁹	17	8	35	19	16	7	7	3	4	1		
Researchers in other categories ¹⁰			4	2	6	4	1	1	2	1	1	1
Technical and economic staff ¹¹	3	3	6	4	14	10	4	3	1	1		
Scientific, research and development staff involved in teaching activities			22	9	13	5	2	2	3	3		
Early career researcher ¹²	7	1	30	15	15	9	4	3	2	2		
Total ¹³	25	11	95	44	79	34	24	9	20	7	4	2

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					4		4	1	4		4	1
Associate Professor			1		11	4	5	1	2	1	1	
Assistant Professor	2	1	10	1	34	12	5		1			
Assistant												
R&D Personnel ¹⁵	13	4	20	9	17	13	5	3	2	1	1	
Researchers in other categories ¹⁶			3		7	4	3	2	2	1	1	1
Technical and economic staff ¹⁷	3	1	9	3	12	11	11	7	1			
Scientific, research and development staff involved in teaching activities			24	12	15	5	2	1	3	3		
Early career researcher ¹⁸			30	13	11	7	2					
Total ¹⁹	18	6	67	25	100	49	35	15	15	6	7	2

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	1945	990	2009	1063	1788	973	1859	1014	1847	1002	9448	5042
Master's ²⁰	629	363	709	406	712	417	650	357	617	352	317	1895

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

Doctoral	152	65	174	90	171	90	159	82	162	80	818	407
Lifelong Learning Courses	1	0	0	0	0	0	0	0	28	17	29	17
Total	2727	1418	2892	1559	2671	1480	2668	1453	2654	1451	10612	7361

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes											
	2019		2020		2021		2022		2023		Total	
Undergraduate	6/3	0/0	6/3	0/0	6/3	0/0	6/3	0/0	6/3	0/0	30/15	0/0
Master's	8/4	0/0	8/4	0/0	9/4	0/0	9/4	0/0	9/4	0/0	43/20	0/0
Doctoral	3/3	0/0	3/3	0/0	3/3	0/0	3/3	0/0	3/3	0/0	15/15	0/0
Lifelong Learning courses	1/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	1/0	0/0	2/0	0/0
Total	18/10	0/0	17/0	0/0	18/0	0/0	18/0	0/0	19/0	0/0	90/50	0/0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics	0.4	Balanced basic and applied research	82.1
	1.2 Computer and information sciences		Zvolte položku.	
	1.3 Physical sciences	0.3	Balanced basic and applied research	
	1.4 Chemical sciences	0.9	Balanced basic and applied research	
	1.5 Earth and related environmental sciences	48	Balanced basic and applied research	
	1.6 Biological sciences	32	Balanced basic and applied research	
	1.7 Other natural sciences	0.5	Balanced basic and applied research	

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

2. Engineering and Technology		0.1	Balanced basic and applied research	
	2.1 Civil engineering			
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering	0.1	Balanced basic and applied research	
	2.8 Environmental biotechnology	0.1	Balanced basic and applied research	0.4
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies	0.1	Balanced basic and applied research	2
3. Medical and Health Sciences	3.1 Basic medicine		Zvolte položku.	
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences	2	Balanced basic and applied research	
4. Agricultural and veterinary sciences		9	Balanced basic and applied research	10
	4.1 Agriculture, Forestry, and Fisheries			
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science	0.2	Balanced basic and applied research	
	4.4 Other agricultural sciences	0.8	Balanced basic and applied research	5.5
5. Social Sciences	5.1 Psychology and cognitive sciences		Zvolte položku.	
	5.2 Economics and Business		Zvolte položku.	
	5.3 Education		Zvolte položku.	
	5.4 Sociology		Zvolte položku.	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography	5.5	Balanced basic and applied research	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences		Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	0
	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion		Zvolte položku.	

	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
	Total	100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

From the tables below, it is evident that the Faculty of Environmental Sciences is composed of both well-established and globally recognized researchers in their fields (e.g., Jan Vymazal and Michael Komárek), whose names appear in most of the tables, as well as many promising scientists who have not yet achieved the same level of a reputation but are still respected experts. These researchers receive prestigious awards, serve on the editorial boards of leading scientific journals, are invited to lecture at foreign universities, and participate in the evaluation of national and international project calls. Compared to the previous evaluation period, there has been a positive shift in this regard, with a significant increase in the number of researchers who are an integral part of the global research community in their respective fields. This is also reflected in the placement of some researchers in various global rankings. For example, Jan Vymazal was in the evaluated period recognized as the most cited scientist in environmental sciences in the Czech Republic according to the Researcher.com ranking (2023), and by prestigious ranking published by Clarivate (Highly Cited Researchers 2022).

Regarding Prestigious R&D&I awards granted during the evaluation period, key recognitions include awards from the European Commission and the receipt of highly competitive research grants and fellowships, such as European Research Council (ERC) Grants, Marie Skłodowska-Curie Fellowships, and Fulbright Scholarships.

Researchers from the Faculty of Environmental Sciences at CZU Prague are active editors in leading journals published by prestigious publishers such as Elsevier, Springer, and Taylor & Francis. The table includes only the 10 most significant editorial roles, selecting journals that represent the leading titles in their respective disciplines while also showcasing the diverse research fields covered by the faculty. Among the traditional disciplines in which the faculty achieves global recognition, Critical Reviews in Environmental Science and Technology (IF 11.4) stands out in environmental sciences, while Global Ecology and Biogeography (IF 6.3) is prominent in biological sciences. The faculty's broad research scope is further illustrated by other journals, such as Journal of Chemistry (IF 2.8), Landscape and Urban Planning (IF 7.9), and International Journal of Digital Earth (IF 3.7). This diversity is also reflected

in the involvement of faculty members in both relatively new journals, such as Biochar (IF 13.1), founded in 2019, and long-established journals like Flora (IF 1.7), founded in 1818.

Notably, some researchers hold senior editorial positions or serve as editors-in-chief, such as Jan Vymazal, who is a senior editor at Ecological Engineering (IF 3.9). The table deliberately excludes numerous editorial board memberships in journals from problematic publishers like MDPI and Frontiers. Although such memberships are relatively common, only a single example is included for reference (Frontiers in Ecology and Evolution; IF 2.4). Many of the listed editorial board members serve on multiple journals, some of which may be even more renowned than those selected. However, the table prioritizes showcasing the faculty's disciplinary diversity. Encouragingly, many researchers are also frequently invited as guest editors for Special Issues in various journals.

Compared to the previous evaluation period, there has been an increase (despite the prolonged COVID-19 pandemic) in the number of faculty members invited to lecture at universities across Europe (Netherlands, Hungary, Slovakia) and worldwide (Japan, Taiwan, Hongkong, USA). Many researchers have also been invited as Invited Speakers or Keynote Lecturers at international conferences, such as The 2nd Global Conference on Magnetism and Magnetic Materials, Ecological Compensation Symposium, and International Congress on the Zoogeography and Ecology of Greece and Adjacent Region. The table highlights not only major examples but also aims to illustrate diversity across disciplines and locations. Similarly diverse are the guest lectures delivered at the faculty by world-renowned experts, not only from environmental and biological sciences. The Faculty of Environmental Sciences has hosted distinguished speakers such as Vincent Lecours from the University of Florida and James Ramsay, affiliated with IUCN. Finally, faculty members are actively involved in the evaluation of national (e.g. Germany, Sweden, Poland, Hungary, Belgium, Ireland, Canada) and European research project/programme calls.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
prof. Ing. Jan Vymazal, CSc.	Cozzarelli Prize	National Academy of Sciences
Ing. Tereza Březinová, Ph.D.	Cozzarelli Prize	National Academy of Sciences
Ing. Johanna Ruth Blöcher, Ph.D.	Josef Hlávka Prizes	The Josef, Maria and Zdeňka Hlávka Endowment
Ing. Lukáš Gábor, Ph.D.	Josef Hlávka Prizes	The Josef, Maria and Zdeňka Hlávka Endowment
Ing. Tereza Švejcarová	Best Early Career Researcher	IBIS journal
Ing. David Moravec, Ph.D.	Marie Skłodowska-Curie Fellowships CZ	Ministry of Education, Youth and Sports
doc. Ing. Kamila Svobodová, Ph.D.	Marie Skłodowska-Curie Fellowships	European Commission
Ing. Lukáš Gábor, Ph.D.	Fulbright Scholarship	U.S. Department of State
Mgr. Petr Keil, Ph.D.	European Research Council (ERC) Grants	European Commission
prof. Ing. Jan Vymazal, CSc.	Highly Cited Researcher (Cross-Field) - 2022	Clarivate (Web of Science)

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
prof. Ing. Jan Vymazal, CSc.	Ecological Engineering, editor-in-chief, ISSN: 0925-8574
prof. Mgr. Bohumil Mandák, Ph.D.	Flora, ISSN: 0367-2530
prof. RNDr. Michael Komárek, Ph.D.	Environmental pollution, ISSN: 0269-7491
prof. RNDr. Michael Komárek, Ph.D.	Critical Reviews in Environmental Science and Technology, ISSN: 1064-3389
doc. Mgr. Lukáš Trakal, Ph.D.	Biochar, ISSN: 2524-7867
Mgr. Petr Keil, Ph.D.	Global Ecology and Biogeography, ISSN: 1466-822X
prof. Mgr. Vlastimil Chrastrný, Ph.D.	Journal of Chemistry, ISSN: 2090-9063
doc. Federico Morelli, Ph.D.	Frontiers in Ecology and Evolution, ISSN: 2296-701X
doc. Kamila Svobodova, Ph.D.	Landscape and Urban Planning, ISSN: 0169-2046
doc. Vítězslav Moudrý, Ph.D.	International journal of Digital Earth, ISSN: 1753-8947

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
prof. RNDr. Michael Komárek, Ph.D.	Revisiting models of Cd, Cu, Pb and Zn adsorption onto Fe Oxides	HongKong Polytechnic University	2019
doc. Mgr. Lukáš Trakal, Ph.D.	Magnetic impregnation of different biochars to effectively sorb metals from waste-water	The 2nd Global Conference on Magnetism and Magnetic Materials, Rome, Italy	2019
doc. Yannis Markonis, Ph.D.	Global precipitation changes over land	Beijing Normal University	2019
Roman Juras Ph.D., Johanna Thomson Ph.D.	Modeling and experiments in snow: State of our research	Snow and Ice Research Center, National Research Institute for Earth Science and Disaster Resilience, Japan	2020
prof. Dr. Mgr. Miroslav Šálek	How do not boil the eggs in desert: about a coordinated partnership in Red-wattled Lapwings	University of Debrecen, Hungary	2020
doc. Mgr. Martina Vítková, Ph.D.	How the use of Fe-based composites affects the speciation of risk elements during sorption	Comenius University Bratislava, Slovakia	2020
prof. Ing. Jan Vymazal, CSc.	Urban constructed wetlands for stormwater runoff	University of Tennessee, Knoxville, USA	2021
doc. Federico Morelli, Ph.D.	Disentangling the main effects of urbanization on taxonomic, functional and phylogenetic avian diversity in European cities	Mytilini, Lesvos, Greece (online). 15 October 2022. 15th International Congress on the Zoogeography and Ecology of Greece and Adjacent Regions.	2022

Ing. arch. Václav Fanta, Ph.D.	Historical field systems in the Czech Republic & Floods and historical memory	Wageningen University	2022
Ing. Tereza Hnátková, Ph.D.	Constructed wetlands-principles, practical information, references- Czech Republic	National Taiwan University, Taipei	2023

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
prof. Michael Hardman	Salford University	Green City and Infrastructure	2023
prof. Daniel C.W. Tsang	Hong Kong Polytechnic University	Biochar technology towards carbon neutrality and green remediation	2023
James Ramsay	IUCN World Commission on Protected Areas	Aid and development: life as an environmental consultant, with examples from Africa	2023
prof. Dr. Hossein Azadi	Faculty of Sciences, Department of Geography, University of Liège	Rethinking Land Governance: From Land Conflict to Land Dialogue	2023
assoc. prof. Golan Bel	Ben-Gurion University of the Negev	Decadal Climate Predictions Using Sequential Learning Algorithms	2022
prof. Amir AghaKouchak	University of California, Irvine	Compound hazards in a warming climate	2022
Dr. Domenico Morabito	Université d'Orléans	Alternative treatments to remediate soils polluted by metals and metalloids	2022
prof. Dinesh Mohan	School of Environmental Sciences, Jawaharlal Nehru University	Engineered Biochar – A Smart and Sustainable Solution to Biomass Burning, Soil Management, Food Security, Water Purification and Climate Change Mitigation	2019
Dr. Vincent Lecours	University of Florida	Towards more informed methodological decisions when using geomorphometry in species distribution modeling	2019
prof. Duccio Rocchini	Fondazione Edmund Mach and University of Trento	The jungles of spectral variability: how to estimate biodiversity from space	2019

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the project/programme call research	Name of the authority/guarantor project/programme call contracting of the	Year
prof. RNDr. Michael Komárek, Ph.D.	Member of the panel P210 – Geochemistry, geology and mineralogy, hydrogeology	Czech Science Foundation	2021-2023
prof. RNDr. Michael Komárek, Ph.D.	H2020 LIFE (EU)	European Commission	2021-2023
doc. Mgr. Martina Vítková, Ph.D.	Soil sciences	German Research Foundation (DFG), Germany	2020,2022

Yanina Benedetti, Ph.D.	PRELUDIUM-20	National Science Centre (NSC), Poland	2021
doc. Federico Morelli, Ph.D.	Emergence 2023-2024	Sorbonne Université Paris, France	2023
prof. Ing. Jan Vymazal, CSc.	EPA Research Programme 2021-2030	EPA Ireland	2019-2021
Ing. Jan Komárek, Ph.D.	Stereo III Programme	Belgian platform on Earth Observation	2022
Mgr. Aleš Urban, Ph.D.	Junior Research Groups "Climate, Environment and Health"	the German Federal Ministry of Education and Research (BMBF)	2021
prof. Ing. Martin Hanel, Ph.D.	Marie Skłodowska-Curie Actions – Personal Fellowship + COFUND	European Commission	2020-2023
doc. Ing. Mgr. Ioannis Markonis, Ph.D.	Discovery grant	Natural Sciences and Engineering Research Council of Canada	2022

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

Faculty of Environmental Sciences (FZP) at CZU implemented over 130 scientific projects funded from national and international sources during the evaluated period. The list of projects includes both basic and applied research, significantly contributing to the faculty's mission of promoting environmental sustainability and advancing knowledge on pressing environmental challenges, such as climate change and biodiversity crisis. In addition, the faculty has carried out another 160 activities as contract research. The faculty primarily addresses highly relevant topics, such as environmental protection, landscape adaptation to climate change, climate change modelling, circular economy and waste management, geochemistry, water management, biodiversity support, and the use of remote sensing data in various fields. Below is a selection of the 10 most prestigious projects, highlighting how the

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

faculty's research projects advances its mission of contributing to sustainable development, ecosystem restoration, and climate resilience.

1. Investigation of the Terrestrial Hydrological Cycle Acceleration (ITHACA)

This prestigious basic research project is funded by the Grant Agency of the Czech Republic JUNIOR STAR program, which supports promising early-career scientists engaged in interdisciplinary research (only a limited number of these projects is awarded each year).

The project focuses on the acceleration of the terrestrial hydrological cycle (THC) and its impact on water availability. The hydrological cycle governs the continuous movement of water through Earth's atmosphere, hydrosphere, lithosphere, and biosphere. It is influenced by internal climate variability, natural fluctuations in solar radiation, and volcanic activity. In recent decades, increasing attention has been given to the indirect effects of global warming on hydrological cycle changes. Both theoretical models and observational data suggest that as the atmosphere warms, available atmospheric water and water fluxes between the atmosphere and surface increase, leading to the intensification of the hydrological cycle. The project aims to analyse and model THC variability using a combination of multi-scale data-driven methods and process-based climate and hydrological modeling. The research approach follows three key steps:

1. Paleoclimatic Analysis – Examining past climate data to assess the range of THC variability and transition times between dry and wet periods.
2. Observational Analysis – Using modern datasets to quantify ongoing THC acceleration and determine its statistical significance.
3. Future Projections – Applying process-based modeling to understand the drivers and long-term impacts of THC changes on water availability.

Given the fundamental role of water in sustaining human societies, understanding these hydrological shifts is crucial for water resource management and climate adaptation strategies in a warming world. The project directly supports the faculty mission to provide scientifically robust insights into ongoing environmental changes.

2. SWAMP - Responsible Water Management in Built-up Areas in Relation to the Surrounding Landscape

The SWAMP project (*Responsible Water Management in Built-up Areas in Relation to the Surrounding Landscape*) was a joint initiative between the Faculty of Environmental Sciences at CZU Prague and DEKONTA, a.s., focused on sustainable water management and climate resilience. The project emphasized interdisciplinary collaboration between academia and industry, ensuring the transfer of scientific knowledge into practical applications. The project aimed to optimize water use in urban areas while maintaining connections with the surrounding landscape. Key components included:

- Enhancing water retention and accumulation,
- Developing energy-efficient irrigation and drainage systems,
- Integrating wetlands for surface water purification.

Research took place at several locations, including Amálie – School Agricultural Enterprise Lány, Kostelec nad Ohří, Rudolec near Sokolov, and Prague-Suchdol. The focus areas included biochar applications, hydrology, geoinformatics, wetlands, and water chemistry. The project strengthened cooperation between CZU and DEKONTA, a.s., bridging the gap between scientific research and industrial practice. The successful collaboration fostered further joint initiatives in sustainable environmental solutions. This project, like many others at the faculty, is rooted in addressing environmental changes, yet in this case, it specifically focused on practical applications to enhance

climate resilience and improve how we manage water resource in the face of ongoing environmental changes.

3. Center for Landscape and Biodiversity

This is another applied project, focusing on another important mission of the faculty: nature conservation and biodiversity protection. The project is a consortium initiative involving 11 Czech research institutions (e.g. coordinating Silva Tarouca research institute for landscape and Ornamental horticulture, Nature conservation agency, Institute of Botany of Czech Academy of Sciences, Masaryk university, Charles university), aimed at establishing a research center that will support strategic planning in nature conservation, landscape management, and biodiversity protection while addressing emerging ecological challenges.

The center focuses on landscapes, specific ecosystem types (forest ecosystems, agroecosystems), and biodiversity, including biological invasions. Its main goal is to develop new monitoring systems and create an integrated evaluation framework for assessing landscape and ecosystem changes.

Key Objectives: (1) Establishing a standardized national landscape monitoring system; (2) Evaluating forest and agroecosystem dynamics in the context of climate change and degradation; (3) Developing a biodiversity assessment framework, with an emphasis on biological invasions; (4) Creating tools for integrated monitoring, strategic decision-making, and climate adaptation. To achieve these goals, the project promotes data sharing, synthesis, and interdisciplinary collaboration. The Faculty of Environmental Sciences plays a key role in the project, leading the Resilient Landscape group and contributing to other research areas:

1. Resilient Landscape – Assessing landscape resilience to environmental changes and proposing adaptation strategies.
2. Forest Ecosystems – Studying forest dynamics and sustainable management practices.
3. Agroecosystems and Soil – Focusing on sustainable agriculture, soil biodiversity, and monitoring methods.
4. Invasions – Identifying invasive species and developing control strategies.
5. Functional Biodiversity – Analyzing biodiversity's role in ecosystem functions.

Project findings are disseminated via the [DivLand website](#), workshops, and conferences, ensuring their application in policy and management by key stakeholders (e.g., the Ministry of the Environment, the Ministry of Agriculture, and nature conservation authorities).

4. BEAST: Biodiversity Dynamics Across Space, Time, and Scales (ERC Consolidator Grant)

FZP is proud to contribute to global biodiversity research through the BEAST project. Running from 2023 to 2027, this groundbreaking project investigates biodiversity dynamics by integrating spatial and temporal data, offering novel insights into ecosystem resilience and conservation strategies. By combining cutting-edge ecological modeling, remote sensing, and field studies, the project delivers actionable outcomes for sustainable land use and ecosystem management, which is a key mission of FZP.

FZP's contributions span data collection, advanced analytics, and the development of predictive models. By collaborating with leading international researchers, the university has applied its expertise in ecological monitoring and GIS-based assessments to refine methodologies for biodiversity evaluation. This interdisciplinary initiative bridges ecology, technology, and policy, fostering collaborative efforts across multiple disciplines and departments.

The outcomes of BEAST have significant implications for biodiversity conservation and landscape planning. By advancing scientific understanding and practical applications, the project underscores FZP's role as a leader in tackling global environmental challenges.

5. EarthBridge: Building Bridges between Earth Observation and Environmental Sciences (Horizon Europe)

Launched in January 2023, EarthBridge aims to enhance the usability of environmental Earth Observation (EO) tools, making them robust, transferable, and applicable across various disciplines and landscapes. By narrowing the gap between EO and environmental sciences, the project supports biodiversity monitoring, restoration, and conservation. The recipient of the project is Department of spatial sciences, which focuses on the utilization of remote sensing in environment. This project significantly contributes to interdisciplinary research within the faculty, supporting the integration of remote sensing with ecology, hydrology, and other fields, while aligning with the faculty's mission to provide relevant data in changing world and to advance sustainability.

FZP plays a key role in EarthBridge, providing project coordination and technical expertise in EO. Collaborating with three renowned institutions Technische Universität Dresden, Universität Bonn and Università di Bologna, FZP enhances interdisciplinary research capacity while promoting the application of EO tools within broader scientific and community networks. This innovative initiative integrates environmental science, EO, and technology, fostering collaboration across disciplines and help to build FZP's reputation as a center of excellence in remote sensing. Outcomes from EarthBridge inform sustainable agriculture, forestry, conservation planning, and climate adaptation strategies, showcasing FZP's dedication to impactful, globally relevant research.

6. Birds@Farmland (EU Commission Tender)

The Birds@Farmland initiative (2021–2022) developed tools and strategies for conserving farmland bird species across Europe. Coordinated by the Environment Agency Austria, the project involved partners from 10 EU countries (Bulgaria, Germany, Spain, Finland, France, Hungary, Italy, Portugal), fostering cross-border collaboration. This interdisciplinary project integrated ecology, agriculture, and policymaking to address biodiversity loss in agricultural landscapes. FZP had a crucial role from very beginning of the project as it was coordinating the selection of 15 declining or vulnerable species, based on the available data across Europe. Faculty of Environmental Sciences collaborated with other European institutions to oversee the conservation science related to these species. The project generated essential data to inform conservation strategies, and the findings provide policy recommendations and applications for sustainable agricultural practices and conservation policies. The initiative produced the description of ten major agricultural systems that constitute suitable habitats for unsecure or declining populations of farmland bird species. In addition, the initiative developed 22 conservation schemes for farmland birds in 10 member states. These were based on the best available science and designed to allow high uptake of farmer and managing authorities, directly contributing to the FZP's mission of advancing environmental sustainability and supporting evidence-based decision making for biodiversity conservation across Europe.

7. TRACER: Transition Strategies for Coal-Intensive Regions (Horizon 2020 - 2019-2023)

TRACER addresses the complex challenges of transitioning coal-dependent European regions to sustainable systems. The overall objective is to support 9 coal-intensive regions around Europe (Bulgaria, Czechia, Germany, Greece, Poland, Romania, Serbia, Ukraine, UK) to design their Research and Innovation strategies in order to facilitate their transition towards sustainable energy,

technological, economic and social systems. The project consortium includes 15 partners from 12 European countries (e.g. project coordinator: WIP Renewable Energies, Centre for energy sources and savings, Research institute for post-mining landscapes, University of Strathclyde, University of Agriculture in Krakow). FZP's involvement includes researching environmental impacts, land rehabilitation, and socio-economic transitions to support tailored regional strategies for coal-intensive areas. Through interdisciplinary collaboration encompassing environmental science, economics, and social sciences, FZP works with regional governments, industry stakeholders, and research institutions to develop innovative solutions. Key outcomes include policy recommendations, advanced planning tools, and sustainability guidelines, emphasizing the university's leadership in fostering regional development and resilience. By contribution to the successful transformation of coal-dependent regions, TRACER exemplifies FZP's dedication to addressing sustainability challenges and advancing the mission of landscape restoration and biodiversity conservation.

8. AgriClima: Advancing Agricultural Climate Services (EU-CELAC Initiative)

The AgriClima project (2019–2022) is interdisciplinary project that integrates environmental sciences, information technology, and agricultural management. It focuses on developing advanced monitoring systems to optimize agricultural water and nutrient management. These systems aim to optimize agricultural water management and are based on Internet of Things applied to sensor networks. These systems enhance decision-making processes, ensuring adaptability across diverse agricultural landscapes. FZP leads in designing and piloting these systems, leveraging its expertise in environmental sciences and agricultural practices. By collaborating with various stakeholders, including international partners, AgriClima ensures the practical application of its findings in different regions within the Latin American and Caribbean States. The project builds on and puts into practice the scientific knowledge gained so far on the impact of climate changes on the hydrological characteristics of agricultural areas and links this knowledge with developments in end-user systems and the use of sensors in practice. At the same time, it verifies the knowledge gained from the application of organic matter (biochar) to the soil in order to mitigate the impacts of changes in conditions and to stabilize or increase yield. AgriClima project is in line with FZP's mission of developing innovative solutions to environmental challenges. By informing climate-resilient agricultural practices and policy decisions, the project strengthens FZP's expertise in addressing climate challenges and promoting sustainable agricultural development.

9. TransformAr: Accelerating Transformational Adaptation in Europe (Horizon 2020)

TransformAr develops and demonstrates innovative solutions for large-scale, transformational adaptation processes in regions vulnerable to climate change. The project focuses on co-developing comprehensive Innovation Packages, which include products and services designed to accelerate climate adaptation. The consortium consists of 22 partners (e.g. coordinating Universiteit Antwerpen, Acterra, Potsdam-institute for climate impact research, Universidad de Vigo, E3-Modelling AE) from 11 countries. By integrating environmental science, technology, and social sciences, TransformAR addresses the multifaceted challenges of climate adaptation. A set of 22 actionable adaptive solutions are tested and demonstrated, ranging from nature-based solution, innovative technologies, financing, insurance and governance models, awareness and behavioral change solutions. FZP's contribution centre on water-related risk research and the development of practical pathways for climate adaptation. The project's findings offer significant application potential for guiding sustainable regional development and to implement adaptive solutions to local needs, directly contributing to FZP's mission of providing science-based solutions to environmental challenges.

10. boDEREC-CE: Board for Detection and Assessment of Pharmaceutical Drug Residues in Drinking Water

The boDEREC-CE project was implemented between 2019 and 2022 to address the issue of water source contamination by micropollutants, particularly pharmaceutical residues. The Czech University of Life Sciences Prague participated in the project alongside other European institutions, including the Croatian Geological Institute and additional academic and governmental bodies from Central Europe (e.g. University of Silesia, University of Ljubljana, Technical university of Munich).

As part of its contribution, CZU was responsible for monitoring pharmaceutical residues in drinking water and assessing the effectiveness of various water treatment technologies. The project aligns with CZU's mission to address environmental challenges through applied research and innovation, directly contributing to sustainable water management and public health protection. The interdisciplinary nature of boDEREC-CE involved collaboration across environmental science, chemistry, hydrology, and public health fields. Furthermore, the project fostered cooperation with other units within CZU, particularly in analytical chemistry and hydrological research, ensuring a comprehensive assessment of pharmaceutical pollutants and their mitigation strategies. The project's findings support policy development for water safety regulations and the advancement of sustainable technologies for removing emerging contaminants, reinforcing CZU's role as a leader in environmental research.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
GACR	Ca and O isotope constraints on the origin of C isotope anomalies: Testing the model of global 'Carbonate Hypersaturation' of Silurian seawater	1937	0	0	0	0
GACR	Fusion of LiDAR and UAV borne multispectral data to assess physiographic diversity of post-mining sites	750	0	0	0	0
GACR	Individual acceptance of mining: A conceptual framework based on multiscale context	1088	0	0	0	0
GACR	Innovative use of nanoiron-modified biochar: advanced geochemical testing for metal(loid) stabilisation in soils	1752	1357	0	0	0
GACR	Links between weather, epidemics and seasonal mortality patterns	0	0	0	917	1175
GACR	Non-crop habitat islands within arable fields: local hotspots of biodiversity and ecosystem services?	1788	1620	0	0	0
GACR	Stable Mn oxide-biochar composites – a smart solution for complex soil remediation	0	0	0	0	2460

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

GACR	Decipher the specific cadmium biogeochemical cycling in the soil-plant continuum: insights from Cd isotopes	0	0	0	2174	2069
GACR	Effects of urbanization on multilevel avian diversity: linking bird community metrics to pollution level, vegetation and building density	1708	1584	0	0	0
GACR	Global Cd and Pb isotope signal in the Pan-Arctic: influence of local and distant sources.	1999	1927	1763	108	0
GACR	Investigation of the Terrestrial Hydrological Cycle Acceleration (ITHACA)	0	0	0	3995	4792
GACR	Isotope fractionation as a tool for identifying cadmium and zinc sorption mechanisms in soils	1300	1345	0	0	0
GACR	Land Tenure Security: the crucial but unexplored determinant of land degradation	1016	0	0	0	0
GACR	Linking performance trade-off with modern coexistence theory and functional trait approach	0	0	0	0	2983
GACR	Mechanism of pesticides mobility and transformation at wetland rhizosphere micro-interface	0	0	0	1715	2394
GACR	Performance comparison of innovative metal(loid) nanosorbents in smelter-polluted soils: Geochemical and ecotoxicological benchmarks	0	0	2272	2272	2272
GACR	Phytoremediation of contaminated soils using nanoparticles: Implications for rhizosphere	1527	0	0	0	0
GACR	Repeatome evolution in plant allopolyploids: An outcome from the diploid-polyploid complex of the <i>Chenopodium album</i> aggregate	0	1965	1936	1440	0
GACR	Response of mid-Paleozoic faunal communities to significant environmental changes: a study of the Mulde, Lau, Choteč events from the Prague Basin	0	0	0	0	1101
GACR	Selective effect of fish farming on freshwater communities	1437	1198	0	0	0
GACR	<i>Schistosoma mansoni</i> egg-secreted proteins: a comparative approach to identify bioactive molecules of a human parasite.	0	0	0	0	2333
GACR	Synthetic and Comparative Hydrology of Earth, MARS and Titan (SCHEMATA)	0	1095	1358	1578	0
GACR	The interactions of organic xenobiotics with manganese oxides in transition zones: implications for nature-based remediation amendments	1995	1895	1549	322	0
GACR	The role of High Latitude Dust in changing climate	0	1097	1018	936	0
GACR	What is the origin of dry grasslands in Central Europe? A synthesis of comparative	3471	1362	0	0	0

	phylogeography and palaeodistribution modelling					
GACR	Worldwide phylogeography and history of the globally invasive weed species <i>Chenopodium album</i> .	0	0	0	0	3673
GACR	XEROS: eXtreme EuRopean drOughtS - Multimodel synthesis of past, present and future events	1414	1333	1508	0	0
INTERREG CZ - Saxony	Objective Wolf Acceptance in a Human-Altered Transboundary Landscape (OWAD)	2366	1489	0	0	0
MKCR	Identification and preservation of historic field patterns	3970	3984	3944	3872	0
MKCR	Landscape for breeding and training ceremonial coach horses in Kladruby nad Labem	0	2145	2588	2468	0
MSMT	Diversification and stabilization of allotetraploid species with identical genomic composition	0	0	0	0	1412
MSMT	Evolution of diploid-polyploid complex of <i>Chenopodium album</i> agg. Joint or parallel evolution of North American and Eurasian species?	2358	2238	2380	1920	0
MSMT	Geochemical insight into non-destructive archaeological research	756	1232	1232	733	0
MSMT	Office to support international projects focused on Life Sciences in the European Research Area II.	2568	2551	0	0	0
MSMT	Discovering unknown fungal diversity of the Chihuahuan Desert and its relation to the mycobiota of Mojave Desert in time of rapid climate and environmental change	2866	2329	2262	2140	0
MSMT	SWAMP - Responsible water management in built-up areas in relation to the surrounding landscape	19423	13243	15304	14069	3534
MSMT	The evolution, diversity and hybridization of Acarosporaceae in southwestern North America: an integrative study using classical taxonomy, phylogenetics, and genomics	0	0	0	0	3137
MSMT	The understanding of long-term sustainability of ecosystem services of European floodplain forests	732	732	858	0	0
MVCR	Utilizing beetle larvae of family Silphidae in forensic practice	1126	2197	2243	2205	0
NAZV	Complex evaluation of the application of sewage sludge in agriculture with respect to emerging pollutants	0	0	1093	1103	1103
NAZV	Long-term test of the biochar application produced from waste biomass to solve drought in intensively farmed areas of the Czech Republic	1190	1162	1125	968	815
Norway grants	Grow safely – don't support invasive species	0	0	0	1701	1667

Norway grants	Implementation of floating green islands to improve nesting conditions for waterbirds and enhance the biodiversity of pond ecosystems	0	0	0	1966	2397
Norway grants	Pilot Farm Amálie – application of the smart landscape concept	0	0	0	7136	3065
Norway grants	Practical management of invasive species	0	0	0	1044	2250
TACR	Application of modified waste biomaterials for mine water remediation	1294	0	0	0	0
TACR	Conservation of amphibian biodiversity when emerging infectious diseases spread	0	925	1276	1243	0
TACR	Detection of infection forest bark beetle (<i>Ips typographus</i>) in advance using unmanned air vehicles	1537	0	0	0	0
TACR	Development of Invasive Alien Species Geoinformation Portal	930	0	0	0	0
TACR	Fishpond management optimization as a tool to biodiversity conservation under climate change	0	1515	2627	3199	359
TACR	Integration of information support for territorial and strategic planning	875	962	0	0	0
TACR	INV-FLOW: Technology for direct measurement of vertical groundwater flow and zonal quantification of well inflows based on electromagnetic flow induction	189	189	0	0	0
TACR	Modular system for complex monitoring of breeding behaviour and nest success in birds	2196	2972	670	0	0
TACR	Possibilities for updating map layers of NATURA 2000 biotopes using advanced remote sensing methods	0	685	1749	2126	577
TACR	Proof-of-concept activities 2 at CULS Prague	0	3650	8085	5283	0
TACR	Recreational purposes of Vltava River cascade and its economical potential under the climate change	518	461	370	411	0
TACR	Reducing the effect of light pollution on invertebrates	0	0	0	0	973
TACR	Small groundwater wells rehabilitation apparatus	0	171	673	673	697
TACR	ULTRA - technology for pumping well rehabilitation based on ultrasound emission	1140	1140	0	0	0
TACR	UV photocatalysis processes for degradation of micropollutants in drinking waters	0	0	0	0	942
TACR	Advanced data processing of airborne laser scanning for the purpose schematisation waterways for the needs of mathematical modeling	720	0	0	0	0
TACR	Application of traditional knowledge to halt biodiversity loss in woodlands	0	0	1742	1552	1889

TACR	Determination of hydropower potential of "Pico-Hydropower" in current and predicted climatic conditions of the Czech Republic	0	0	0	1085	1008
TACR	Development of Tools and methods improving Estimation of annual Evaporation balance	1038	1142	565	0	0
TACR	Changes of vegetation and structure of alder carrs and alder alluvial forests infected by alien pathogen Phytophthora alni and assessment of further development	0	0	0	1647	2304
TACR	Identification of important wintering sites of waterbirds, with a focus on the presence of conflict species and in the context of site protection, habitat characteristics and climate change	2354	2279	2118	2459	0
TACR	Multisensory datalogging as a tool for assessment of the impact of environmental changes on wildlife circadian activity	0	1237	3235	3063	746
TACR	Nanoremediation of contaminated soils: Technology implementation with respect to ecotoxicological aspects	0	0	3365	3459	3329
TACR	Rolling Waste: Environmental and behavioral research of music festivals participants' behavior	0	116	476	710	516
TACR	Safety mapping of the vegetation along the transport infrastructure	1087	1628	218	0	0
TACR	Solar potential of the Ústí nad Labem region: data for future methodologies and frameworks in the energy sector	0	0	0	0	539
TACR	Spatial management of urban shrinkage	731	1118	1068	0	0
TACR	System of landscape adjustments for adaptation of the agricultural (forestry) landscape to climate change in the period 2030+	3618	3206	3660	0	0
TACR	Technology of hydrographic network areal contamination assessment from agricultural land using multispectral and thermal imaging in high resolution, distributed interception and determination of exact causal rainfall in relation with soil physics	1497	1560	0	0	0
TACR	The military training areas over the time: More effective care in former military areas, based on evaluation of their utilisation and long-term biodiversity monitoring	0	0	1159	843	855
The Municipal Authority of the Capital City of Prague	Biological Survey of the Presence of the Lesser Firefly (<i>Lamprohiza splendidula</i>) in the Territory of Prague	0	0	0	72	78
The Municipal Authority of	Monitoring and Research of the Behavior of the Dryad Butterfly in Prokop Valley and Surroundings II	0	0	0	0	250

the Capital City of Prague						
The Municipal Authority of the Capital City of Prague	Satellite Images Serve Prague: Urban Temperature and Vltava River Water Quality	60	240	0	0	0
European Commission	EarthBridge - building bridges between Earth observation and Environmental Sciences	0	0	0	0	3 624
European Commission	Evaluation of "bioavailable" pool of Cd in soil by determination of Cd concentration and its stable isotope composition coupled with a single extraction procedure to decipher cadmium biogeochemical cycling in the soil-plant continuum	0	0	0	0	1571
European Commission	BEAST - Biodiversity dynamics across a continuum of space, time, and their scales (BEAST)	0	0	0	0	5 693
European Commission	COCOS - effects of climatic extremes on eCOsystem stability	0	0	0	324	1 743
Total		80 321 / 3 172	76 276 / 3 013	77 489 / 3 060	84 607 / 3 342	56 160 /2218
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
European Commission	TRACER - Smart strategies for the transition in coal intensive regions	558	838	686	198	0
European Commission	DALIA - Danube region water lighthouse action	0	0	0	0	2 125
European Commission	FRAMEwork - Farmer clusters for realising agrobiodiversity management across ecosystems	0	386	2131	2207	1987
European Commission	TRACER - Smart strategies for the transition in coal intensive regions	558	838	686	198	0
European Commission	Transformar - Accelerating and upscaling transformational adaptation in Europe: demonstration of water-related innovation packages			796	3183	3183
European Commission /MSMT	CULTIVATE - Co - creating cultural narratives for sustainable rural development	0	0	1093	2152	2165

²⁷ Ibid.

GACR	Dynamic tracking of drought events and their classification on the global scale - DynamicDrought	0	0	0	0	951
GACR	Environmental control on the rise and fall of the earliest land plant assemblages of Silurian volcanic islands of the Prague Basin (Czech Republic)	0	0	911	1095	987
GACR	Heat waves as three-dimensional phenomena	0	0	0	0	733
GACR	Riverine cultural landscape of the Jizera from the Mesolithic to the Early Middle Ages in the light of archaeological sources and hydrological data	0	0	0	562	1066
GACR	The role of sperm adaptation and sperm plasticity in ecological speciation	828	685	0	0	0
GACR	Towards the understanding of processes responsible for farmland biodiversity loss: insights from Central European birds	0	0	0	0	1404
INTERREG CZ - Poland	Grassland biomass as a renewable energy source – biodiversity – biomass – biogas	826	1 008	234	0	0
INTERREG CZ - Saxony	Springs connect landscapes and states – environmental education and cooperation in the Liberec-Zittau region	375	0	0	0	0
INTERREG CZ - Saxony	Sustainable management of grasslands to support biodiversity	1 705	0	0	0	0
MPOCR	Advanced sorbents for separation of microplastics and micropollutants from water	297	594	594	594	0
MSMT	Adaptive evolution and epidemiology of a parasite in the context of change in host behavior: the bed bug resurgence	778	938	758	557	0
MSMT	AgriClima: Adding value through piloting of the EU-CELAC climate services market in agriculture	120	210	130	40	0
MVCR	Evaluating risk of wildfires and the risk reduction in case of wildfires in the vicinity of drinking water reservoirs under present and future climate.	0	653	1 081	0	0
MVCR	Disposal of radiation-contaminated biomass after NPP accident-distribution, logistic of harvesting, exploring in biogas technol.	1 512	1 464	0	0	0
MVCR	Optimization of procedures for realization of crop production in the region affected by a nuclear accident	830	1 966	1 841	1 656	0
NAZV	Conditions of growing maize on highly erosive threatened soil	0	0	0	1 391	1 093
NAZV	Finding DZES 5 measures to protect agricultural land from wind erosion and land drying	0	0	0	0	495
NAZV	Identification of surviving individuals of forest tree species in calamity areas, their rescue and research of their resistance	0	0	0	249	249

NAZV	Implementation of BPEJ innovations into the system of state administration	0	0	0	1505	1496
NAZV	Optimizing management of forest regeneration on sites affected by surface mining	1006	834	770	0	0
NAZV	Rational sowing area on soil blocks within setting conditions of GAEC to support sustainable management in the Czech Republic.	0	0	1500	1500	1500
TACR	Adaptation of urban areas to flash floods and droughts	0	0	0	0	58
TACR	Biorefining as circulation technology	350	3 466	3 261	1 854	0
TACR	Constructed wetlands on agricultural drainage systems for enhancement of landscape's water residence time and improvement of water quality	901	788	0	0	0
TACR	Implementation of new methodological procedures in soil protection against erosion	0	0	0	261	639
TACR	Management optimisation of the Elbe lower reach with respect to the presence of 3270 biotope and improvement of the hydromorphological state as based on an interdisciplinary study.	0	0	1 043	1 396	1 044
TACR	Occurrence of perchloroethylene and its daughter products in selected environmental compartments	497	232	0	0	0
TACR	The development of tool for identification of the main water management risks at the Dyje basin and the methodology addressing their systematic solution in the conditions of climate change	0	39	719	722	259
TACR	Utility and risk of irrigation over the Czech Republic in changing climate	0	161	311	390	480
TACR	Water systems and water management in the Czech Republic in conditions of climate change	0	292	904	1786	817
TACR	Availability of drinking water for the inhabitants of small municipalities as an indicator of the socio - economic development of the company	439	444	454	0	0
TACR	Center for Landscape and Biodiversity	0	0	6 102	7 025	8 057
TACR	Development of software for calculation of evaporation from open water surface for conditions of the Czech Republic	916	0	0	0	0
TACR	Changes of vegetation and structure of alder carrs and alder alluvial forests infected by alien pathogen Phytophthora alni and assessment of further development	0	0	0	715	932
TACR	Integrated bio-farming and green infrastructure towards smart and responsible resource management: the Hydrosphere-Pedosphere link	0	0	0	1300	1460

TACR	Interdisciplinary approaches to efficient rainwater management on development sites of urban areas in the economic, social and environmental context	0	0	707	698	681
TACR	Monitoring and evaluation of risk phenomena in the vicinity of transport infrastructure using remote sensing	0	0	948	1 213	1 259
TACR	Sustainable recycling of sewage sludge - Usti region	0	1043	1 585	1 835	1 946
TACR	The system of a timely prediction of flash floods based on the direct measurement of infiltration	320	400	0	0	0
The Municipal Authority of the Capital City of Prague	PowerHUB – Technology Transfer	1 422	2300	0	0	0
The Municipal Authority of the Capital City of Prague	Science and Research Outputs for Environmental Practice	6 633	2 587	0	0	0
The Municipal Authority of the Capital City of Prague	Tools for Effective and Safe Rainwater Management in Prague – RainPRAGUE	3 275	3 714	942	0	0
Total		24 146 / 954	25 880 / 1 022	30 187 / 1 192	36 606 / 1 446	49 697 / 1 963

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Water Research Institute	Support for the natural habitat and occurrence of the freshwater pearl mussel (<i>Margaritifera margaritifera</i>) in the Malše river basin – Contract 8015/ATCZ37 Hyporeal	579				
The Bohemian Switzerland National Park	Study preparation: Analysis of runoff conditions and the development of the hydrological balance in a selected part of the Elbe river basin under climate change conditions.	200				
Nature Conservation Agency of the Czech Republic	Study preparation: Genetic analysis of samples collected from the Green Lizard (<i>Lacerta viridis</i>) population in the Elbe River canyon within the protected landscape area České středohoří.	82				

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

Town of Černošice	Territorial study of the landscape of the administrative district of ORP Černošice	2 610				
Beleco, z.s.	Strengthening and protection of the pearl mussel population in Šumava National Park contract research on the project	2 910	2 422	2 397		
Mendel University in Brno	Implementation of the compression experiment, data evaluation and collaboration on the preparation of the publication	22				
Water Research Institute	Construction of a coupled hydrological and water balance model	950				
Vodohospodářský rozvoj a výstavba a.s.	Vrchlice reservoir basin - water resources and their per	168				
LESY ČESKÉ REPUBLIKY, s.p.	Phase I of the project "Smart Landscape II: Forest landscape in Amálie - Phase I"	1 942				
Nature Conservation Agency of the Czech Republic	Structure and content of phenomenon No 17 Landscape character area	64				
CAPITAL CITY PRAGUE	Field survey, data processing, results processing, final outputs processing	49				
UNIS, a.s.	Authorization of the environmental impact assessment of the export project "Construction of the MEROX unit" in the country of final destination	85				
UNIS, a.s.	Authorization of the environmental impact assessment of the export project "Construction of the MEROX unit" in the country of final destination	160				
ENERGO - PRO a.s.	authorization of the environmental impact assessment of the export project "Construction of the MEROX unit" in the country of final destination	92				
Nature Conservation Agency of the Czech Republic	Feasibility study Use of spontaneous succession as an effective tool for ecological restoration of the CSA quarry		186			
Ministry of Transport	SEA - Environmental impact assessment of the operational programme transport for the programming period 2021 - 2027		117			
Mendel University in Brno	Sampling in the field, photo processing, digital image analysis, cooperation on the preparation of the publication.		24			
Water Research Institute	Finalisation of the linked hydrological and water balance model.		1 100			
Vodohospodářský rozvoj a výstavba a.s.	Vrchlice reservoir basin. Construction of a hydrological model of the basin using available data. Measurement of evaporation and evaluation of measurement data.		168			
Technical University of Ostrava	Contract research		107			
CAPITAL CITY PRAGUE	Contract research		99			
Institute of Hydrodynamics CAS	Determination of soil hydraulic properties		12			

Global Change Research Institute CAS	Processing of data/outputs from numerical model predictions using neural network methods to minimize their systematic error with respect to observed reference data.		171			
Global Change Research Institute CAS	Processing of data/outputs from climate models contained in the CORDEX database using neural network methods to minimize their systematic error with respect to the observed data.		158			
Municipal district of Prague 8	Creation of a draft of the substantive part of the opinion, determination of the basic concept of the development of the municipality, creation of a landscape and background study		1 500			
QARTA ARCHITEKTURA s.r.o.	Full text of the Structural Plan of the Municipality of Prague 5"		745			
Global Change Research Institute CAS	Providing access to hydrological forecasts 17.8.2020 - 30.9.2020.		330			
Panattoni Czech Republic Development s.r.o.	Research on soil loading by road traffic. (Analysis of polyaromatic hydrocarbons, sum of PCBs, metal contaminants, Pb isotopes)		68			
Ministry of Transport	Evaluation of the effects of OP Transport for the programming period 2021-2027 on the environment		258			
CAPITAL CITY PRAGUE	Preparation of studies and project documentation		485			
MINISTRY OF REGIONAL DEVELOPMENT	Evaluation of the impact of the Integrated Regional Operational Programme for the programming period 2021-2027 on the environment.		228			
Frank Bold Society, z.s.	Assessment of the EIA documentation concerning the continuation of lignite mining at the Turow mine in Poland.		190			
B-PROJEKTY Teplice s. r. o.	Ensuring the environmental assessment of the Partnership Agreement for the programming period 2021-2027 (SEA process),		230			
CAPITAL CITY PRAGUE	Supply of 2 smart birdhouses, services related to installation and commissioning of 2 smart birdhouses, services related to operation and maintenance of 10 smart birdhouses		63			
Research Institute for Soil and Water Conservation	Consideration of new principles of land management focused mainly on water management, ecological and soil conservation measures in order to reduce the impacts of climate change.		700			
Energotrans, a.s.	elaboration of the sustainability study "Long-term sustainability and adaptation of ecosystems to climate change and other disturbance factors at the Mělník - Panský les brown coal power plant tailings site",		200			
Water Research Institute	A commitment to participate in the finalisation of the linked hydrological and water balance model in accordance with the contract and its annexes.		500			
MINISTRY OF REGIONAL DEVELOPMENT	Ensuring the environmental assessment of the Partnership Agreement for the programming period 2021-2027 (SEA process),		415			
Municipal district of Prague 9	Study of the revitalization of the slopes of Klíčov.		25			

Vodohospodářský rozvoj a výstavba a.s.	Ensuring the 1st stage of the SEA process, preparation of the concept note, carrying out the SEA Screening Procedure			200		
Asociación Red Cambera	Laboratory analysis of 358 swab samples in order to detect the presence of the pathogen Batrachochytrium salamandrivorans.			122		
Sweco Hydroprojekt a.s.	Settlement of the comments from the SEA process of the sub-basin plans, i.e. the Upper Vltava sub-basin, the Berounka sub-basin, the Lower Vltava sub-basin and the sub-basins of other tributaries of the Danube.			320		
CAPITAL CITY PRAGUE	Analysis of the building Slánská 1678/20 Řepy.			100		
CAPITAL CITY PRAGUE	Expert advice for building temporary adaptation mitigation measures.			134		
CAMPUS HYBERNSKÁ	Elaboration of the conceptual part of the green infrastructure project in the Hybernská 4 building in cooperation with architects.			83		
CAPITAL CITY PRAGUE	Project documentation for the announcement for the construction of green infrastructure in the Florenc locality			148		
AQUA PROCON s.r.o.	Study of extreme assessment and stress rainfall with climate change impact on the territory of the capital city of Prague.			202		
Nature Conservation Agency	Imaging of forest stands in the Lusatian Mountains Protected Landscape Area			145		
Andrle architekti s.r.o.	Budget and DPS implementation of the greening of the apartment building on plot No. 820/15 in Prague 5 according to the documents provided.			36		
Mendel University in Brno	Editing of photographs for advanced analysis, quantitative image analysis in R, collaboration on preparation of a publication.			50		
Institute of Botany CAS	Laboratory test for macronutrient availability of the fertiliser tested.			150		
Water Institute for Soil and Water Conservation	Pilot project JPÚ Ruda u Nového Strašecí - preparation of water regime documents for the analysis of the current state - survey of the area."			300		
CAPITAL CITY PRAGUE	Temporary educational exhibition of green infrastructure in Florenc.			278		
Panattoni Czech Republic Development s.r.o.	Research on soil loading by road traffic. (Analysis of inorganic contaminants, isotopic and polyaromatic hydrocarbons)			185		
Bioesence s.r.o.	Engineering for PD			100		
Ministry of Transport	Assessment of the effects of the OP Transport for the programming period 2021-2027 on the environment - phase III			94		
Ústí region	Preparation of a preparatory study "The future of the environment in the Ústí nad Labem Region".			1 383		
Municipal district of Prague 3	Student collaboration Landscape Planning Studio Part 1,2			21		
Beleco, z.s.	Strengthening and protection of the pearl mussel population in Šumava NP Part 1 - breeding			1 142		
CAPITAL CITY PRAGUE	Services related to the operation and maintenance of 10 smart birdhouses in the month of June 2022.			64		

Municipal district of Prague 9	Preparation of a comprehensive analysis/comparison of texts for the joint discussion of the draft Metropolitan Plan in 2018 and for its public discussion in 2022 "Analysis of green space solutions".				220	
TU-Delft	Case study (ESPON); Baancode AUR AUR403/COMPASS				113	
Nature Conservation Agency	Feasibility study Prioritisation and identification of areas for ecological restoration for the area of the CSA quarry".				186	
Nature Conservation Agency	Analysis and evaluation of the suitability of the Vršany quarry				125	
LESY ČESKÉ REPUBLIKY, s.p.	Sub-output No. II K2 containing information on the progress and results achieved in the second stage of the project "Smart Landscape II - Forest Landscape in Amálie Phase I".				744	
LESY ČESKÉ REPUBLIKY, s.p.	Study "Smart Landscape II: Forest Landscape in Amálie - Stage I".				2 510	
Vodohospodářský rozvoj a výstavba a.s.	Consultation on pedological data "Pedology SWAT"				11	
Povodí Ohře, státní podnik	Impact assessment of the Lower Elbe Ohře River and other tributaries of the Elbe River sub-basin plan 2021-2027.				270	
Vodohospodářský rozvoj a výstavba a.s.	Consulting and review activities for the purposes of the Impact Assessment of the Sandberg Sandpit Revitalization on the Tři Dvory intake area in the time scope				20	
Vodohospodářský rozvoj a výstavba a.s.	Preparation of the documents and drafting of the Upper and Middle Elbe sub-basin plan and the plan for the sub-basin of the Lužické Niva and other tributaries of the Oder. Environmental impact assessment of the concept.				200	
MINISTRY OF REGIONAL DEVELOPMENT	Completion of the environmental and public health impact assessment process. Preparation of the Declaration pursuant to Section 10g.(5) of the Act. Publication of the final Concept and documents according to § 10g, distribution of information about the publication to the municipalities and the competent authority.				218	
Vodohospodářský rozvoj a výstavba a.s.	Preparation and submission of the "Regional strategy of adaptation measures of the Pilsen Region for water retention in the landscape".				250	
Municipal district of Prague 8	Consulting activities on background studies and strategic materials and commenting on the activities of the Prague 8 Municipal District on spatial planning documents and spatial planning documentation of the City of Prague.				490	
Umweltbundesamt GmbH	Preparation and coordination of the outputs of WP 2 - Review of scientific knowledge on the conservation of flagship birds (CZU as WP leader); preparation and organization of the 2nd national workshop; participation in project meetings and meetings with the EC; drafting of national				237	

	conservation schemes; dissemination and communication activities. Duration: 1. 11. 2021 - 11. 10. 2022.					
Sweco Hydroprojekt a.s.	Environmental impact assessment process SEA, plans of the Berounka, Lower Vltava, Upper Vltava and Danube sub-basins.				660	
Ředitelství silnic a dálnic	Multicriteria analysis of D0, construction 518-519, Ruzyně-Suchdol-Březiněves.				220	
Municipal district of Prague 9	Study - Strategic alternatives for the transformation of the "New Elektra" area.				150	
Vršanská uhelná a.s.	Analysis of natural succession potential of Vršany quarry restoration.				105	
Vršanská uhelná a.s.	Analysis of natural succession potential of Vršany quarry restoration.				190	
BIOWA s.r.o.	Design of a standardized construction of a multi-chamber septic tank for 50-250 EO.				150	
Municipality of Nové Dvory	Preparation of the contract - documents for the project documentation				125	
HELMHOLTZ-ZENTRUM FUER	Data collection April - June 2022 according to the purchase order 4500168267 / 08.06.2022.				193	
HBH Projekt spol. s r.o.	Preparation of the basis for the Pohořelice-VN Nové Mlýny project				206	
CAPITAL CITY PRAGUE	Drought and water scarcity management plan for the territory of the capital city Prague"				1 653	
Vodohospodářský rozvoj a výstavba a.s.	Preparation of documents and construction of the work - Plan for drought				173	
Elementary school, Praha 13, Mohylová 1963	Project documentation				81	
VODOSTAV OSTRAVA, spol. s r.o.	3x author's supervision 6x supervision, consultation on the selection of contractors				71	
Vodohospodářský rozvoj a výstavba a.s.	Preparation of documents and preparation of the Hydrosoft feasibility study				634	
1627 Services s.r.o.	Preparation of a feasibility study for a rooftop KCOV plant				45	
Office of the municipal district of Prague 5	Assessment of the draft Metropolitan Plan for public discussion in the territory of Prague 5 from the point of view of the environment and the protection of greenery				64	
Grinity s.r.o.	Preparation of a study - information on the resulting balance of carbon storage through the wetland area.				36	
Letiště Praha, a.s.	Monitoring of the Únětice and Kopaninsky brooks - autumn sampling.				142	
Ředitelství silnic a dálnic	Technical options and maintenance studies for DUN, RN and wetland features.				76	
Office of the municipal district of Prague 5	Proposal to update the structure of the description of urban localities and sub-localities in the Update of the Structural Plan of the Prague 5 Municipal District.				56	

Office of the municipal district of Prague 5	Proposal for updating the structure of the description of urban localities and sub-localities in the Update of the Structural Plan of the Prague 5 Municipal District.				70	
Office of the municipal district of Prague 5	Proposal for updating the structure of the description of urban localities and sub-localities in the Update of the Structural Plan of the Prague 5 Municipal District.				84	
Office of the municipal district of Prague 5	Proposal for updating the structure of the description of urban localities and sub-localities in the Update of the Structural Plan of the Prague 5 Municipal District.				105	
Office of the municipal district of Prague 5	Proposal for updating the structure of the description of urban localities and sub-locations in the Update of the Structural Plan of the Prague 5 Municipal District.				49	
Vodohospodářský rozvoj a výstavba a.s.	Preparation of the documents and drafting of the Upper and Middle Elbe sub-basin plan and the plan for the sub-basin of the Lužické Niva and other tributaries of the Oder. Ensuring public consultation on the draft concept for the purpose of issuing an opinion on the concept.				100	
The Prague Botanical Garden	Supply of substrate - securing					8
UNIV. SANTIAGO DE COMPOSTELA	Pb Stable isotope analyses					130
Ministry of Environment	Preparation of documents for the preparation of the National Pollinator Strategy when issuing the opinion on the concept.					90
CAPITAL CITY PRAGUE	Fulfilment according to the order - Birds online 2023 fulfilment includes delivery of services related to operation and maintenance of 6 pcs of smart birdhouses					131
Hnutí DUHA Šelmy	Monitoring of large carnivores in the Czech Republic 2022-2023 in 21 selected monitoring quadrants					258
Municipality of Ledce	Geodetic survey of the water feature					35
Czech Union for Nature Conservation	Ensuring veterinary readiness in the operational management of procedures for problematic or handicapped large carnivores according to Article 3.1.1					85
Frankfurt School of Finance & Management gGmbH	Consulting services - Series of climate risk analysis					1 115
Vodohospodářský rozvoj a výstavba a.s.	Training and consultancy activities for the departments of hydrology, erodology and river basin management using the SWAT model.					33
CAPITAL CITY PRAGUE	Malešice Farm Reclamation Study					148
Správa železnic	Providing expert ecological supervision during the implementation of the construction "Optimisation of the line section Děčín East (outside) - Děčín - middle Žleb (outside)".					193
Beleco, z.s.	Professional excursion to the Amalia research site with expert commentary.					26

Umweltbundesamt GmbH	Overview of national workshop					302
CAPITAL CITY PRAGUE	Pollution survey in the former farm Malešice Prague					625
Archbishopric of Prague	Preparation of the energy performance certificate of the Prague Archbishopric building					43
Municipality of Nedrahovice	Study and proposal of measures for elimination of the undesirable phenomenon of water erosion, siltation and eutrophication of the newly realized water reservoirs on the Trkovský brook in the municipality of. Kamenice u Nedrahovic.					199
HELMHOLTZ-ZENTRUM FUER	Identification to species for bees + hoverflies. Preparation of the final report for sharing of the final dataset.					51
Municipality of Mukařov	Preparation of a study for the cleaning of the OV village Mukařov					164
Elementary school, Praha 13, Mohylová 1963	Documents for SP Primary School Mohylová					54
VODOSTAV OSTRAVA, spol. s r.o.	Participation in the handover of the construction 2x communication of MaR installation, 3x participation in the KD, training of operators, preparation of the Operating Regulations.					57
Ing. Josef Minařík	Participation in the handover of the construction 2x communication of MaR installation, 3x participation in the KD, training of operators, preparation of the Operating Regulations.					105
1627 Services s.r.o.	Author's supervision in the follow-up phases of design preparation and implementation for the Ambrozova project.					17
Municipality of Běštín	Preparation of project documentation for the DÚR + DSP for the Revitalization of the Běštín Fire Reservoir.					165
Town of Spálené Poříčí	Renewal of sewage tanks - septic tank of a residential building					710
Town of Spálené Poříčí	Preparatory work, orientation, coordination of works according to the project - septic tank of kindergarten					452
Office of the municipal district of Prague 5	Proposal to update the structure of the description of urban localities and sub-localities in the Update of the Structural Plan of the Prague 5 Municipal District.					24
Office of the municipal district of Prague 5	Draft structure of the description of landscape localities and sub-localities in the Update of the Structural Plan of the Prague 5 Municipality.					30
Office of the municipal district of Prague 5	Draft methodology for elaboration of the blue-green infrastructure concept in the Update of the Structural Plan of the Prague 5 Municipality.					36
Office of the municipal district of Prague 5	Proposal of the database structure for the Update of the Structural Plan of the Prague 5 Municipal District.					45
Office of the municipal district of Prague 5	Evaluation of the spatial projection of the Strategy 2030+ for the Update of the Structural Plan of the Prague 5 Municipal District.					21

Office of the municipal district of Prague 5	Update of the Structural Plan of the Prague 5 Municipal District.					1 000
Archbishopric of Prague	Preparation of the energy audit of the Archbishopric of Prague					150
AQE legal, s.r.o.	Preparation of a study evaluating the possibilities of installing PV power plants in the Prague 17 municipality.					50
JUROS, s.r.o.	Elaboration of documents for the assessment of landscape impact Analysis of the current appearance of the area, visibility analysis and visualisation analysis.					770
Water Research Institute	Analyses of the hydrological balance and extremes based on the supplied set of climate scenarios in the range of					1 150
Nature Conservation Agency	Food analysis of common wolf (Canis Lupus) faeces from samples collected in the period 2019-2022 in the Czech Republic					83
ISES,s.r.o.	Preparation of the concept notification pursuant to Section 10c of Act No. 100/2001 Coll., on Environmental Impact Assessment, as amended, for the documents Updating Waste Management Plans for the Pardubice and Pilsen Regions.					120
VINCI Construction CS a.s.	Excursion "The clever landscape of Amalia"					56
Šumava National Park	Management plan for the MZCHÚ in the Šumava Protected Landscape Area NPP Blanice and Spring Blanice II".					451
Municipality of Růžová	Project documentation single-stage submission of the application for subsidy to the 19th call for proposals OPŽP Engineering activities					109
Vodohospodářský rozvoj a výstavba a.s.	Preparation of the analytical and design part - plan of the ÚSES of the Orlické Mountains Protected Landscape Area.					44
Vodohospodářský rozvoj a výstavba a.s.	Elaboration of the analytical and design part - plan of the ÚSES of the Protected Landscape Area Moravský Kras, Pálava.					61
Vodohospodářský rozvoj a výstavba a.s.	Elaboration of the analytical and design part - plan of the UES of the Broumovsko Protected Landscape Area.					112
Vodohospodářský rozvoj a výstavba a.s.	Elaboration of the analytical and design part - plan of the UGS of the Jeseníky Protected Landscape Area.					102
Vodohospodářský rozvoj a výstavba a.s.	Elaboration of the analytical and design part - plan of the Beskydy Protected Landscape Area.					283
Vodohospodářský rozvoj a výstavba a.s.	Elaboration of the analytical and design part - plan of the Czech Central Highlands and Lusatian Mountains UGS.					324
Vodohospodářský rozvoj a výstavba a.s.	Preparation of the analytical and design part - plan of the Czech Paradise Protected Landscape Area.					47
Vodohospodářský rozvoj a výstavba a.s.	Elaboration of the analytical and design part - the plan of the ÚSES of the Jizera Mountains Protected Landscape Area.					96

Šumava National Park	Inventory of pearl mussel populations and detailed monitoring of sites within the project entitled "Support of the pearl mussel population in Šumava - Monitoring of aquatic macrophytes.					138
Office of the municipal district of Prague 5	Revision of the structure of the Structural Plan of the Prague 5 Municipality.					100
Office of the municipal district of Prague 5	Addition of key layers and chapters corresponding to key requirements.					80
Office of the municipal district of Prague	Fulfilment of Order 03_23 Clarification of requirements for the layout of procedurally stabilized areas of the Prague 5 Municipality					85
Office of the municipal district of Prague 5	Fulfilment of Order 04/23 Specification of requirements for the public space system.					95
Office of the municipal district of Prague 5	Fulfilment of Order 04/23 Specification of requirements for the public space system.					70
Šumava National Park	Inventory of pearl mussel populations and detailed monitoring of sites within the project entitled "Support of the pearl mussel population in Šumava - Inventory of pearl mussel populations and detailed monitoring of sites".					85
Frankfurt School of Finance & Management gemeinnützige GmbH	Series of climate risk analysis to fulfil the risk assessment need and eventually provide recommendations on the adaptations strategies that could be implemented to mitigate the risk by climate and socio-economic changes in Pakistan					1080
European Commission	Developing tools to support farmland bird conservation in the EU			200	220	271
European Commission	Supporting the recovery of bird species of Annex II of the Birds Directive in non-secure conservation status					1413
Ministry of Foreign affairs (CR)	Supporting the implementation of the 2030 Agenda for Sustainable Development and its goals					50
Total		9 913 /392	7 139 / 282	8 227 / 325	14241 / 562	13827 / 546

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

²⁹ See Terms definition.

Self-assessment:

In the monitored period, thanks to the financial support of the projects, a total of 99 applied results with social impact without direct economic impact were realized. Compared to the previous evaluation period, there was an almost 25% increase in the number of applied results.

The outputs take into account the gender dimension as they serve a wide range of users free of charge, regardless of gender and age.

The recipient of the output is often the state or public administration and there is usually no market for the application of the results. Of course, most of the results also have an indirect economic impact, which is often not easy to quantify, but often falls under ecosystem services.

1. Multisenzoric Datalogger for Wildlife Monitoring

Multisensory datalogger DAL was developed with the financial support of the TACR project Multisensory datalogging as a tool for assessment of the impact of environmental changes on wildlife circadian activity. Its development was motivated by the absence of a detailed miniature and multifunctional device on the market. It is a unique miniature (~1g) device usable also for very small species, e.g. amphibians, reptiles, birds and mammals from 20 g weight upwards. Compared to alternative existing devices of comparable size and at a similar price level, it combines an unprecedented sensor suite, flexible setup and high battery life with an integrated VHF transmitter. This unique combination enables the measurement of temperature, humidity, light, pressure, motion (accelerometer) and orientation (magnetometer) along with the ability to accurately and reliably locate using conventional radiotelemetry.

DAL excels in the high flexibility of adjustable timing attributes and thresholds for all sensors in multiple switchable modes, ensuring maximum efficiency and endurance for specific tasks. In addition, the device is dust- and water-resistant, enabling data collection in a variety of environments. Acquired data can be visualized in freely available software, and animal behaviour can be analysed even without in-depth knowledge of statistical analysis.

The instrument was specifically applied in research, and the results obtained with it were published in 2 prestigious biological journals (Fortiers Zoology, Animal Behaviour). DAL is used by Dvůr Králové nad Labem Zoo for ex situ monitoring of rare captive bird species and also by Dubai Municipality for monitoring the welfare of selected birds in Al Marmoom Reserve near Dubai.

<https://www.fzp.czu.cz/en/r-9411-projects-and-partnerships/r-9880-projects/r-16471-multisensory-datalogging-as-a-tool-for-assessment-of-the-impact-of-environmental-changes-on-wildlife-circadian-activity>

2. MetalRem S "Technology of application of sulfidated nano zerovalent iron with thermally stabilized sewage sludge for immobilization of Cd, Pb and Zn in contaminated soils"

The proven technology represents an environmentally and economically friendly solution for the comprehensive remediation of heavily contaminated soils. The technology has undergone the EU Environmental Technology Verification (ETV) approval process and allows the use of a combination of sulphidated elemental nano-iron (SnZVI) and heat stabilised sewage sludge to reduce the mobility and availability of potentially hazardous elements in contaminated soils. In addition to the direct effect on the immobilization of target elements, biological and toxicological parameters are improved, organic matter content is increased, soil microorganisms are increased and the attractiveness to earthworms is enhanced. The result was obtained within the international EEA Grants project in cooperation with Norwegian partners, Charles University and Dekonta, a.s. FZP CZU is the main author of the result.

The result will be practically used in the cooperation of the academic and commercial sphere represented by Dekonta, a.s. with the customer network both in the Czech Republic and abroad (including subsidiaries in Slovenia, Serbia and Romania, Bosnia and Herzegovina). In addition, the company has an extensive network of local key experts in the region of South East and Eastern Europe and Central and East Asia.

<https://metalrem.fzp.czu.cz/en/r-17160-news/new-methodology-metalrem-s.html>

3. Software for Interactive Assessment of Recreational Use of the Vltava Cascade in the Context of Climate Change

The software application was developed with the support of the TACR project Recreational purposes of Vltava River cascade and its economic potential under the climate change. The software application brings significant benefits in strategic planning, economic analysis and education. It supports decision making on water level management and prioritization between the different functions of the cascade, quantifies the economic impacts on the recreational sector and the regional economy in the context of climate change. This publicly available web application is an innovative solution for analysing and visualising the complex impacts of climate change on the Vltava Cascade.

The outputs of the software application were used as supporting arguments in the decision-making process for the construction of a large construction investment of the Vltava River Basin State Enterprise "Orlík Hydroelectric Station - protection against the effects of large waters". The application can also be useful for many other subjects, e.g. in the field of spatial planning or tourism. The principle of the application is applicable to other water works in Europe and worldwide, provided that complete datasets of the area under consideration that enter the application (hydroclimate, water management data, critical points for navigation, recreation) are available.

<https://starfos.tacr.cz/en/vysledky-vyzkumu/RIV%2F68407700%3A21110%2F22%3A00365636>

4. Utilizing Beetle Larvae of Family Silphidae in Forensic Practice: Breeding of Developmental Stages Under Laboratory Conditions

The certified methodology represents a standardized process for rearing lower developmental stages of forensically important beetles under laboratory conditions, for scientific and expert examination in determining the insect's time of colonization (TOC) or post-mortem interval (PMI).

An invaluable contribution of the certified methodology is the extension of the possibilities to detect post-mortem body tampering based on the species composition of the beetle communities found at the crime scene. At present, these findings are already used by the Criminalistics Institute of the Police of the Czech Republic and the Swiss Human Institute of Forensic Taphonomy. The standardised procedures of this methodology are also of practical use in solving cases of poaching and killing of specially protected animals. This methodology was developed with the support of the project of the Ministry of Interior of the Czech Republic Utilizing beetle larvae of family Silphidae in forensic practice.

5. Equipment for Reducing Anthropogenic Load From Grey Water

This utility model is a low-cost and effective solution for grey water treatment and enables its reuse in households, including irrigation of gardens, agricultural areas and public green spaces. Recycling grey water is a key element of sustainable urban water management. This measure effectively reduces the pressure on our sewerage systems and wastewater treatment plants, while contributing to better availability of drinking water.

The technical solution was developed in cooperation between the FZP CZU and Dekonta, a. s. and offers an innovative and sustainable approach to the reuse of grey water. It has already been used commercially in the following public contracts: Elementary School Mohylová, Prague, Revitalization of

sports fields and public spaces in the village of Růžová - customer, municipality of Růžová, Ústí nad Labem Region, Study "Blue-Green Infrastructure" Restoration of the Malešice farm; grey water use, rainwater management, optimization of the design of public spaces and greenery - customer: the City of Prague, Study "Water management solution for motorway rest areas" - customer: the Road and Motorway Directorate of the Czech Republic. The technical solution of the utility model is further used in the TransformAr project (TransformAr - Accelerating and upscaling transformational adaptation in Europe: demonstration of water-related innovation packages), which is funded by the European Union.

6. Beetle2images Application

The application is based on the methodology certified by the Ministry of Agriculture - Detection of forest infestation by unmanned aerial vehicles. The combination of the certified methodology with modern technologies has created an effective tool for advanced two-image detection of potentially bark beetle infested trees in the form of a web application. This is a successful implementation of the research results in practice. The application allows to obtain results from the underlying data within minutes, can identify infested trees and provide the forest manager with the necessary information in map documents for the desired remediation. The result was supported by the TACR Proof-of-concept activities 2 project at CZU Prague.

The application confirmed that the method used so far to monitor continuous forest areas using available commercial satellite or aerial imagery does not achieve the necessary spatial resolution for individual tree-level detection. Therefore, the use of unmanned aerial vehicles is an ideal method that allows to take very high spatial resolution images at an affordable cost, even with a potentially large number of repetitions. The early identification of bark beetle infested trees will allow for the rapid application of appropriate management measures, thus reducing both economic and environmental impacts.

<https://kurovec.czu.cz/en>

7. Pluzina Field Patterns - Land Tenure from Middle Ages to the Present Day

The software was developed with the support of the project of Ministry of Culture Identification and preservation of historic field patterns. This software is a unique tool providing information about historic field systems to the professional and public. At the same time, it allows verified users to display this data in the context of the historical development of the landscape, and to continuously update it. The software includes a database created by the author's team, which contains detailed spatial and descriptive data for each of the approximately 6,000 preserved remains of historic fields in the Czech Republic. The software is used by landscape and land management planners, state and local government authorities, as well as by ordinary visitors to the landscape. Data added to the system by its users within the framework of citizen science will be used in Czech and international scientific studies. As it is the only system of its kind in Europe, negotiations are currently underway with foreign partners to extend it to other European countries (Austria, Poland have already been promised).

<https://www.fzp.czu.cz/en/r-9411-projects-and-partnerships/r-9880-projects/r-13325-identification-and-preservation-of-historic-field-patterns#i-d41296e46a7324f6cc171f27ca576572>

8. Kinematix - Solver for Kinematic Wave Equation and Transport of Solutes Equation Using Least Square Finite Element Method

Within the framework of the TACR project Technology of hydrographic network areal contamination assessment from agricultural land using multispectral and thermal imaging in high resolution, distributed interception and determination of exact causal rainfall in relation with soil physics, the

Klimatix software was developed to solve the coupled problem of surface runoff and transport of miscible substances, which usually form components of nitrogen fertilizers. The ability to predict surface water pollution from field runoff is essential for the management of water resources and their use for drinking water treatment. Heavy pollution of surface waters with macrobiotic elements N, P and K creates a risk of undesirable eutrophication of waters. The ability to predict these phenomena is an essential basis for the design of land use planning to minimise the impact of intensive agriculture on the status of our surface waters.

The program is freely downloadable and distributed as source code, which can be modified at any time to suit individual needs. It is an innovative solution of the kinematic wave equation using the so-called "Least-square-finite-element method".

<https://starfos.tacr.cz/en/vysledky-vyzkumu/RIV%2F60460709%3A41330%2F20%3A84571>

9. Monitoring of Invasive Alien Species Risk Spreading to Localities of High Interest

The methodology contains a procedure for monitoring the threat of invasive non-native species (IAS) to sites of interest. The methodology describes the procedure for determining the level of risk of IAS spread, assessing the threat to sites of interest and suggests options for further management of IAS. The methodology discusses in detail the input data, factors influencing the further spread of the species, such as type and location of occurrence, population vigour of the species, invaded habitat, habitat threat, spread vectors and prediction options. Species distribution prediction is based on knowledge of the biology and ecology of each species in relation to environmental characteristics and processed into map outputs from distribution models. For this purpose, it is possible to use already existing map layers (consolidated ecosystem layer of the Czech Republic, Natura 2000 habitat mapping) and the Geoportal of Invasive Non-native Species, which together with the methodology was created within the TACR Development of Invasive Alien Species Geoinformation Portal project. The main contribution is to make information on the expected further spread of IAS and its prediction available to state administration authorities (MoE and other nature protection authorities) and other state and public administration institutions at the local level. The methodology critically assesses the possibilities of protecting sites from the spread of IAS and eradicating invasive species for each taxonomic group. The proposed procedures facilitate the state administration and nature conservation authorities to take care of specially protected areas and ensure the protection of natural habitats from the spread of invasive non-native species. The methodology will be a tool to ensure the obligation of the Czech Republic under the EP and Council Regulation No. 1143/2014.

<https://starfos.tacr.cz/en/vysledky-vyzkumu/RIV%2F60460709%3A41210%2F19%3A80162>

10. Floating Evaporimeter

The utility model was developed with the financial support of the TACR project Development of Tools and methods improving Estimation of annual Evaporation balance. The low-cost floating evaporimeter, by its cost (5-10 times lower than available equipment) and simplicity, allows catchment companies and water authorities access to time series of actual evaporation from reservoirs and will bring advances in evaporation research not only at a local but also at a national level and will lead to increasingly realistic knowledge of the process within the country. Knowledge of evaporation is very important for determining the balance of water resources in a catchment and for studying the impacts of climate change. Unlike standard floating evaporimeters, which are usually mounted on a floating platform and measure water loss in a container, the instrument developed is self-floating. The measurement of evaporation is based on the detection of the immersion depth of the evaporation vessel.

A prototype of the evaporator is installed in the Vrchlice reservoir, which serves mainly as a source of drinking and utility water for the Kutná Hora and Čáslav regions, as part of testing by VRV (Vodohospodářský rozvoj a výstavba a.s.). Currently, a commercial version is being developed by BLUE BEATLE s.r.o. and this version is used in the smart landscape concept. <https://cvpk.czu.cz/en>

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Maps	2019	Map of Potential Pedogenesis in Sokolov Spoil Heaps
Maps	2019	Ownership of Forests by Private Individuals - Local and Urban Owners 2018
Methodology	2019	Detection of Forest Infestation Using Unmanned Aerial Vehicles
Methodology	2019	Evaluation of the Effectiveness of Eradicating Invasive Non-Native Plant Species
Methodology	2019	Methodology for Preparing Layered Double Hydroxides from Waste Materials and Their Use in Biochar Modification for Removing Metals and Metalloids from Mine Waters
Methodology	2019	Monitoring of invasive alien species risk spreading to localities of high interest
Research report	2019	Regional Action Plan for the Western Capercaillie in the Beskydy Protected Landscape Area
Software	2019	Application BROUK
Software	2019	Software Dendroflora
Utility model	2019	Device for Post-Treatment of Mine Waters
Utility model	2019	A device for measuring infiltration
Utility model	2019	Device for Measuring Infiltration Using the Water Supply Method
Maps	2020	Graphical Representation of Selected Indicators from the Integration of Information Support for Land and Strategic Planning
Maps	2020	Map of Initial Retention
Maps	2020	Map of Actual Infiltration
Methodology	2020	Distribution of Individual Water Bird Species in the Czech Republic in January 2019
Methodology	2020	Assessment of Area Contamination of the Hydrographic Network from Erosion Wash, Detection and Quantification of Pollution Levels, Localization of Its Sources, and Effective Prediction
Methodology	2020	Map of Rain Erosivity in the Czech Republic in Relation to Physical Soil Properties - Combined Map of R and K Factors
Methodology	2020	Mapping of Vegetation Along Transport Infrastructure
Methodology	2020	Mobile Technical Anti-Erosion Measure "Silt-Fence"
Methodology	2020	Optimization and Economic Feasibility of Drinking Water Supply
Methodology	2020	Impact of Drinking Water Supply Security on Demographic (Socio-Economic) Development of Small Municipalities
Prototype	2020	Smart Agricultural Landscape Against Drought and Floods

³⁰ Specify the specific type of result. Add rows as needed.

Research report	2020	New Principles of Land Consolidation for Climate Change Adaptation and Implementation Methods
Software	2020	Kinematrix - Solver for Kinematic Wave Equation and Transport of Solutes Equation Using Least Square Finite Element Method
Software	2020	Measuring Apparatus for Quantifying Sediment Amounts
Technology	2020	Methodology for Designing and Implementing Landscape Measures to Mitigate Hydrological and Climatic Extremes in Agricultural (Agroforestry) Landscapes 2030+
Technology	2020	Verified Technology for Operating Artificial Wetlands for Treating Agricultural Drainage Water
Utility model	2020	Artificial Wetland for Retaining Polluted Drainage Water and Improving Its Quality
Function sample	2021	INV-FLOW: Device for Zonal Measurement of Vertical Groundwater Flow and Direct Quantification of Inflows into Groundwater Wells
Maps	2021	Map of the Current State of Structural Elements of the Landscape Composition
Maps	2021	Map of Functional Land Use
Maps	2021	Map of Management Regimes for Structural Elements of the Landscape Composition with a Focus on Vegetation Elements
Maps	2021	Presentation Map of Proposed and Implemented Measures in Connection with Monitoring (Pilot Project)
Maps	2021	Analysis of Structural Elements of Landscape Composition
Maps	2021	Evaluation of Landscape Character
Maps	2021	Occurrence and Degree of Preservation of Historical Plužina in the Czech Republic
Maps	2021	Development of Landscape Composition in Different Time Periods
Methodology	2021	Availability of Drinking Water for Residents of Small Municipalities as an Indicator of Socio-Economic Development
Methodology	2021	Methodology for Evaluating Trends in Sustainable Development in Relation to Characteristic Land Types
Methodology	2021	Designing Artificial Wetlands in Connection with Agricultural Drainage to Improve Water Quality
Research report	2021	Smart Landscape II: Forest Landscape in the Amálie Locality - Phase I
Software	2021	Amalie - Browser
Software	2021	Beetle2images Application
Software	2021	Automatic Tools for Assessing Erosion Threats, Sediment, and Pollutant Input into Watercourses and Reservoirs in Prague – RAINTOOL
Software	2021	dHRUM
Software	2021	Fcal: Software Tool for Calibration and Interpretation of Measured Data
Software	2021	Geographic Information Systems for Managing Hydrological Crisis Situations and Their Integration into Automatic Alert Systems in Prague – RAINGIS
Software	2021	Interdisciplinary Approaches to Effective and Safe Rainwater Management in Prague – RAINSOFT
Software	2021	Pluzina Field Patterns - Land Tenure from Middle Ages to the Present Day
Utility model	2021	Evaporation Meter
Utility model	2021	Device for Separating Microplastics from Water
Function sample	2022	Biodegradable Seed Tray with a Proven Positive Effect on Plant Growth

Function sample	2022	Functional Sample of Algae Culture in Alginate
Maps	2022	Degree and Specificity of Threats to the Remnants of Historical Plužina as a Basis for Protecting and Restoring These Landscape Structures
Methodology	2022	Methodology for Planning Residential Functions and Infrastructure in Shrinking Cities
Methodology	2022	Collection, Killing, and Long-Term Fixation of Necrophagous Beetle Larvae of the Silphidae Family
Methodology	2022	Utilizing Beetle Larvae of Family Silphidae in Forensic Practice: Breeding of Developmental Stages Under Laboratory Conditions
Research report	2022	DO, Construction 518 – 519 – Ruzyně – Suchdol – Březiněves, Multicriteria Analysis - Evaluation
Research report	2022	SEA - Integrated Strategy of ITI Agglomeration Liberec – Jablonec nad Nisou 2021–2027
Research report	2022	SEA - Sub-Basin Plan of Berounka 2021–2027
Research report	2022	SEA - Sub-Basin Plan of Lower Vltava 2021–2027
Research report	2022	SEA - Sub-Basin Plan of Upper Vltava 2021–2027
Research report	2022	SEA - Sub-Basin Plan of Upper and Middle Elbe 2021–2027
Research report	2022	SEA - Sub-Basin Plan of Lužická Nisa and Other Tributaries of the Oder 2021–2027
Research report	2022	SEA - Sub-Basin Plan of Ohře, Lower Elbe, and Other Elbe Tributaries 2021–2027
Research report	2022	SEA - Sub-Basin Plan of Other Danube Tributaries 2021–2027
Software	2022	Calculator for Restoring Boundary Strips of Plužina
Software	2022	Software for interactive assessment of recreational use of the Vltava Cascade in the context of climate change
Technology	2022	Verification of the Usability of Filtration Cakes for Supporting Growth and the Production of Bioactive Substances
Utility model	2022	Device for Rainwater Management
Utility model	2022	Equipment for Reducing Anthropogenic Load from Gray Water
Function sample	2023	Functional Sample of Biochar from Waste Macroalgae Biomass
Function sample	2023	Functional sample of hydrolysate from animal waste modified with additives for heavy metal removal from soils
Maps	2023	Vegetation mapping along transport infrastructure: Implementation by unmanned aerial vehicles
Maps	2023	Design of Efficient Rainwater Management for a Pilot Residential Development Area in Apartment Buildings – Tachov
Maps	2023	Design of Efficient Rainwater Management for a Pilot Residential Development Area in Family Houses – Beroun
Maps	2023	Design of Efficient Rainwater Management for a Pilot Public Facility Development Area – Commercial – Milevsko
Maps	2023	Design of Efficient Rainwater Management for a Pilot Recreation Development Area – Park – Čelákovice
Maps	2023	Design of Efficient Rainwater Management for a Pilot Industrial and Storage Development Area – Drásov
Methodology	2023	Methodology for Identifying Nationally Significant Wintering Grounds for Water Birds Based on Monitoring Results: The Impact of Climate Change and Territorial Protection
Methodology	2023	Possibilities for Updating Habitat Mapping Layers Using Sentinel Satellite Data

Research report	2023	Summary Research Report on the Progress and Final Form of the Project's Target Outputs and Achievement of Its Objectives
Research report	2023	Summary Research Report of Project SS03010080
Results reflected in guidelines and regulations	2023	TP 53 ANTI-EROSION MEASURES ON SLOPES PK
Software	2023	Landcluster - a tool for agricultural land subdivision
Software	2023	Software for Processing, Visualization, and Basic Analysis of Sensor Data
Technology	2023	MetalRem GW "Technology for the application of waste material from ductile iron machining for in situ removal of nickel and zinc from groundwater"
Technology	2023	MetalRem S "Technology of application of sulfidated nano zerovalent iron with thermally stabilized sewage sludge for immobilization of Cd, Pb and Zn in contaminated soils"
Technology	2023	Verified Technology for Removing Organic Pollutants from Sewage Sludge through Pyrolysis
Technology	2023	Rational Arable Land Allocation on Soil Blocks within the Framework of GAEC Conditions to Support Sustainable Farming in the Czech Republic
Technology	2023	Technology MetalRem As – Application of Sulfidized Nanoiron for Arsenic Immobilization in Contaminated Soil
Technology	2023	Technology MetalRem Cr – Application of Waste Material from Ductile Iron Machining in Combination with Organic Substrate for the Removal of Hexavalent Chromium and Other (Semi)Metals from Groundwater In Situ
Utility model	2023	Multisenzoric datalogger for wildlife monitoring
Utility model	2023	Attachment for a Seeder and Equipment for Sowing with Biochar Addition
Utility model	2023	Infiltration Trench
Utility model	2023	Infiltration Soil Biofilter for Treating Greywater and/or Rainwater
Utility model	2023	Rainfall Simulator with Automatic Control
Utility model	2023	Device for Sorting Biochar

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

The faculty has developed a structured approach to monitoring and transferring research results into practice, ensuring that its expertise contributes effectively to societal and environmental challenges. All project outcomes are systematically reviewed to assess their potential for practical application, commercialization, or broader dissemination. Given the faculty's focus on fields such as biodiversity, climate change, nature and landscape conservation, and environmental impact assessment, the traditional commercial market for direct sales of research outputs is often limited. Instead, the primary users of these results tend to be public administration bodies, municipalities, and other stakeholders engaged in environmental and sustainability efforts.

During the assessed period, the faculty expanded its role in knowledge transfer by enhancing collaborations with municipalities, farmers, and industry representatives. This was achieved through consultancy services, applied research projects, and direct support for implementing adaptation measures, such as climate resilience strategies, sustainable land use practices, and ecological restoration initiatives. In addition to formal contract research, research findings are also transferred through supplementary activities, including expert workshops, training programs, and publicly accessible databases (see Table 3.3.2).

The faculty engages with a diverse range of users to ensure the effective application of its research results. The five most common user groups and their collaboration mechanisms include:

1. Government authorities (e.g., ministries and executive agencies)

The faculty provides expert analysis, policy recommendations, and technical reports to national and regional government bodies responsible for environmental policy, climate adaptation, and land management. These collaborations occur through formal research contracts, participation in governmental advisory committees, and expert working groups. The faculty proactively seeks new

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

opportunities by responding to public tenders, engaging in policy discussions, and contributing to national sustainability strategies.

2. Municipalities and local governments

Cities and municipalities frequently rely on the faculty's expertise for environmental planning, water management strategies, and urban resilience projects. The faculty supports these entities by conducting feasibility studies, designing green infrastructure solutions, and providing tailored consultation. New partnerships are developed through regional networking events, pilot projects, and direct outreach to municipalities facing pressing environmental challenges.

3. Private sector firms (e.g., implementation and design companies)

The faculty collaborates with businesses specializing in environmental engineering, landscape architecture, and ecological restoration. These partnerships involve applied research, technology transfer, and contract-based consultancy. Private companies often seek the faculty's expertise to validate innovative solutions, conduct environmental impact assessments, or comply with regulatory requirements. Connections with new corporate partners are established through industry forums, professional associations, and collaborative research grants.

4. Academic and research institutions

Collaboration with other universities and research institutes is essential for advancing scientific knowledge and ensuring cross-disciplinary applications of research findings. The faculty participates in joint research projects, co-authors scientific publications, and shares research infrastructure with partnering institutions. New collaborations are initiated through international research networks, academic conferences, and grant-funded projects.

5. End users benefiting from publicly shared results

To maximize the impact of its research, the faculty makes many of its findings openly available to professionals, NGOs, and the general public. These include open-access reports, interactive environmental databases, and educational materials. Public engagement activities such as webinars, citizen science initiatives, and dissemination events help expand the reach of the faculty's research and attract new user groups.

Below are five examples of various applications that have been implemented through contract research or delivery. Where possible, the outputs (Table 3.4.1) that were partially or fully utilized in these applications are also provided.

Selected Examples of Practical Applications

1. Concept for the Reclamation of the ČSA Mine

The faculty has conducted expert studies summarizing possible changes in the approach to the reclamation of post-mining areas. These studies incorporated years of research experience from numerous projects and were published in various peer-reviewed journals. The studies were prepared for the Nature Conservation Agency of the Czech Republic and subsequently served as the basis for a government decision that changed the reclamation approach for the ČSA and Vršany mines (Government Resolution No. 479/2023). This demonstrates a direct impact on national environmental policy, shifting from traditional technical reclamation towards more ecologically and socially sustainable landscape restoration. Application results of projects from previous periods, not included in table 3.4.1.

2. Territorial Study of the Landscape in the ORP Černošice Administrative District

As part of a contract research project, the faculty's expert team developed a pilot study and a concept for assessing risks and adaptation options for landscapes facing climate change. This unique and comprehensive approach integrates multiple factors, including hydrological, socio-economic, economic, ecological, and biological aspects, using advanced GIS technology. The study provided concrete recommendations for land-use planning and adaptation strategies, showcasing how scientific expertise can inform local government policies and decision-making.

Application of project results from previous periods and partly also: Methodology for Planning Residential Functions and Infrastructure in Shrinking Cities; Smart Agricultural Landscape Against Drought and Floods; Methodology for Designing and Implementing Landscape Measures to Mitigate Hydrological and Climatic Extremes in Agricultural (Agroforestry) Landscapes 2030+ (see table 3.4.1)

3. Smart Landscape II – Forest Area

The Smart Landscape concept was developed through interdisciplinary collaboration among faculty teams and was further expanded during the evaluation period. In 2019 and 2022, the Smart Landscape II – Forest project was tested in a pilot area for Lesy ČR, the dominant forest owner and manager in the Czech Republic. This research supports the practical implementation of resilient forest management strategies, integrating innovative technological and ecological solutions to enhance forest adaptation to climate change.

Application of project results: Smart Landscape II: Forest Landscape in the Amálie Locality – Phase I (see table 3.4.1)

4. Application of Climate Models in Practice

The faculty's climatology team collaborates with various organizations and companies, providing climate calculations for diverse projects and developments. Their analyses focus on all measurable aspects, including projected evapotranspiration. For example, climate models have been applied at the watershed level for the development of Drought Prevention Plans, in cooperation with Vodohospodářský rozvoj a výstavba a.s. (Water Management Development and Construction). This work ensures that scientific climate models are not only theoretical but actively inform water resource management and resilience planning.

Application parts of project results: Smart Agricultural Landscape Against Drought and Floods; Geographic Information Systems for Managing Hydrological Crisis Situations and Their Integration into Automatic Alert Systems in Prague – RAINGIS; Interdisciplinary Approaches to Effective and Safe Rainwater Management in Prague – RAINSOFT; Device for Rainwater Management; Software for Processing, Visualization, and Basic Analysis of Sensor Data; Methodology for Designing and Implementing Landscape Measures to Mitigate Hydrological and Climatic Extremes in Agricultural (Agroforestry) Landscapes 2030+ ; Fcal: Software Tool for Calibration and Interpretation of Measured Data (see table 3.4.1).

5. Blue-Green Infrastructure for Cities

Through various municipal projects, including work for the capital city of Prague, the faculty applies the latest scientific knowledge in water management—covering rainwater and greywater reuse and the integration of greenery in urbanized environments. The faculty ensures that all proposals are developed holistically, with new green spaces complemented by water management improvements and biodiversity support through nature-based solutions. For example, the placement of new vegetation is accompanied by analyses and strategies to optimize water retention, using rainwater or

treated greywater for irrigation. This approach fosters sustainable urban development and enhances climate resilience in cities.

Application parts of project results: Design of Efficient Rainwater Management for a Pilot Residential Development Area in Apartment Buildings – Tachov; Equipment for reducing anthropogenic load from gray water; Artificial Wetland for Retaining Polluted Drainage Water and Improving Its Quality (table 3.4.1).

For the period under review, the faculty received funds from non-public, non-grant sources only in the form of a donation to deal with key topics (e.g. from the company Vršovická uhelná, a.s., Hege stavební, s.r.o., Juros, s.r.o., Sev.en Commodities AG). No revenues are yet recorded from the sale of licenses and other commercialization items, but they can be expected in the coming years due to the completion of commercialization projects. The creation of spin off companies is also currently under discussion.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
The Donation to support environmental education and remote sensing research		30			
The donation "Biochar- the smart future of the post-mining landscape"		150			
The donation "Atlas of the breeding distribution of birds in the Czech Republic 2014-17"			250		
The donation "Acceptance and awareness of natural regeneration processes after lignite mining"				250	
The donation to support research and publishing activities of PhD students of the FZP of the CZU natural recovery processes after lignite mining					150
Total		180/7	250/10	250/10	150/6

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

The faculty of Environmental Sciences at CZU places great emphasis on science popularization. The faculty has established a system for disseminating the latest findings from both implemented projects and scientific journal publications through the promotion department, where the outputs are further processed and offered to other media for publication.

Providing information on the faculty's website (e.g. <https://www.fzp.czu.cz/en/r-9676-news>) and social media platforms is a standard practice (LinkedIn, Facebook, Instagram).

Additionally, the faculty organizes expert lectures such as on the occasion of Earth Day and public events, such as the Night of Scientists, Prague Science Film Fest. <https://psff.cz/en/>

Faculty also provides support for individuals researchers for their own self presentation.

YouTube Channel of the Faculty of Environmental Sciences, CZU

This channel offers videos focused on the popularization of science and projects involving researchers and students of the faculty. It features lectures, field research documentaries, and other educational materials. <https://www.youtube.com/user/FZPvPraze/videos>

"Hurá na vysokou" Program

The faculty offers popularization lectures and specialized programs for high schools, which can be conducted either directly at the schools or on the faculty's premises. The goal is to introduce students to current topics in environmental sciences.

Prof. Jan Vymazal in Hyde Park Civilization

Prof. Vymazal, an expert in wetland ecosystems and water management, appeared in the prestigious Czech TV program Hyde Park Civilization. He discussed the role of wetlands in climate change mitigation, nature-based water treatment solutions, and the importance of biodiversity in aquatic ecosystems. His insights reached a broad audience, sparking discussions on sustainable environmental policies.

FZP CZU Summer Schools

The faculty organized a summer schools focused on current topics such as climate change and biodiversity loss. The program is designed for children of secondary school interested in science and nature, offering lectures and practical workshops.

Presentation of the Pavilion of Environmental Studies on ČT24

Czech Television reported on the opening of the new Pavilion of Environmental Studies at CZU, which integrates modern technologies with nature and serves students and researchers of the Faculty of Environmental Sciences. The report focused on explaining the possibilities of greywater treatment and its reuse within the building. A natural biotope at the base of the building is used for water purification. Additionally, the building incorporates rainwater management, which is utilized, among other things, for maintaining green roofs and facades.

Educational Trail Amálie

The Amálie Educational Trail is an 8 km circular route located near Lány. It follows the streams of Karlův Luh and Brejlský Potok, offering visitors insight into specific adaptation measures focused on soil protection, water management, and biodiversity support. The trail features virtual panels with QR codes that provide detailed information about each stop when scanned. The route is designed to be accessible to the general public while also serving as an educational resource for those interested in environmental issues. <https://cvpk.czu.cz/en/r-17791-smart-landscape/r-17792-educational-trail-amalie>

Biochar platform

Platform promoting the use of biochar across various sectors, including agriculture and industry. This platform serves as a hub for information exchange, research collaboration, and the dissemination of best practices related to biochar production and application. Its primary objectives include enhancing soil fertility, improving waste management, and contributing to carbon sequestration efforts to mitigate climate change. By uniting stakeholders from academia, industry, and policy-making bodies, the V4 Biochar Platform strives to advance sustainable environmental practices and foster innovation in biochar technologies within the region. <https://v4biochar.czu.cz/en>

Popularization of Invasive Species Issues

Invasive species pose a significant threat to biodiversity and ecosystem stability, making their study and management a crucial scientific challenge. The Faculty of Environmental Sciences at the Czech University of Life Sciences (CZU) actively engages in popularizing this topic through educational programs, public lectures, and media outreach. Researchers from the faculty work on identifying invasive species, assessing their ecological impacts, and developing strategies for their control. These findings are then communicated to the public in an accessible way, ensuring that both policymakers and citizens understand the risks associated with biological invasions. Through interactive workshops, public discussions, and citizen science initiatives, the faculty raises awareness about invasive species and encourages practical steps to mitigate their spread.

https://www.youtube.com/watch?v=wgGbZ04_jco&t=924s

Faculty Participation in the Pestrá Krajina Program

The Faculty of Environmental Sciences plays a key role in the Pestrá krajina (Diverse Landscape) program, which aims to restore and maintain landscape diversity in the Czech Republic. This initiative brings together scientists, farmers, conservationists, and local communities to implement nature-

friendly land management practices. Faculty researchers contribute by analyzing biodiversity trends, proposing sustainable agricultural solutions, and evaluating the effectiveness of conservation measures. Through its involvement, the faculty promotes interdisciplinary collaboration and knowledge transfer, helping to bridge the gap between science and practice.
<https://www.fzp.czu.cz/cs/r-6897-veda-a-vyzkum/r-7292-konference/r-9126-archiv-konferenci/r-19889-konference-pestra-krajina-2023>

The Birds Online Project

Ptáci Online (Birds Online) is an innovative citizen science project that engages the public in bird monitoring and data collection. Led by researchers from the Faculty of Environmental Sciences, the project allows volunteers to contribute valuable observations about bird populations, their behavior, and habitat preferences. By using digital tools and online platforms, the initiative makes birdwatching accessible to a wide audience, including students, amateur ornithologists, and nature enthusiasts. Ptáci Online fosters public interest in bird conservation and encourages people to actively participate in protecting avian biodiversity in both urban and rural landscapes.

<https://www.ptacionline.cz/en/homepage>

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

First of all, we would like to thank the evaluators, both from the previous and the current evaluation period, for their efforts and valuable recommendations. The faculty is aware of the highlighted challenges, has taken the feedback seriously, and is committed to addressing them. The faculty primarily focused on strengthening its strategy for securing more international projects.

First and foremost, we aimed to reflect the following recommendation: “There is certainly a high potential for capturing more resources from EU Programmes. The University has to give support to researchers to achieve this goal.” At the beginning of the second evaluated period, the FZP project team was established. This team has adequate staffing to provide administrative and technical support in the processing of grant applications and subsequent project implementation. However, time has quickly shown that in order to improve efficiency in attracting international projects it is necessary to split this team into a national and an international part. This has enabled a focus on specific funding sources and aspects of each grant title. As a result of these changes, the number of international project applications increased from a unit of project submissions in the 2014-2018 period to over 90 in the 2019-2023 period. A total of 18 projects were then funded in the period under review (60% more than in the previous period). In the case of national projects, we even noted an increase of 160% in the number of projects implemented. During the evaluated period, the faculty participated in several projects funded by EU programmes, both as partner (e.g. TRACER, TransforAr) and coordinator (e.g. EarhBridge).

Another faculty initiative is Visiting scientist/professor support that aims to motivate and increase our staff's collaboration with visitors from foreign countries, so they can more easily get involved in their research activities. Finally, important activity in this regard is Research Excellence in Environmental Sciences (REES) call, which aims to attract experienced researchers typically those returning after considerable time spent abroad. This call provides successful applicants with funding for three years to facilitate their return and build the core of their own team. Recipient must submit to the ERC during the first two years of this support. An example of such successful return is Petr Keil, who received ERC consolidator grant in 2023.

The main step during the last five years, as explained above, was internalization and capturing more resources from EU Programmes. Hence, the other reviewer's visions that: *“Contract research with higher revenues could be promoted in the future specially with foreign clients”* and the *“lack of spin-offs and strategy for commercialization”* were addressed to lesser extent. This clearly requires more time as also indicated by the reviewers in the last evaluation: *“This could be related to the shift in research trends of the members of the faculty, which is mostly focused in the traditional activity”*.

One such activity is the development of the “Biochar centrum”, which aims to bridge cutting-edge research with practical applications and commercialization opportunities. Biochar is a solid material obtained from the thermal decomposition of biomass. Its properties make it a useful element in addressing current global challenges, including carbon locking in soil. This initiative directly addresses the reviewers’ suggestion by fostering applied research with commercial potential.

Finally, we agree that *“CZU’s leadership also needs to actively nominate its scientists for different awards and prizes”*. This is a typical problem, as it does not entirely align with the Czech mentality, where humility and modesty often prevail over self-promotion. Nonetheless, we recognize the importance of this for increasing the faculty’s visibility and reputation. The faculty made some efforts in this area, although the nominations in the evaluated period were unfortunately unsuccessful. However, these efforts have borne fruit, and Lukáš Trakal was awarded the prestigious Czech Head Award (Česká hlava) in 2024, outside the evaluated period.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
DivLand website	3.3	https://divland.cz/en/
Multisenzoric datalogger for wildlife monitoring	3.4	https://www.fzp.czu.cz/en/r-9411-projects-and-partnerships/r-9880-projects/r-16471-multisensory-datalogging-as-a-tool-for-assessment-of-the-impact-of-environmental-changes-on-wildlife-circadian-activity
MetalRem S "Technology of application of sulfidated nano zerovalent iron with thermally stabilized sewage sludge for	3.4	https://metalrem.fzp.czu.cz/en/r-17160-news/new-methodology-metalrem-s.html

immobilization of Cd, Pb and Zn in contaminated soils"		
Software for interactive assessment of recreational use of the Vltava Cascade in the context of climate change	3.4	https://starfos.tacr.cz/en/vysledky-vyzkumu/RIV%2F68407700%3A21110%2F22%3A00365636
Beetle2images application	3.4	https://kurovec.czu.cz/en
Pluzina field patterns - land tenure from Middle Ages to the present day	3.4	https://www.fzp.czu.cz/en/r-9411-projects-and-partnerships/r-9880-projects/r-13325-identification-and-preservation-of-historic-field-patterns#i-d41296e46a7324f6cc171f27ca576572
Kinematix - Solver for kinematic wave equation and transport of solutes equation using least square finite element method	3.4	https://starfos.tacr.cz/en/vysledky-vyzkumu/RIV%2F60460709%3A41330%2F20%3A84571
Monitoring of invasive alien species risk spreading to localities of high interest	3.4	https://starfos.tacr.cz/en/vysledky-vyzkumu/RIV%2F60460709%3A41210%2F19%3A80162
Floating evaporimeter	3.4	https://cvpk.czu.cz/en
Prague Science Film Fest	3.6	https://psff.cz/en/
YouTube Channel	3.6	https://www.youtube.com/user/FZPvPraze/videos
Educational Trail Amálie	3.6	https://cvpk.czu.cz/en/r-17791-smart-landscape/r-17792-educational-trail-amalie
Biochar platform	3.6	https://v4biochar.czu.cz/en
Popularization of Invasive Species Issues	3.6	https://www.youtube.com/watch?v=wgGbZ04_jco&t=924s
Faculty Participation in the Pestrá Krajina Program	3.6	https://www.fzp.czu.cz/cs/r-6897-veda-a-vyzkum/r-7292-konference/r-9126-archiv-konferenci/r-19889-konference-pestra-krajina-2023
The Birds Online Project		https://www.ptacionline.cz/en/homepage

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED:

Faculty of Forestry and Wood Sciences of CZU in Prague (FLD)

FORD: 4 - Agriculture and veterinary sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

The basic bodies of the [Faculty of Forestry and Wood Sciences of CZU in Prague \(FLD\)](#) are the [Academic Senate](#), the [Scientific Board](#), and the [Dean's Board](#). The FLD consists of [nine departments](#) and other workplaces, such as the newly established [Forest Risk Research Centre](#).

FLD is considered a very [important institution in science and research in the Czech Republic](#) and a recognized forestry institution abroad (Chapter 3.2). It thoroughly plans its activities, goals, and visions within the framework of the [Strategic Plan](#), which it updates annually and discusses with the Scientific Board and the Academic Senate, which approves this document. Every year, an evaluation of the implementation of all planned activities is carried out, as well as planning of new ones with regard to development in educational activities, research, society, and practice. All these documents are fully in line with the current Strategic Plan of the Ministry of Education, Youth, and Sport for higher education. The FLD strategic plan defines the following fundamental pillars on which the Faculty relies: 1. inspiring education, 2. innovative science and research, 3. modern and friendly environment. With regard to its focus, FLD actively contributes to the fulfilment of sustainable development goals and takes a responsible approach to the protection and use of the environment in an international context. The main FLD CZU's mission is to be an institution that, through education, science and research in forestry, biological sciences, wood science, environmental economics and other related fields, contributes to the development of knowledge in these fields, integrates professional knowledge and passes it on to the public at the national and international level.

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

The tables (3.1.1 to 3.1.3) show that the Faculty has been working consistently on providing a stable number of associate professors and professors. The increase in the number of professors and associate professors is the result of the Faculty's long-term work and support for all employees in the field of science and pedagogy. The aim was also to ensure teaching in smaller groups, especially in the area of practical exercises and fieldwork. The slight peak in the number of scientific staff in 2023 was caused by the completion of two major projects; after that, only scientific staff with relevant excellent results remained at the Faculty.

A certain imbalance in the ratio of men and women to the detriment of women is primarily due to the nature of the field in which FLD operates. Nevertheless, the Faculty constantly creates optimal conditions for the employment of women and mothers, both in terms of wages (there are no differences in remuneration) and in terms of time flexibility and the possibility of working from home. It can be said that the Faculty manages to maintain a relatively young team (see the category under 50 years old), while creating conditions for the development of all employees. This reflects a young and dynamic team with immense potential for further development.

FLD is an institution with a long-standing tradition of quality education in the above-mentioned areas (Chapters 3.1.4 and 3.1.5). It offers a wide range of accredited [study programmes](#) that correspond to the profile focus of the Faculty and current needs of practice. There is a long-term stable interest in the study and all accredited programmes are opened regularly. An important part of the Faculty's educational activities is also lifelong learning, including the [University of the Third Age](#), which supports the professional growth and development of the general public. The Faculty is open to everyone – both women and men study here, and we provide all students with equal conditions for education, professional development, and participation in research activities. We support diversity and inclusion in academia because we believe that diverse perspectives and equal opportunities are key to an innovative approach to addressing current challenges in the forestry and wood science sector. Emphasis is also placed on connecting scientific research and teaching. [Our students work with modern devices and high-quality equipment](#), thanks to which they acquire practical skills corresponding to the latest trends in the field, learn to work with innovative technologies, and are better prepared for their future professional careers. The unemployment rate of our graduates has long been below 1%.

Within the scope of field of study capacities (Chapter 3.1.6), especially with regard to publication outputs and the focus of research projects and their application outputs, the largest share is determined in subject group 4. Agricultural and veterinary sciences, specifically FORD Agriculture, Forestry, and Fisheries, namely 48%. FLD outputs in the subject group 1. Natural Sciences are significant – 37%, thanks in particular to excellent publication activities in FORDs 1.5 Earth and related environmental sciences and 1.6 Biological sciences. Part of the authors' publication production is included in FORD Materials engineering – 10% (especially topics within the field of wood technology) and Economics and Business – 5% (e.g. evaluation of the economic efficiency of forest production or bioeconomy). It can be said that basic and applied research is carried out in a balanced manner at FLD.

We are successfully increasing our [publication activities](#). Research of exceptionally high societal importance at both national and international levels is reflected in the high financial support received from both [project grants](#) and contract research (Chapter 3.3). [We successfully address many topics important for society](#) (Chapter 3.4). These include, for example, the issue of climate

change (supporting ecosystem adaptation, drought, fire issues, etc.), bark beetle outbreak, African swine fever, forest tree genetics, and the use of wood as a renewable natural resource.

We strive to be a very responsible institution. We put emphasis on the education of young experts in the Czech Republic, Europe, and developing countries and [we cooperate with people with health, mental, or physical disabilities](#). We see the importance of [communication with practice and popularization of our results](#). Therefore, we devote a great deal of effort to these activities, which are enormous considering the size of the institution, as evidenced by the information provided in Chapters 3.5 and 3.6 of this self-assessment report.

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	10.953	10.113	9.970	10.300	12.251	53.587
Associate Professor	18.206/ 0.800	19.213/ 1.717	21.929/ 2.000	20.136/ 2.000	21.291/ 3.451	100.775/ 9.968
Assistant Professor	25.404/ 3.743	30.465/ 3.789	36.673/ 5.643	42.215/ 9.664	36.281/ 7.030	171.038/ 29.869
Assistant	2.608/ 0.267	3.783/ 0.700	4.350/ 0.925	4.548/ 1.048	4.878/ 1.327	20.167/ 4.267
R&D Personnel ³	66.317/ 24.840	69.131/ 25.641	70.318/ 27.839	66.762/ 26.731	48.112/ 17.127	320.64/ 122.178
Researchers in other categories ⁴	0.893/ 0.877	0.734/ 0.734	0.771/ 0.771	1.831/ 0.683	2.519/ 1.224	6.748/ 4.289
Technical and economic staff ⁵	36.472/ 22.203	39.338/ 21.797	39.286/ 21.140	35.387/ 17.827	36.364/ 19.190	186.847/ 102.157
Scientific, research and development staff involved in teaching activities	40.151/ 9.982	41.677/ 13.187	44.066/ 16.798	48.313/ 16.860	37.317/ 14.469	211.524/ 71.296
Early career researchers ⁶	22.521/ 8.063	25.120/ 10.575	25.120/ 10.048	29.450/ 11.356	28.584/ 13.573	130.795/ 53.473
Total ⁷	201.004/ 62.712	214.454/ 67.565	227.363/ 75.116	229.492/ 74.813	199.013/ 63.818	1071.326/ 344.024

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					3		3		4		3	
Associate Professor			3		11		2	1	5			
Assistant Professor	3	1	11		15	2	2		1		2	1
Assistant	4	1	1	1	1							
R&D Personnel ⁹	17	9	24	10	10	6	3	2	1		1	
Researchers in other categories ¹⁰					1	1						
Technical and economic staff ¹¹	12	5	9	2	11	7	9	8	2	1		
Scientific, research and development staff involved in teaching activities	4	1	24	6	16	5	5	1	4	1		
Early career researcher ¹²	7	3	19	7								
Total ¹³	40	17	72	19	68	21	24	12	17	2	6	1

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

Professor					3		6		2		5	
Associate Professor			4	2	13	1	3	1	2		1	
Assistant Professor	1		15	4	20	2	2	1	1			
Assistant			2	1	3	1	1					
R&D Personnel ¹⁵	13	5	22	4	10	5	3	2	1	1	2	
Researchers in other categories ¹⁶							1	1				
Technical and economic staff ¹⁷	8	3	9	2	10	5	8	7	6	4		
Scientific, research and development staff involved in teaching activities	2	2	16	5	9	4	4	1	1	1		
Early career researcher ¹⁸	8	4	25	9								
Total ¹⁹	24	10	68	18	68	18	28	13	13	6	8	

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	1447	478	1479	518	1375	442	1452	486	1612	629	7365	2553
Master's ²⁰	445	154	418	151	365	124	336	112	298	87	1862	628
Doctoral	150	50	143	45	132	43	130	49	119	47	674	234
Lifelong Learning Courses	98	73	0	0	5	1	62	42	2	1	167	117
Total	2140	755	2040	714	1877	610	1980	689	2031	764	10068	3532

Table 3.1.5 - Study programmes in Czech/English

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

Type of study programme	Total ²¹ / Of which professional study programmes											
	2019		2020		2021		2022		2023		Total	
Undergraduate	5/1		5/1		5/1		5/1		5/1		6/1	
Master's	3/1		4/1		3/1		3/1		3/2		5/3	
Doctoral	8/9		6/7		8/9		8/9		8/9		8/9	
Lifelong Learning courses	2/0		1/0		1/0		2/0		1/0		3/0	
Total	18/11		16/9		17/11		18/11		17/12		22/13	

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	37
	1.2 Computer and information sciences		Zvolte položku.	
	1.3 Physical sciences		Zvolte položku.	
	1.4 Chemical sciences		Zvolte položku.	
	1.5 Earth and related environmental sciences	13	Zvolte položku.	
	1.6 Biological sciences	24	Zvolte položku.	
	1.7 Other natural sciences		Zvolte položku.	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	10
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering	10	Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine		Zvolte položku.	
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences		Zvolte položku.	
	4.1 Agriculture, Forestry, and Fisheries	48	Zvolte položku.	48

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

4. Agricultural and veterinary sciences	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences		Zvolte položku.	5
	5.2 Economics and Business	5	Zvolte položku.	
	5.3 Education		Zvolte položku.	
	5.4 Sociology		Zvolte položku.	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications		Zvolte položku.	
5.9 Other social sciences		Zvolte položku.		
6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	
	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion		Zvolte položku.	
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

FLD has a very [strong position in the research community](#). This is also evidenced by the amount of [prestigious awards](#) that our employees and PhD students receive for their scientific and research activities (for excellent publications, citation response to publications, awards for published books, etc.), see table 3.2.1. They regularly receive, for example, the prestigious Minister of Agriculture Award, which is awarded at the [BREAD BASKET](#) International Agricultural Exhibition.

FLD experts are widely represented on the editorial boards of international scientific journals that deal with topics that are important from the perspective of the Faculty's focus (3.2.2.). In terms of selected scientific journals of thematic importance to FLD (in addition to those listed in the table), our institution has a very strong representation on the editorial boards of, e.g. [Central European Forestry Journal](#) (6 FLD experts) and [Journal of Forest Science](#) (8 FLD experts).

Our scientists regularly give lectures abroad (3.2.3), while renowned professors from prestigious universities visit FLD (3.2.4). This is clearly demonstrated, among other things, by the recognition of FLD by the scientific community and the extensive activities of the Faculty within internationalization. The main goal of the project was to bring to FLD an excellent world-class scientist, [Dr. Andrew M. Liebhold](#), and to create a permanent research group around him focused on the field of biological invasions in forests. A significant achievement in these activities for the future was the acquisition of a prestigious grant from the Horizon Europe ERA Chairs programme: [HIVE: Centre for Biological Invasions in Forests](#). This step significantly increases the quality and capacity of research and innovation at FLD, supports mobility among researchers, and increases the attractiveness and excellence of research across the Faculty and beyond. Andrew Liebhold is currently among the top 100 scientists of the United States Department of Agriculture (USDA). With an H-index of 93, his productivity ranks him among the top five scientists in the world dealing with biological invasions in forests.

FLD also regularly hosts important [national and international conferences](#), such as the [Annual Conference of European Forestry Institute EFI in 2021](#). Since this conference had to be held online due to the Covid-19 pandemic, the [EFI conference in person will take place in Prague in 2025](#). Thanks to this, Prague has been awarded the title of European Forestry City for these years. Other important conferences were also held in the assessed period, such as the [Conference focused on Biodiversity and Natural Capital Accounting](#), [IUFRO conference "Biological Invasions in Forests: Trade, Ecology and Management"](#), [Annual Meeting of the International Society of Chemical Ecology](#), [Arborist conference](#), [WOODEMA conference](#), [Climate, water and soil conference](#), [International conference to support forestry in Ukraine](#), [an international workshop on *Hylobius*](#) focussing on new trends in research and forest protection strategies and many others. We also founded the [Bioeconomy Platform of the Czech Republic](#), where we are an active member and the president is an FLD CZU employee (doc. Miroslav Hájek). Important activities also include

significant policy briefs in the international context, e.g. [Managing bark beetle outbreaks in the 21st century](#) nebo [Deadwood and Fire Risk in Europe](#). We are therefore a very active institution in providing other services to the scientific community.

Due to the fact that the self-evaluation report does not include a table where elected memberships in professional societies can be listed, which is mentioned in the description for the evaluation report, the most important memberships are listed below. The list shows the extensive representation of our experts in renowned professional societies across various areas within the focus of our Faculty, often in very high positions.

prof. Ing. Luděk Šišák, CSc. – IUFRO International Council – Representative of the Czech Republic (until 2024)

prof. Ing. Róbert Marušák, PhD. – EFI Board – Member

prof. Ing. Róbert Marušák, PhD. – IUFRO-Research Group 4.04.00 Forest Management Planning – Coordinator

doc. Ing. Miroslav Hájek, Ph.D. – Platform for Bioeconomy of the Czech Republic – Chairman

prof. Ing. Vilém Podrázský, CSc. – Czech Academy of Agricultural Sciences – deputy chairman (chairman until 2022)

doc. Ing. Roman Dudík, Ph.D. – WoodEMA i.a. (International Association for Economics, Management, Marketing, Quality and Human Resources in Forestry and Forest Based Industry) – President

Ing. Anna Jirošová, Ph.D. – Society of Chemical Ecology – councillor (2018-2021)

Ing. Anna Jirošová, Ph.D. – IUFRO Working Party 7.03.16 Behavioral and Chemical Ecology of Forest Insects – Deputy Coordinator

Prof. Dr. Sabine Begall – German Society for Mammalian Biology – Chair

Prof. Dick Sandberg – The Japan Wood Research Society – Member

Ing. Jan Kašpar, Ph.D. – IUFRO Working Party 4.03.03 Information management and information technologies – Coordinator, Deputy Coordinator – 4.04.07 Risk analysis

Ing. Jan Kašpar, Ph.D. – Forest DSS CoP – Chairman

Prof.i.R. Dr. Axel Schopf – Swiss Entomological Society – Member

Ing. Radek Rinn, Ph.D. – Chair of FOREXT network

prof. Ing. Miroslav Svoboda, Ph.D. – Working Party 8.01.01 Old growth forests and forest reserves – deputy coordinator

doc. Mgr. Karolína Resnerová, Ph.D. – PPO Panel on Quarantine Pests for Forestry – Member

doc. Ing. Vlastimil Borůvka, PhD., Dipl. Mgmt. – Slovak Research and Development Agency, Council for Agricultural Sciences – Member

Prof. Ing. Milan Lstibůrek, MSc., Ph.D. – Genetics Society of America – Member

Dr. Amit Roy – Entomology Society of America – General Member

Dr. Amit Roy – Society of Chemical Ecology – General Member

Dr. Amit Roy – EU-COST action member – representative from Czechia

Ing. Miloš Ježek, Ph.D. and doc. Ing., Tomáš Kušta Ph.D. – Czech Hunting Union – Chairman of the International Commission and Member of the Hunting Commission

prof. RNDr. Hynek Burda, CSc. – The Scientific Research Honor Society – Elected to full member of Sigma Xi

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
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doc. Ing. Zdeněk Vacek., Ph.D.	Minister of Agriculture Award for young scientist, First Prize (2019)	The Ministry of Agriculture of the Czech Republic and The Czech Academy of Agricultural Sciences
prof. RNDr. Stanislav Vacek, DrSc.	Stanford's Top 2% Scientists	Stanford University, Stanford, CA, USA
Ing. Jan Cukor, Ph.D.	Minister of Agriculture Award for young scientist, Second Prize (2020)	The Ministry of Agriculture of the Czech Republic and The Czech Academy of Agricultural Sciences
Ing. Dagmar Zádřapová, Ph.D.	Award for an excellent diploma thesis	ACADEMIA Bookstore
Ing. Jan Cukor, Ph.D.	Minister of Agriculture Award for young scientist, Second Prize (2022)	The Ministry of Agriculture of the Czech Republic and The Czech Academy of Agricultural Sciences
doc. Ing. Zdeněk Vacek., Ph.D.	Minister of Agriculture Award for young scientist, First Prize (2023)	The Ministry of Agriculture of the Czech Republic and The Czech Academy of Agricultural Sciences
Ing. David Novák, Ing. Ondřej Fiedler, Dr. Astrid Olejarz, Ing. Monika Pilátová	Josef Hlávka Award for the best students and graduates	Foundation "Nadace Josefa, Marie a Zdeňky Hlávkových"
Doc. Tomasz Podgórski, Ph.D.	Award of the President of the Polish Academy of Sciences for scientific achievement	Polish Academy of Sciences
Prof. Ing. Bc. Jaroslav Holuša, Ph.D.	Prize for a dictionary or encyclopaedic publication for 2020: Publication of the Blanokřídílí (Hymenoptera) Czech and Slovak Republic	ACADEMIA Bookstore, Union of interpreters and translators (JTP)
Dr. Astrid Olejarz	Young Opinion Research Award	CIC – International Council for Game and Wildlife Conservation

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
prof. Dr. Sabine Begall	Mammalian Biology, Elsevier, Amsterdam, The Netherlands – Editorial board member
prof. RNDr. Tomáš Hlásny, PhD. prof. Ing. Bc. Jaroslav Holuša, Ph.D.	Central European Forestry Journal – Executive Editors
Prof. Fredrik Schlyter	Journal of Applied Entomology, Blackwell Publishing Inc. United Kingdom – Editorial Board Member
Associate professor Zoltán Barcza	Atmosphere, Rotoweb Cantelli, Switzerland – Editorial Board Member
Prof. Ing. Miroslav Svoboda, Ph.D.	Forest Ecology and Management – Editorial Board Member Frontiers in Forests and Global Change – Editorial Board Member
prof. RNDr. Hynek Burda, CSc.	Frontiers in Ecology and Evolution – Editorial Board Member, Scientific Reports, Nature Publishing Group, London, United Kingdom – Editorial Board Member
prof. Ing. Luděk Bartoš, DrSc.	European Journal of Wildlife Research, Editorial Board Member
Dr. Amit Roy	BMC Genomics, Frontiers in Insect Science Frontiers in Forest and Global Change - Editorial Board Member. Frontiers in Microbiology, Plant Molecular Biology Reports,

	International Journal of Molecular Sciences – Guest editor
Ing. Tereza Jurczyková, PhD.	Polymers, Switzerland – Special Issue Editor Journal of Forest and Geoscience – Editorial Board Member
prof. Ing. Milan Lstibůrek, MSc., Ph.D.	Frontiers in Plant Science – Editorial Board Member

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
prof. RNDr. Hynek Burda, CSc.	Subterranean Mammals: A Global Evolutionary Experiment with Implications for Biomedical Research	University of Haifa, Israel	2019
PaeDr. Ing. Jacob Pavlin	A Dendroecological Perspective on Tree Life History Across a Gradient of Primary Temperate Forests in East and Southeast Europe	University of Ljubljana, Slovenia	2019
Ing. Roman Berčák, Ph.D.	Introduction to the world of wildfires	University of Agricultural Sciences, Alnarp, Sweden	2022
doc. Ing. Jakub Horák, Ph.D.	Urban nature: so close to us and how much it differs from rural areas	Technical University of Madrid, Spain	2023
Ing. Anna Jirošová, Ph.D.	Bark beetles/ophiostomatoid fungi/Norway spruce interactions - from genes through olfactory communication to tree susceptibility	BOKU, Vienna, Austria	2023
prof. Ing. Milan Lstibůrek, MSc., Ph.D.	Outcomes and software tools developed within TACR Kappa project	Korean Forestry Research Institute, South Korea	2023
Miroslav Hájek, doc. Ing., Ph.D.	Forest Bioeconomy	Uppsala University, Sweden	2023
Dr. Amit Roy	Molecule to management: feasibility of RNAi against <i>Ips typographus</i>	Indian Institute of Science, Bangalore International Chemical Ecology Society Conference 2023, India	2023
doc. Ing. Peter Surový, PhD.	Application of Modern Lidar Data in Forest Resource Assessment. Current Status and Opportunities from Area-Based Approach to Close-Range Techniques.	The Institute of Statistical Mathematics, Japan	2023
prof. Ing. Milan Lstibůrek, MSc., Ph.D.	Seed Orchard design	Thunen Institut, Germany	2023

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Prof. Lynne Rieske-Kinney	University of Kentucky, USA	RNAi and it's potential for future pest management	2019
Prof. Yousry El-Kassaby	UBC Vancouver, Canada	Tree genomics	2019
Prof. Dr. Bill Hansson,	Max Planck Institute Chemical Ecology Jena, Germany	Smelling to Survive – Insect Olfactory Ecology	2019

Assistant Professor Jeremy Todd Browner	University of Florida, USA	Novel Genomic Tools in Tree Improvement	2020
Associate Professor Maria Rosario García-Gil	Swedish University of Agricultural Sciences, Sweden	Dynamic landscape gene resource management combining utilization and conservation	2022
Prof. Guy Smagghe	Ghent University, Belgium	Science with insects from biotechnology to ecology from the lab to the globe	2022
Prof. Henrik Hartmann	Max Planck Institute for Biogeochemistry, Jena, Germany	From molecules (via six little legs) to the globe - investigating forest responses to climate change	2022
Prof. Marko Petrič	University of Ljubljana, Slovenia	Liquefaction of wood and lignocellulose materials and possible applications of liquefied lignocellulosic in wood coatings	2023
Prof. Jonathan Gershenzon	Max Planck Institute for Chemical Ecology, Jena, Germany	Are bark beetles bothered by spruce resin? Recent research on terpenes and tree defence	2023
Prof. Richard Hofstetter	Northern Arizona University, USA	Bark beetle acoustic ecology and new strategies for beetle management	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the project/programme call	Name of the authority/guarantor project/programme call	Year
prof. Ing. Martin Lukáč, PhD.	Regular evaluation of calls from Horizon Europe Programme	Horizon Europe Programme	2019–2023
Dr. nat. techn. Ing. Katarína Merganičová	Regular evaluation of calls from Swiss National Science Foundation	Swiss National Science Foundation	2019–2021
Mgr. Václav Pouska, Ph.D. Ing. Radek Rinn, Ph.D.	Public procurement programme in applied research and innovation for state administration	Technology Agency of the Czech Republic (TACR)	2020–2023
prof. Ing. Miroslav Svoboda, Ph.D.	Regular evaluation of calls from GA CR	The Czech Science Foundation (GACR)	2019–2023
doc. Ing. Vlastimil Borůvka, PhD., Dipl. Mgmt. prof. Ing. Róbert Marušák, PhD. prof. Ing. Vilém Podrázský, CSc.	OP – Research and innovation OP – Integrated infrastructure	Research Agency of the Slovak Republic	2019–2023
doc. Ing. Jiří Dvořák, Ph.D.	Calls from the Ministry of Education, Research, Development and Youth of the Slovak Republic and the Slovak	Slovak Research and Development Agency, Slovak Republic	2019–2023

	Academy of Sciences to support science and education		
prof. Ing. Róbert Marušák, Ph.D. Ing. Radek Rinn, Ph.D. prof. Ing. Vilém Podrázský, CSc. doc. Ing. Jan Kašpar, Ph.D.	Applied Research Program of the Ministry of Agriculture – EARTH (ZEMĚ)	National Agricultural Research Agency, Ministry of Agriculture of the Czech Republic	2019–2023
Dr. Amit Roy	BARD (United States-Israel Binational Agricultural Research and Development Fund)	Haim Katz Coordinator of Research Projects	2023
doc. Ing., Tomáš Kušta Ph.D. doc. Ing. Jan Kašpar, Ph.D.	Programme Johannes Amos Comenius	Ministry of education youth and sports/EU funds in the Czech Republic	2023
prof. Ing. Milan Lstibůrek, MSc., Ph.D.	Henrik Pompeius Forskningssekreterare/Senior Research officer	A Swedish Research Council for Sustainable Development	2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

Title: **Advanced research supporting the forestry and wood processing sector's adaptation to global change and the fourth industrial revolution**

Short name: **EVA4.0**

Programme, reg. no. European structural and investment funds,
CZ.02.1.01/0.0/0.0/16_019/0000803

FLD as a coordinator x partner: **Coordinator**

The EVA4.0 project, funded by European structural funds and implemented between 2017 and 2023, significantly advanced research excellence, infrastructure development, international collaboration, and practical applications in forestry and wood sciences. The project established the Centre for Excellence in Research at the Faculty of Forestry and Wood Sciences, engaging top

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

researchers from Europe, the USA, and Asia. The project was very interdisciplinary, involving all departments of the FLD, as well as individual experts from other CZU faculties. EVA4.0 was divided into three programmes and ten subprogrammes, ranging from studies on the effects of electromagnetic fields on biology, ecology, and the well-being of organisms, to tasks dealing with reconstructing global insect invasion dynamics, up to a subprogramme devoted to novel wood-based materials related to Global Change and Industry 4.0.

By the end of the project, the core team consisted of over 55 scientists, contributing to globally significant research and fostering innovative approaches to addressing challenges related to global change and Industry 4.0 in forestry and wood processing.

Key Achievements and Applied Potential:

- produced over 430 scientific publications and presented findings at more than 40 international conferences and workshops;
- filed three international patent applications, focusing on wood coatings, bullet-resistant wooden building materials, and antimicrobial compositions;
- upgraded and expanded laboratories to enable cutting-edge research in forestry biology, wood science, and environmental studies;
- created new research spaces equipped with advanced instrumentation, including climate-controlled labs, laser scanning technology, and high-resolution imaging systems;
- ensured research sustainability through the integration of state-of-the-art methodologies and digital modelling techniques;
- involved researchers in global projects funded by Horizon Europe, Life, Interreg, and Erasmus.
- established collaborations with leading research institutions worldwide, enhancing knowledge exchange and interdisciplinary cooperation;
- developed decision-support tools for forest management, integrating socio-economic and environmental factors into policy frameworks.

Title: **Building up an excellent scientific team and its spatio-technical background focused on mitigation of the impact of climatic changes on forests from the gene level to the landscape level at FLD CZU Prague**

Short name: **EXTEMIT-K**

Programme, reg. no. European structural and investment funds, CZ.02.1.01/0.0/0.0/15_003/0000433

FLD as a coordinator x partner **Coordinator**

EXTEMIT-K was a strategic project funded by European structural funds and aimed at establishing an excellent team focused on enhancing forest protection and management strategies, particularly in response to climate change and bark beetle outbreaks. The project was interdisciplinary; it utilized new molecular biology methods in combination with applied sciences needed for forest management. The team studied genomics, transcriptomics and proteomics, along with established genetics, metabolomics, and the theory of plant-insect interactions, mainly in relation to two bark beetle species. The project examined conifer tree-beetle interactions at three levels of scale: gene, tree, and landscape.

Key Achievements and Applied Potential:

- newly built Centre of Excellence;
- produced 115 scientific publications, of which 88 were with foreign co-authorship;
- filed one international patent application focused on repelling spruce bark beetle;

- sequenced and published the genome of the European spruce bark beetle;
- successful use of two distinct systems for heterologous expression. Identification of pheromone receptors and host odour receptors;
- selection of new substances from the bark beetle olfactory environment, its symbiotic fungi, and the host spruce with biological activity;
- presentation of a new method for early detection of trees attacked by bark beetles based on the principle of searching for attacked trees by dogs trained to recognize the aggregation pheromone of the bark beetle;
- presentation of new methods of genomic evaluation for spruces differently resistant to the bark beetle;
- clarification of the main factors influencing the emergence and development of the current bark beetle increase in Central Europe;
- finding procedures for the identification of spruces predisposed to bark beetle attack, using satellite images with a short temporal resolution;
- testing the protection of forest stands against bark beetle attack using a mixture of anti-attractants covered by a Czech patent and an international application.

Title: **Agroforestry at the forefront of farming sustainability in multifunctional landscapes in Europe**

Short name: **REFOREST**

Programme, reg. no. Horizon Europe, 101060635

FLD as a coordinator x partner **Coordinator**

REFOREST is funded by Horizon Europe and coordinated by FLD CZU. The Consortium includes 13 other European partners, including universities and scientific organizations, private companies, and NGOs. REFOREST cooperates closely with another similar project coordinated by other CZU faculties. The project is advancing agroforestry (AF) as a multifunctional land-use system by integrating co-creation, policy development, financial innovation, and technological advancements. With a strong focus on stakeholder engagement, the project has established an innovation network aimed at enhancing knowledge exchange and supporting the wider adoption of AF. To improve decision-making, REFOREST is developing advanced decision-support tools, including neural network models and dynamic management frameworks, designed to optimize AF system design and provide tailored guidance for farmers and policymakers. A key aspect of the project is the exploration of financial instruments that integrate carbon and biodiversity impact financing, with the potential to unlock new revenue streams for farmers. Additionally, REFOREST contributes to policy discussions at national and regional levels by proposing strategies that embed AF within climate adaptation, biodiversity conservation, and sustainable agriculture policies. By leveraging a co-creation approach, the project ensures that its findings remain practical and applicable to real-world challenges, helping to address barriers to AF adoption, such as knowledge gaps, business uncertainties, and regulatory complexities. While the project is still ongoing, it is expected to contribute to the broader EU sustainability agenda by promoting nature-based solutions that enhance ecosystem services and the economic viability of farming systems. Through its research, stakeholder engagement, and policy recommendations, REFOREST aims to support the long-term expansion of agroforestry as a key component of sustainable land management. As the project progresses, its outputs will provide valuable insights into how scientific knowledge, financial mechanisms, and policy integration can foster resilient and productive agricultural landscapes while contributing to climate action and biodiversity goals.

Title: Systemic solutions for upscaling of urgent ecosystem restoration for forest-related biodiversity and ecosystem services

Short name: **SUPERB**

Programme, reg. no. Horizon 2020, 101036849

FLD as a coordinator x partner **Project partner**

The SUPERB project, funded by Horizon 2020, is advancing large-scale forest restoration across Europe by demonstrating transformative restoration approaches in 12 diverse landscapes while developing tools and strategies for scaling up restoration efforts. The project actively engages a wide network of stakeholders, including landowners, ministries, state forest entities, conservation organizations, and research institutions, to drive restoration initiatives aligned with European environmental policies. While initial commitments targeted visible restoration results by 2024, the project has adapted to evolving legislative frameworks, including the EU Nature Restoration Law adopted in 2024, which mandates the restoration of at least 20% of the EU's land and sea areas by 2030 and all degraded ecosystems by 2050. To support these ambitious goals, SUPERB continues to develop and implement innovative financial mechanisms, policy recommendations, and best practices for large-scale ecosystem restoration. A key component of these efforts is the Forest Ecosystem Restoration Gateway, scheduled for launch in 2025, which will provide a centralized platform for knowledge-sharing, stakeholder collaboration, and financial support for restoration initiatives. Through its integrated approach – combining scientific research, stakeholder engagement, and policy advocacy – SUPERB is reinforcing the role of restoration as a cornerstone of sustainable land management, climate resilience, and biodiversity conservation. The project remains dynamic, responding to emerging challenges and opportunities to maximize its long-term impact on European landscapes.

The project is coordinated by European Forest Institute. The consortium consists of 36 European partners and FLD is in charge of two large demonstration areas. One area is located in the Czech Republic and one in Romania.

Title: Management of forest genetic resources under climate change

Short name: FORGENRES

Programme, reg. no. EEA and Norway Grants, TO01000243

FLD as a coordinator x partner **Coordinator**

FORGENERES, funded by the EEA and Norway Grants, was coordinated by FLD. The consortium consisted of four Czech and Norwegian partners. The project aimed to develop and validate essential components of a forest gene management platform on a landscape scale to increase productivity while enhancing the genetic diversity of forest plantations.

This approach transformed traditional tree breeding and gene conservation by enabling genotyping and phenotyping of any tree, thereby utilizing a larger gene pool. The project was carried out in Norway, where it focused on landscape-scale in-situ tree improvement of Norway spruce and Scots pine, and in the Czech Republic, where it initiated an equivalent programme for Douglas fir.

The project partnership with Norway was strategically designed to bring together diverse, multidisciplinary, and complementary expertise necessary for its ambitious goals. It also provided the participating industry in both countries with innovative knowledge, which has since been implemented in their products and services, allowing for further expansion into other markets.

Through its activities, the project effectively promoted forestry, forest bioeconomy, and subsequent wood processing industrial chains. Within the framework of in-situ forest tree gene-resource management, the project successfully addressed the following key objectives, each achieved through novel methodological developments and software solutions validated in operational tree improvement programmes in Norway and the Czech Republic:

- development and validation of a novel genetic evaluation protocol;
- economic evaluation utilizing improved selection indices;
- adaptation of spatial seed orchard layouts to accommodate specific constraints in advanced generations;
- development of a genetic thinning algorithm promoting random mating and minimizing inbreeding in seed orchards;
- utilization of stochastic simulation to compare the efficiency of alternative tree improvement strategies.

Title: Resilient forest value chains – enhancing resilience through natural and socio-economic responses

Short name: **RESONATE**

Programme, reg. no. Horizon 2020, 101000574

FLD as a coordinator x partner **Project Partner**

RESONATE is funded by the Horizon 2020 Programme and coordinated by the European Forest Institute. The Consortium consists of 20 European partners, including universities, scientific organizations, private companies, and NGOs.

FLD assists in refining forest modelling tools to improve assessments of ecosystem resilience. By identifying gaps in existing modelling approaches and incorporating ecosystem services and disturbance factors, the Faculty contributes to the development of resilience indicators and ensures the applicability of models across case studies, fostering a comprehensive understanding of forest dynamics.

In ecosystem service resilience assessment, FLD analyses how forest resilience is influenced under different management strategies. The Faculty evaluates silvicultural practices, including thinning and species diversity, to determine their effects on adaptive capacity and long-term sustainability. By drawing on experimental data and forest inventories, FLD contributes to understanding the impacts of climate stressors such as drought and heatwaves on forest ecosystems, emphasizing the role of active management.

FLD is also involved in examining the resilience of forest-based value chains by compiling national stressor data and analysing economic influences on stability. This research helps identify key resilience factors across socio-economic and technical landscapes, informing adaptive strategies and policy recommendations.

Through scenario analyses, FLD supports the projection of climate-induced disturbances and evaluates the flexibility of societal demand for forest products under changing conditions. Additionally, research on forest owners' attitudes toward resilience measures contributes to a broader understanding of barriers to implementation.

FLD plays a role in knowledge dissemination by developing three online modules on forest value chain resilience, integrating resilience science into university curricula and professional training programmes, and equipping future forestry professionals with relevant expertise and decision-making tools.

Title: Forests in women's hands

Short name: Fem4Forest

Programme, reg. no. Interreg Danube Transnational Programme, DTP3-500-1.2

FLD as a coordinator x partner **Project partner**

The project was implemented between 2020 and 2022 and funded by the Interreg Danube Transnational Programme. It was coordinated by the Slovenian Forestry Institute and involved 13 other partners from 10 countries in the Danube region.

The main objective of Fem4Forest was to strengthen the forest sector at local, regional, and interregional levels by increasing the involvement and capabilities of women, supporting their equal presence and competence in the market. The project followed an interactive innovation model where multi-actor collaborations drove innovation, based on societal, market, scientific, and technological needs.

The activities were demand-driven, focusing on social inclusion, gender equality, and economic independence. These included benchmarking studies to present good practices (GPE), as well as creating a new learning approach through mentoring and mutual learning. A model was developed that integrated women into the workforce by raising awareness, offering mentoring, and providing training programmes, which were then tested through pilot actions.

FLD was a project partner and actively contributed to data collection and implementation of activities at the Czech level, including:

questionnaire survey for women working in forestry;

round tables for representatives of forestry companies, gender and educational institutions;

moderated interviews and interviews with so-called role models – women in managerial positions in forestry.

Based on these activities, a report was created describing the (unavailability of) data focused on gender issues in Czech forestry, training was implemented for women working in forestry, and a policy brief was created with recommendations based on the project findings. The project enabled closer cooperation between consortium partners, which subsequently enabled not only involvement in the preparation of the "follow-up" Fem2forests project, but also the preparation and submission of a professional article focused on the careers of women in forestry in the countries of the Danube region.

Title: Large scale analyses of primary forests: disentangling drivers of biomass and biodiversity indicators

Programme, reg. no. Czech Science Foundation (GACR)

21-27454S

FLD as a coordinator x partner **Coordinator**

The project was implemented between 2021 and 2024 and funded by the Czech Science Foundation as a standard type of project. It was coordinated by FLD and there was no other project partner.

The aim of this project was to gain better understanding of biomass and biodiversity indicators in primary forests.

The finished project succeeded in analysing the processes influencing spatial and temporal variation in forest biomass and the structural elements critical for biodiversity for two prominent forest communities (*Picea abies* and *Fagus sylvatica* forests) in the Carpathian arc. Variation in biomass and biodiversity indicators were highly dependent on growth and disturbances, which both

responded to environmental drivers. The project team members conducted multi-scale analysis and disentangled the role of tree-level (size, age, competition), site-level (soils, topography), and regional-level (temperature, precipitation, drought) on forest dynamics. In addition, they also assessed the consequence of these relationships for biomass and biodiversity indicators. In total, over ten papers were published with the dedication of the current project. In a significant number of papers, project team members have major contributions (ideas, data, analysis and writing) and, as members of bigger international teams, they also published several papers in high-level journals in which we have used data and results collected from this project.

The result of the project has significant potential for application in the field of forest management. Published papers showed the importance of natural disturbance and natural dynamics for carbon storage and biodiversity. The results of the project will help to more efficiently protect natural, mature, and old-growth forests for biodiversity and carbon sequestration. And at the same time, the results of the project will inform forest management on how to incorporate measures for biodiversity conservation and carbon sequestration.

Title Behavioural reaction of free-living wild boar to measures against the spread of African swine fever virus

Programme, reg. no. National Agency for Agricultural Research (NAZV), QK1910462
FLD as a coordinator x partner **Coordinator**

The project aimed to test measures for eradicating this disease in wild boar populations. It ran from 2019 to 2023 and was funded by the Applied Research Programme of the Ministry of Agriculture, EARTH (ZEMĚ) subprogramme.

The project was coordinated by FLD, with Military Forests of the Czech Republic as a project partner.

Key project outputs include:

- testing strategies for reducing wild boar populations to limit their spatial activity;
- evaluating artificial feeding systems aimed at minimizing boar migration within outbreak areas.
- assessing temporary movement control measures, such as electric and scent fences;
- developing an intervention model to enhance the efficiency of eradication efforts;
- publishing methodological guidelines and scientific studies providing practical recommendations.
- During the project, 107 wild boars were tracked using GPS telemetry collars and biologging sensors. The research revealed that hunting and general human activity do not significantly influence boar spatial behaviour, whereas barriers such as electric fences can effectively limit their movement.
- The findings have been applied in practice, including defining eradication zones for African swine fever and optimizing control measures in the Czech Republic.

Title: Development of timber-concrete bridges using remote control and monitoring – project coordinator

Programme, reg. no. Technology Agency of the CR (TAČR), CK04000199
FLD as a coordinator x partner **Coordinator**

This ongoing project aims to develop a new type of wood-concrete bridge structure with remote monitoring of operating conditions and a system to ensure high operational safety. It includes the design of a flexible system for monitoring wood-concrete bridges.

The new technical solution will significantly reduce not only the construction costs, but also preventive and predictive maintenance expenses. Additionally, the possibility of utilizing bark beetle-infested wood for bridge construction significantly enhances the environmental sustainability of these structures. Knowledge gained from the project will contribute to the formulation of technical guidelines for the construction of wood-concrete bridges in the Czech Republic. The project also includes the development of an information model of the structure, which will be integrated into a database containing information on the design, construction, and operation of the bridge throughout its planned lifespan. The development of a construction information model, with subsequent integration into a national database, will make bridge planning and maintenance in the Czech Republic more efficient.

The results of the project will support the improvement of transport infrastructure in municipalities, thereby contributing to the competitiveness of regions. The interdisciplinary approach, which combines modern construction technologies with electronic monitoring systems, will lead to the creation of a construction information system that accelerates technological and knowledge development in the Czech Republic.

The project is funded by the Technology Agency of the Czech Republic under the Transportation (Doprava) call. It is coordinated by FLD, with key application partners including major industry players such as SKANSKA, MATRIX, the Road and Motorway Directorate of the Czech Republic (ŘSD ČR), the State Fund for Transport Infrastructure (SFDI), and the Ministry of Agriculture (MZe ČR).

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
TA CR grants - Technology Agency of the Czech Republic	Planting adapter for forest regeneration in areas with low rainfall	18,84	-	-	-	-
TA CR grants - Technology Agency of the Czech Republic	Development of a programme for evaluation of mechanical properties of wood and DKM	8,54	-	-	-	-
TA CR grants - Technology	Evaluating results of chlorophyll parameter	24,99	-	-	-	-

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

Agency of the Czech Republic	measurements in leaves of selected tree species using portable devices					
TA CR grants - Technology Agency of the Czech Republic	Increasing the resistance of coating systems on selected types of wood in outdoor applications	67,83	-	-	-	-
Operational programme Research, development and education	Development of the study environment at CZU (PROSTUDENT)	13,93	-	-	-	-
National Agency for Agricultural Research	Fragmentation of forest ownership and its impact on forestry policy	155,38	154,29	-	-	-
Operational programme Research, development and education	High-tech Educational Pavilion FFWS	2750,24	275,93	-	-	-
Operational Programme Prague – Pole of Growth of the Czech Republic	Technology transfer from the Faculty of Forestry and Wood Sciences CZU into the commercial sphere	358,81	294,44	-	-	-
Operational programme Research, development and education	Facilities for the Fire Protection study programme (Construction of facilities and research support for the research-oriented educational programme Fire Protection of Forest, Timber and Wood-Based Materials)	342,66	9,27	-	-	-
Operational programme Research, development and education	Facilities for Global Change Forestry and Remote Sensing study programmes (Construction of	140,62	41,67	-	-	-

	facilities and research support for research-oriented educational programmes Global Change Forestry and Applied Geoinformatics and Remote Sensing in Forestry)					
Operational programme Research, development and education	Support for the Development of International Mobility of CZU Researchers in Prague (PROMO)	152,86	197,8	-	-	-
Project Support Funds	Monitoring forest regeneration by modern remote sensing methods	6,12	6,12	-	-	-
Project Support Funds	Forest disturbances and forest ecosystem functions in the context of climate change	41,64	32,78	-	-	-
Rural Development Programme	Design of model wetland biotopes in the FLD Arboretum in Kostelec nad Černými lesy	45,63	0	-	-	-
Project Support Funds	Survey of the butterfly fauna in restored and abandoned traditional orchards	-	12,24	-	-	-
TA CR grants - Technology Agency of the Czech Republic	Methods of artificial propagation of Ojcow birch and approaches leading to conservation of the species and its population in the Czech Republic	34,12	36,61	34,12	-	-
National Agency for Agricultural Research	Diversification of the Impact of the Bioeconomy on	70,37	77,35	73,25	-	-

	Strategic Documents of the Forestry-Wood Sector as a Basis for State Administration and the Design of Strategic Goals by 2030.					
National Agency for Agricultural Research	Objectivization of the method for detection of the occurrence and dynamics of forest damaging agents by modern remote sensing tools as a decision support mean for the state forest administrative.	155,71	168,76	164,47	-	-
National Agency for Agricultural Research	Communication as a tool to harmonise the needs of society and the forestry sector	158,65	164,84	163,23	-	-
National Agency for Agricultural Research	The improvement and support of communication, survey and management of outbreak and disaster situations as a tool for optimisation of state administration in the forestry sector.	146,94	150,78	153,27	-	-
Grant from the City of Prague	Young people are thinking about the future of our forests	-	5,1	-	-	-
Project Support Funds	Reproductive ability of the white locust derived from its seed bank	-	2,03	8,18	-	-
GA ČR grants - The Czech Science Foundation	Multi-parameter reconstruction of Carpathian	-	70,79	110,89	116	-

	temperatures from tree rings					
TA ČR grants - Technology Agency of the Czech Republic	The quantification of the effects of drought on forest tree species across climatic gradient of the Czech Republic	-	132,61	117,8	99,64	17,43
TA ČR grants - Technology Agency of the Czech Republic	Development of renewable smart materials and hybrid composite materials based on WPC granules as a basic raw material for the production of composite materials from recycled plastics and biomaterials	-	13,46	19,31	21,75	-
TA ČR grants - Technology Agency of the Czech Republic	Green Industry for sustainable management of wood raw materials in the Czech Republic: Composite materials from recycled wood	-	-	187,71	18,54	-
Project Support Funds	Genetic variability of hyper-spectral reflectance in Scots pine ecotypes for selection of drought-resistant individuals	-	130,78	146,62	129,31	-
Project Support Funds	Analysis of the work cleanliness of harvester technology in forest ecosystems depending on work performance	-	2,08	1,48	3,4	-
TA ČR grants - Technology Agency of the Czech Republic	Containerizing of planting stock of forest trees using the PostCont technological system	-	133,93	113,76	107,57	95,45

National Agency for Agricultural Research	Behavioral reaction of free-living wild boar on measures realized against spreading of African swine fever virus	202,9	209,32	186,39	168,03	132,88
National Agency for Agricultural Research	Development of integrated modern and innovative diagnostic and protection methods of spruce stands with the use of semiochemicals and methods of molecular biology.	150,2	151,4	150,59	157,43	134,92
National Agency for Agricultural Research	Proposal of operational - adaptation measures utilizing hydrophilic polymers to reduce the dieback of major tree species due to drought	115,92	130,15	114,73	133,41	106,75
National Agency for Agricultural Research	Monitoring of status and evolution of dead trees after bark beetle outbreak	-	-	107,18	150,59	132,92
Operational programme Research, development and education	Advanced research supporting the forestry and wood processing sector's adaptation to global change and the 4th industrial revolution (EVA4.0)	4080,01	2461,52	2278,04	2014,31	1152,08
Operational programme Research, development and education	Building up an excellent scientific team and its spatio-technical background focused on mitigation of the impact of climatic changes to forests from the level of a gene to the level of	1070,57	997,77	1147,12	1302,48	991,02

	a landscape at the FFWS CZU Prague (EXTEMIT-K)					
Operational programme Research, development and education	The creation of new research programs at the FFWS	16,44	6,02	10,98	15,88	9,11
Operational programme Research, development and education	Modernization of study and study programs, quality and counselling at CZU in Prague (MOST)	63,46	69,94	60,4	77,62	39,23
Operational programme Research, development and education	Quality improvement of studies at CZU Prague (ESF II)	-	45,66	61,45	69,65	-
Operational programme Research, development and education	Improving the quality of the environment at CZU Prague (ERDF II)	-	81,5	21,05	229,67	-
Operational programme Research, development and education	Supporting the development of international mobility research, technical and administrative staff of the CZU in Prague - phase II (PROMO II)	-	0,13	104,89	87,24	50,14
GA ČR grants - The Czech Science Foundation	Large scale analyses of primary forests: Disentangling drivers of biomass and biodiversity indicators	-	-	13,76	84,79	93,92
GA ČR grants- The Czech Science Foundation	Long-term disturbance dynamics as drivers of taxonomic, functional and phylogenetic diversity of primary forest communities	-	-	-	83,4	74,39

GA ČR grants - The Czech Science Foundation	Identification and RNAi silencing of aggregation pheromone production genes in the spruce-killing bark beetles (<i>Ips typographus</i>)	-	-	-	-	66,69
TA ČR grants - Technology Agency of the Czech Republic	Development of Timber Bridge using remote control and monitoring	-	-	-	-	168,08
TA ČR grants - Technology Agency of the Czech Republic	Evaluation of old forests outside strictly protected areas regarding carbon sequestration and biodiversity conservation	-	-	-	-	71,39
TA ČR grants - Technology Agency of the Czech Republic	Development of a system of efficient use of wood from low and medium forest into final products with high added value	-	-	-	-	82,43
National Agency for Agricultural Research	Guidelines for Water Management on Forest Transportation Network	-	-	-	311,86	160,67
National Agency for Agricultural Research	Payments for ecosystem services of forest and forestry	-	-	-	-	159,16
National Agency for Agricultural Research	Prognosis of bark beetle outbreak and innovative approaches to its management at the level of state and forest owners (ProBrouk)	-	-	-	-	169,61
National Agency for Agricultural Research	The development of an application for automated register of hunted	-	-	-	-	75,79

	ungulates based on the individual structure of outer nose skin tissue					
National Agency for Agricultural Research	Progressive methods of forest management planning for supporting sustainable forest management	-	-	75,05	111,63	98,96
Operational Program Johannes Amos Comenius	Hi-tech infrastructure for development of PhD study programs at the CZU (PhD Infra)	-	-	-	-	197,49
National Recovery Plan	Transformation of the CZU with the aim of adapting to new forms of learning and the changing labour market needs	-	-	-	32,64	115,32
Project Support Funds	Integration of Czech scientists into the global research platform The Global Forest Biodiversity Initiative through research of tree mortality and biomass dynamics of temperate forests of the northern hemisphere	-	81,27	84,76	83,14	86,59
Project Support Funds	Participation of the Czech Republic in the network of experiments TreeDivNet	-	113,84	77,65	75,17	75,67
ERASMUS+	Development of education in relation to the influence of ongoing climate change to hunting	-	6,30	46,21	38,30	15,66

	tourism (HUNTOUR)					
EEA and Norway Grants	Management of forest genetic resources under climate change	-	-	235,51	261,43	239,98
Horizon Europe (ERA Net Cofund)	Mapping of forest health, species and forest risks using Novel ICT Data and Approaches	-	-	30,33	86,25	63,35
COST	Three-dimensional forest ecosystem monitoring and better understanding by terrestrial-based technologies (3DForEcoTech)	-	-	-	119,65	173,40
Horizon Europe	Agroforestry at the forefront of farming sustainability in multifunctional landscapes in Europe (REFOREST)	-	-	-	29,44	69,32
COST	Integrated DSS for delivery of ecosystem services based on EU forest policies (DSS4ES)	-	-	-	-	10,26
Total		10393,38	6468,48	6100,18	6220,22	5130,06
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Co-investigators of GA ČR grants	Spatiotemporal reconstruction of tropical cyclones and their impact on the forest structure and diversity in Northeast Asia	25,20	-	-	-	-
Co-investigators of TA ČR grants	Development of methodology for	44,01	-	-	-	-

²⁷ Ibid.

	determination of heat-optimized parameters of residential timber building structures in terms of indoor environment quality, reduction of energy intensity, and environmental factors of buildings in relation to the reduction of greenhouse gases					
Co-investigators of GA ČR grants	The effects of methylxanthine-based biocides on the properties of constructional timber	20,34	27,16	24,41	-	-
Co-investigators of GA ČR grants	Does rising CO2 concentration decrease the sensitivity of European temperate conifers to drought?	36,61	33,88	32,33	-	-
Co-investigators of GA ČR grants	An interdisciplinary study on element cycling in mountain catchment-lake systems regenerating from tree dieback	29,35	22,44	31,28	-	-
Co-investigators of NAZV grants	Influence of protective measures to populations bark beetles according on population density	51,84	58,07	53,61	-	-
Co-investigators of NAZV grants	Complex solution of forest restoration and silvicultural management in regions with fast large-scale forest decline.	24,49	24,49	24,96	-	-

Co-investigators of GA ČR grants	Temperate mountain forest dynamics: their long-term drivers and diversity at the continentality gradient	-	42,28	101,45	101,41	24,59
Co-investigators of GA ČR grants	Evolution of chemical communication in termites	-	24,81	44,32	44,34	-
Co-investigators of TA ČR grants	Effective procedures of forest biodiversity inventory and practical measures for its protection	-	12,71	15,15	12,16	-
Co-investigators of TA ČR grants	Development of oak harwood bonding systems for structural and unstructural exterior applications	-	92,08	105,19	91,46	-
Co-investigators of NAZV grants	The reforestation and forest thinning of nurse and target tree species mixtures with the production and non-productive functions of the forest in the area of large-scale die of spruce stands	30,15	29,79	27,24	25,27	-
Co-investigators of TA ČR grants	Tree-fall forecast for securing traffic safety on railways	-	-	12,95	13,02	14,59
Co-investigators of TA ČR grants	Research on measures to eliminate the number of wildlife-vehicle collisions on secondary roads	-	-	42,79	56,92	25,03
Co-investigators of NAZV grants	Approaches for supporting silver fir in managed forests in the Czech Republic	18,57	20,41	20,41	19,47	16,74

Co-investigators of NAZV grants	The optimization of subsidy title for agricultural land afforestation	33,47	33,47	35,14	35,14	30,12
Co-investigators of NAZV grants	Sustainable management in small-owner forest estates	-	-	58,48	64,50	64,77
Operational Programme Enterprise and Innovation for Competitiveness (OP EIC)	Expansion and innovation of the forestry system IterSoft	-	-	15,75	57,33	39,97
Co-investigators of GA ČR grants	Effects of nitrogen availability and forest status on soil microbiome, nutrient cycling, and biological recovery of acidified waters in mountain ecosy	-	-	-	32,38	22,27
Co-investigators of TA ČR grants	Center for Landscape and Biodiversity (DivLand)	-	-	72,17	86,36	121,70
Co-investigators of NAZV grants	Comprehensive assessment of wood-producing and non-wood-producing functions of pioneer tree species stands	-	-	-	32,41	29,99
Co-investigators of NAZV grants	Potential of geographically non-native species in the forestry sector of the Czech Republic	-	-	-	40,65	36,41
Co-investigators of NAZV grants	Adaptation of forestry for sustainable use of natural resources	-	-	41,47	58,89	53,32
Other foreign grants	Silva Gabreta Monitoring – Implementation of cross-border	0,74	-	-	-	-

	monitoring of biodiversity and water regime					
Other foreign grants	Cross-border mapping of forest ecosystems – a way to joint management of Šumava NP and Bavarian Forest NP	37,22	-	-	-	-
Other foreign grants	Conservation and sustainable utilization of forest tree diversity in climate change (SUSTREE)	108,65	-	-	-	-
ERASMUS+	Future Environmentalists - Linking EU Natural Capital Management to Field Research	3,83	5,29	25,62	-	-
ERASMUS+	Forestry Higher Education Advancement in Laos (FORHEAL)	29,66	-	40,30	-	-
Interreg CENTRAL EUROPE	joinT Efforts to increase water management Adaptation to climate CHanges in central EuRope (TEACHER-CE)	-	20,92	31,13	9,36	-
Interreg Danube	Forests in women’s hands (Fem4Forest)	-	7,85	40,86	75,50	-
ERASMUS+	Forests, climate change mitigation and adaptation: Higher Education Cooperation in Mekong region (FRAME)	-	-	3,64	56,63	74,35
Life	LIFE PRotection of Old Growth Forests in Europe: Natural heritage, Outline, Synthesis and	-	-	-	17,27	9,55

	Ecosystem Services (LIFE PROGNOSSES)					
Life	Climate-Smart Forest Management for Central and Eastern Europe LIFE (CLIMAFORCEELIFE)	-	4,26	18,28	30,19	17,62
Life	Climate Change Adaptation of Forests in the Brdy Highland (LIFE Adapt Brdy)	-	-	-	-	95,26
Horizon 2020	Resilient forest value chains – enhancing resilience through natural and socio-economic responses (RESONATE)	-	-	8,76	45,41	77,70
Horizon 2020	Systemic solutions for upscaling of urgent ecosystem restoration for forest-related biodiversity and ecosystem services (SUPERB)	-	-	-	137,37	287,25
Horizon Europe	Empowering the Central and Eastern European Countries to Develop Circular Bioeconomy Strategies and Action Plans (CEE2ACT)	-	-	-	9,61	50,30
Horizon Europe	CLImate Mitigation and Bioeconomy pathways for sustainable FORESTry (CLIMB-FOREST)	-	-	-	2,64	6,25
Horizon Europe	Harnessing forest genetic resources for increasing options in the face of environmental and societal	-	-	-	2,08	69,11

	challenges (OptFORESTS)					
Horizon Europe	Climate-smart rewilding: ecological restoration for climate change mitigation, adaptation and biodiversity support in Europe (Wild-E)	-	-	-	-	5,73
Interreg CENTRAL EUROPE	Circular BioEconomy Market Uptake and Policy Support in Central Europe (BIOECO-UP)	-	-	-	-	25,98
Interreg CENTRAL EUROPE	Healthy Forest Regions: Supporting Healthy Forest ecosystems for human well-being in forest Regions (Healthy Forest Region)	-	-	-	-	7,56
Total		494,13	459,91	927,69	1157,77	1206,16

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2019
Forests of the Czech Republic, sp	A comprehensive methodological procedure for verifying the declared origin of planting material using genetic markers	33,29	-	-	-	-
Nature and Landscape Conservation Agency	Monitoring of forest ecosystems in the Praděd National Nature Reserve in 2016 - 2023	22,45	-	-	-	-
Forests of the Czech Republic, sp	Economics and cultivation of birch stands as an alternative to the restoration of withering spruce	20,41	-	-	-	-

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

	stands in the Czech Republic					
Krkonoše National Park Administration	Development of a detailed monitoring methodology and selection of management and control areas	19,76	-	-	-	-
Forestry Research Institute	Expert and advisory activities in the field of forest protection from wildlife damage, harmonization of environmental components and development of biodiversity of forest ecosystems, as well as education and information campaigns for forest owners and tenants as well as holders and users of hunting grounds.	10,87	-	-	-	-
Ministry of Agriculture of the Czech Republic	Draft technical recommendations for designing a forest transport network	8,10	-	-	-	-
Nature and Landscape Conservation Agency	Evaluation of the impact of synthetic pyrethroids on the environment during the remediation of bark beetle wood	7,90	-	-	-	-
Šumava National Park Administration	Expert activity on the project New paths to transboundary deer management in times of climate change	7,85	-	-	-	-
Nature and Landscape Conservation Agency	Dendrometric and dendrochronological analysis of forest stands in the Rejvíz National Nature Reserve	7,36	-	-	-	-
Šumava National Park Administration	Ensuring monitoring of the spruce bark beetle in the natural zone of the Šumava National Park on the peak of Smrčina	7,35	-	-	-	-

Šumava National Park Administration	Processing of a layer of points - observation points, a layer of communication lines and visible area data, and processing of a layer of polygons.	5,93	-	-	-	-
Czech Geological Survey	Sampling of the assimilation apparatus using tree climbing techniques	5,43	-	-	-	-
Bohemian Switzerland National Park Administration	Shapefile layer - polygons of the area of dead trees, point shapefile layer - identification of dead tree crowns	5,43	-	-	-	-
Mendel University in Brno	Expert work on the project Methods of eliminating bark beetles based on the effect of electric current	5,15	-	-	-	-
DANZER BOHEMIA - DÝHÁRNA sro	Comparison of selected characteristics of oak veneers dried by different processes	7,74	-	-	-	-
Technical Services Trutnov Ltd.	Coordination of tree species within the framework of tree species passportization in Trutnov	2,35	-	-	-	-
Ministry of Agriculture of the Czech Republic	Professional background to the publication A Quarter Century of Systematic Research Focused on Non-Timber Forest Products in the Czech Republic	2,04	-	-	-	-
Ministry of the Environment	Background study for national park management principles	2,04	-	-	-	-
DANZER BOHEMIA - DÝHÁRNA sro	Properties of veneers with a reproduced structure and adhesives for the production of these veneers	1,91	-	-	-	-

Institute for Forest Management	Interpretation of terms from EU Regulation No. 995/2010 and related regulations	1,01	-	-	-	-
Ministry of Agriculture of the Czech Republic	Data evaluation	1,19	-	-	-	-
Institute for Forest Management	Analysis - expert assessment of a sample of a wood product	1,77	-	-	-	-
Exploria	A dataset consisting of a series of images taken at collection points	0,99	-	-	-	-
Czech University of Technology in Prague	Test according to EN 927-6 on supplied samples	0,92	-	-	-	-
Jirkovsky Janecek sro	Analysis of the effectiveness of gunshot silencers when using different calibers and ammunition	-	24,66	-	-	-
HAJICEK, sro	Development of a mobile application for the iOS platform to support outdoor activities with a focus on hunters and hobby rescuers	-	24,61	-	-	-
AMG reality sro	Proposal for the development of an online map system to support the implementation of agri-environmental measures	-	24,58	-	-	-
Forests of the Czech Republic, sp	Benchmarking methodology, comparison of economic results and management from publicly available sources of state forest organizations in Central Europe	-	18,37	-	-	-
Ministry of Agriculture of the Czech Republic	Long-term prediction of the development of the area and stocks of stands threatened by bark beetles	-	10,08	-	-	-

Nature and Landscape Conservation Agency	Dendrometric analysis of forest stands in the Šerák-Keprník National Nature Reserve and the Sněžná kotlina Nature Reserve and dendrochronological analysis of the Borek u Domašova Nature Reserve.	-	6,85	-	-	-
GeoNet Prague, sro	Photogrammetric measurements in the vicinity of the Zvíkov State Castle, terrain scanning, delivery of aerial photographs with high spatial resolution, digital model of digital technical maps, map and thematic outputs in digital form.	-	4,69	-	-	-
INSTITUTE OF CLINICAL AND EXPERIMENTAL	Determination of the profile of volatile compounds in samples and culture medium (including basic statistical evaluation processed by multivariate and analytical procedures).	-	2,45	-	-	-
Czech Environmental Inspectorate	Aerial work on the Bečva River using hyperspectral, thermal and optical cameras in a section of approximately 4-5 km. Evaluation of captured data, production of orthophoto, delivery of images and preparation of a report.	-	2,04	-	-	-
Ministry of Agriculture of the Czech Republic	Evaluation of data from a questionnaire survey on the collection of forest products, attendance and perception of the forest in a	-	1,23	-	-	-

	representative sample of the population of the Czech Republic for 2020.					
Forests of the Czech Republic, sp	The influence of environmental factors on the attack of spruce by the spruce budworm and the proposal of practical procedures to limit its spread	-	30,29	-	-	-
Forests of the Czech Republic, sp	Monitoring of migratory movements of red deer in the southwestern part of Šumava - in the hunting grounds of the Boubín hunting lodge	-	28,44	-	-	-
Forests of the Czech Republic, sp	Economics and cultivation of birch stands as an alternative to the restoration of withering spruce stands in the Czech Republic	-	30,61	-	-	-
Forestry Research Institute	Expert consulting activities in the field of forest protection from wildlife damage, harmonization of environmental components and development of biodiversity, forest ecosystems, as well as education and information campaigns for forest owners and tenants	-	10,87	-	-	-
Nature and Landscape Conservation Agency	Economics of growing birch stands as an alternative to restoring declining spruce stands in the Czech Republic	-	7,76	-	-	-
Ministry of Agriculture of the Czech Republic	Processing of the opposing arguments for the documents for the newly prepared tax tables and	-	2,42	-	-	-

	submitting proposals for further steps in solving the construction of these tax tables					
Terpenix sro	Development and production of "Zembox" prototypes	-	1,63	-	-	-
National Heritage Institute	Natural aging tests, color, roughness and wettability measurements	-	1,14	-	-	-
Czech University of Technology in Prague	Test according to EN 927 - 6 on supplied samples	-	0,92	-	-	-
Institute for Forest Management	Analysis - test according to EN 927 - 6 on supplied samples	-	0,67	-	-	-
JR Innovation, sro	Creation of the data platform "Forest and its societal functions"	-	-	197,32	-	-
Downtown Apartments sro	Design of aggregate mixtures for water-permeable crushed stone surfaces of park paths and spaces in Prague	-	-	124,23	-	-
Downtown Apartments sro	Design of aggregate mixtures for water-permeable crushed stone surfaces of park paths and spaces in Prague	-	-	52,17	-	-
Forests of the Czech Republic, sp	Analysis of management conditions and economic results of state forest organizations in the Central European region and proposal of a benchmarking methodology	-	-	26,72	-	-
Forests of the Czech Republic, sp	Methods of adapting existing forest drainage structures to changing climatic conditions	-	-	26,53	-	-
Jirkovsky Janecek sro	Assessment of composite bullet properties in hunting cartridges	-	-	24,50	-	-

Forests of the Czech Republic, sp	Forest management in transition to nature-based management	-	-	24,49	-	-
Forests of the Czech Republic, sp	Methodology for fast and cheap data acquisition for disaster areas using modern Remote Sensing methods	-	-	24,49	-	-
Forests of the Czech Republic, sp	Distribution of blood-sucking arthropods in forest ecosystems modified by global climate change	-	-	18,37	-	-
Forests of the Czech Republic, sp	Smart application for predicting the abundance and prevalence of the common tick in forest ecosystems (TickApp)	-	-	17,96	-	-
Forests of the Czech Republic, sp	Distribution of blood-sucking arthropods in forest ecosystems modified by global climate change	-	-	16,33	-	-
Nature and Landscape Conservation Agency	Management of dwarf pine (<i>Pinus mungo</i> Turra) in the Praděd and Břidličná National Parks and support for management planning and species diversity of forest ecosystems in the Králický Sněžník National Park	-	-	11,18	-	-
Forestry Research Institute	Expert advice	-	-	9,88	-	-
Nature and Landscape Conservation Agency	Analysis of the spatial and age structure of the mountain spruce forest in the Praděd National Park and the Králický Sněžník National Park.	-	-	8,08	-	-
Šumava National Park Administration	Assessment of the risk of infection of wild animals with the invasive parasite giant fluke	-	-	7,57	-	-

Šumava National Park Administration	"Study of the development of the dynamics of mountain spruce forests over a 20-year horizon" from the program 11517 - Support for the restoration of natural landscape functions - from 2019	-	-	6,82	-	-
Forest Administration Lány, contributory organization	Data processing and expert report on the results of forest management for the period 2014-2019, including an assessment of hunting and fishing in the Lány Forest District "Green Report"	-	-	4,77	-	-
Bohemian Switzerland National Park Administration	Comprehensive monitoring in the Bohemian Switzerland National Park	-	-	4,32	-	-
Mendel University in Brno	Consulting activities and implementation of control analyses in the GS LČR project "The influence of stratification time and the use of thermotherapy in pre-sowing preparation of beech trees in 2021"	-	-	1,98	-	-
Military Forests and Estates of the Czech Republic, Ltd.	Independent assessment of changes in the property relations of the state-owned enterprises Lesy České republiky, sp and Vojenské lesy a statky ČR, sp	-	-	1,98	-	-
Forests of the Czech Republic, sp	Economics and cultivation of birch stands as an alternative to the restoration of withering spruce stands in the Czech Republic	-	-	32,98	-	-

Krkonoše National Park Administration	Use of elite SM resources to increase the stability of forest ecosystems in the Krkonoše Mountains	-	-	19,18	-	-
Krkonoše National Park Administration	Restoration of self-governing functions of forest ecosystems of the KRNAP related to the work contract No. SMLDEU-30-132/2018, Article 5.1 Activity 5 (partial evaluation)	-	-	9,81	-	-
Šumava National Park Administration	Monitoring of the spruce bark beetle in the natural zone of the Šumava National Park on the peak of Smrčina	-	-	9,46	-	-
Nature and Landscape Conservation Agency	Support for management planning and biodiversity of mountain biotopes in the Praděd area	-	-	6,12	-	-
XRC Czech, sro	Non-destructive measurement of paint thickness of window sashes and frames.	-	-	4,35	-	-
Forestry Research Institute	Verification of changes in nutrient content in seedlings after planting after fertilization with slowly soluble fertilizers, including capturing the growth response within 2 years after planting	-	-	4,08	-	-
Krkonoše National Park Administration	Restoration of self-regulating functions of forest ecosystems in the KRNAP region under conditions of persistent air pollution	-	-	3,95	-	-
Krkonoše National Park Administration	Restoration of self-governing functions of forest ecosystems in the KRNAP	-	-	3,95	-	-

INSTITUTE OF CLINICAL AND EXPERIMENTAL	Analysis of samples to determine the volatile compound profile including basic statistical evaluation processed by multivariate analytical procedures	-	-	2,04	-	-
DANZER BOHEMIA - DÝHÁRNA sro	Processing of laboratory research focused on determining the tensile strength of glued veneer blocks made from veneers of different moisture contents.	-	-	1,48	-	-
Ministry of Agriculture of the Czech Republic	Data evaluation for the needs of the Forestry Section - collection of forest fruits.	-	-	1,38	-	-
Nature and Landscape Conservation Agency	Support for management planning and species diversity of forest ecosystems in the Králický Sněžník National Park	-	-	-	32,93	-
Forests of the Czech Republic, sp	Methods of adapting existing forest drainage structures to changing climatic conditions	-	-	-	30,61	-
Forests of the Czech Republic, sp	Methodology for fast and cheap data acquisition for disaster areas using modern Remote Sensing methods	-	-	-	20,41	-
Forests of the Czech Republic, sp	Spatial analysis of stands affected by the bark beetle disaster using DPZ funds in the Lusatian Mountains Protected Landscape Area and Pavlínino údolí Nature Reserve	-	-	-	14,82	-
Forests of the Czech Republic, sp	Smart application for predicting the abundance and prevalence of the common tick in forest ecosystems (TickApp)	-	-	-	12,24	-

Forests of the Czech Republic, sp	Distribution of blood-sucking arthropods in forest ecosystems modified by global climate change	-	-	-	12,24	-
Forests of the Czech Republic, sp	Forest management in transition to nature-based management	-	-	-	11,79	-
Forestry Research Institute	Expert and advisory activities in the field of forest protection from wildlife damage, harmonization of environmental components and development of biodiversity of forest ecosystems, as well as education and information campaigns for forest owners and tenants as well as holders and users of hunting grounds	-	-	-	9,88	-
Forests of the Czech Republic, sp	Distribution of blood-sucking arthropods in forest ecosystems modified by global climate change	-	-	-	8,16	-
Nature and Landscape Conservation Agency	Dendochronological and dendrometric survey of selected segments of forest ecosystems of PR Vysoký vodopád and PR Bučina pod FM	-	-	-	6,68	-
Forest Administration Lány, contributory organization	Expert report	-	-	-	4,77	-
Bohemian Switzerland National Park Administration	Comprehensive monitoring in the Bohemian Switzerland National Park	-	-	-	4,32	-
Wotan Forest, as	Determination of carbon footprint, methodological procedures and starting points for its future monitoring in pallet and packaging production and sheet	-	-	-	3,46	-

	material production operations					
Mendel University in Brno	Consulting activities	-	-	-	1,98	-
Ministry of Agriculture of the Czech Republic	Evaluation of data from the Questionnaire Survey on the Collection of Forest Products, Visitation and Perception of the Forest in a Representative Sample of the Czech Republic's Population for 2022	-	-	-	1,63	-
Wotan Forest, as	Theoretical analysis of possible causes of tree ring separation in pine decking boards	-	-	-	0,79	-
Krkonoše National Park Administration	Use of elite genetic resources of Norway spruce to increase the stability of forest ecosystems in the Krkonoše Mountains	-	-	-	12,84	-
Krkonoše National Park Administration	centralization, standardization and correction of all project data and their archiving, ensuring data quality and security	-	-	-	3,95	-
Nature and Landscape Conservation Agency	Support for management planning and biodiversity of mountain biotopes in the Praděd area	-	-	-	3,06	-
Institute for Forest Management	Analysis - professional assessment of wood product samples	-	-	-	2,53	-
City of Rokycany	evaluation of operational safety using instrumental methods - acoustic tomograph - for selected trees	-	-	-	2,04	-
Mining College	Determination of spectra using differential scanning calorimetry for a set of 10 samples.	-	-	-	1,90	-

Mining College	Determination of mass spectra using a gas chromatograph	-	-	-	1,85	-
The city of Nove Strašecí	Evaluation and design of tree treatment	-	-	-	1,48	-
Forests of the Czech Republic, sp	Methods of adapting existing forest drainage structures to changing climatic conditions	-	-	-	-	31,41
Forests of the Czech Republic, sp	Methodology for fast and cheap data acquisition for disaster areas using modern Remote Sensing methods	-	-	-	-	26,49
Forests of the Czech Republic, sp	Distribution of blood-sucking arthropods in forest ecosystems modified by global climate change	-	-	-	-	24,86
Forests of the Czech Republic, sp	smart application for predicting the abundance and prevalence of the common tick in forest ecosystems (TickApp)	-	-	-	-	16,82
Forests of the Czech Republic, sp	Determination of optimal maturity and physiological properties of Scots pine planting material for the restoration of stands at mid and high altitudes	-	-	-	-	40,00
Forests of the Czech Republic, sp	Spatial activity of red deer in areas of return of the red wolf	-	-	-	-	24,49
Forests of the Czech Republic, sp	Analysis of electronic receipt of wood at the collection point and selection of the optimal available technology for the needs of LČR, sp	-	-	-	-	24,49
Bohemian Switzerland National Park Administration	network systematic mapping of fire intensity and severity in 2022 in the NPČS	-	-	-	-	24,05
Forests of the Czech Republic, sp	Experimental procedures for forest restoration with native and introduced	-	-	-	-	22,45

	tree species under climate change conditions					
Mendel University in Brno	Optimization of a poisoned trap for maximum capture of spruce bark beetle (<i>Ips typographus</i> L.)	-	-	-	-	20,79
Forests of the Czech Republic, sp	Analysis of electronic receipt of wood at the collection point and selection of the optimal available technology for the needs of LČR, sp	-	-	-	-	16,33
Research Institute of Land Reclamation and Soil Protection, vvi	Anti-erosion measures on road slopes	-	-	-	-	15,56
Forests of the Czech Republic, sp	Methods of adapting existing forest drainage structures to changing climatic conditions	-	-	-	-	10,20
Forests of the Czech Republic, sp	Methodology for fast and cheap data acquisition for disaster areas using modern Remote Sensing methods	-	-	-	-	10,20
Forestry Research Institute	Expert activity	-	-	-	-	9,88
Svarog Buildings sro	testing of straw and straw block samples for the purpose of issuing CE - ETA certification	-	-	-	-	5,98
University Hospital Královské Vinohrady	working on sample analyses for grant AZV NV21-09-00362, NS 21611 (KOMPAS).	-	-	-	-	5,10
University Hospital Královské Vinohrady	determination of the metabolome of volatile compounds for grant AZV NV21-09-00362, NS 21611 (KOMPAS).	-	-	-	-	5,10
INSTITUTE OF CLINICAL AND EXPERIMENTAL	Sample analysis. Instrumental analysis of volatile profile and basic processing of metabolomic data	-	-	-	-	3,06

Association of Forestry and Wood Processing Companies	Analysis of the valorization of coniferous wood prices within the framework of contracts for the implementation of forestry activities with the sale of wood for the period 2022+	-	-	-	-	2,72
Nature and Landscape Conservation Agency	Support for management planning and species diversity of forest ecosystems in the Králický Sněžník National Park	-	-	-	-	2,22
Mendel University in Brno	Consulting activities	-	-	-	-	1,98
Ministry of Agriculture of the Czech Republic	Forestry Section: Collection of forest products, attendance and perception of the forest in a representative sample of the population of the Czech Republic for 2023	-	-	-	-	1,83
Institute for Global Change Research of the Academy of Sciences of the Czech Republic, vvi	Participatory assessment of the ecological stability of ecosystems in the Novohradské Mountains in cooperation with local actors	-	-	-	-	1,63
Charles University	Instrumental analysis of volatile compounds profile and basic processing of metabolomic data	-	-	-	-	1,14
Krkonoše National Park Administration	Joint technical support, data processing and interpretation, data collection, standardization and correction	-	-	-	-	13,83
CAPITAL CITY PRAGUE	Plan for managing drought and water shortages in the territory of the Capital City of Prague	-	-	-	-	10,23

The city of Nove Strašecí	Performing tensile tests and tomographic examination	-	-	-	-	4,67
Nature and Landscape Conservation Agency	Support for management planning and biodiversity of mountain biotopes in the Praděd area	-	-	-	-	3,06
Nature and Landscape Conservation Agency	Support for management planning and biodiversity of mountain biotopes in the Praděd area	-	-	-	-	3,06
DANZER BOHEMIA - DÝHÁRNA sro	Processing of laboratory research focused on comparing two variants of PUR adhesives with a focus on their mechanical properties and aging	-	-	-	-	2,72
DANZER BOHEMIA - DÝHÁRNA sro	Mechanical properties of PUR adhesives and their aging	-	-	-	-	2,72
Forestry Research Institute	Analysis - laboratory analysis of birch and aspen wood	-	-	-	-	2,43
Other retail clients (number in 2019-2023: 17,6, 8,8,10)	Contract research of various nature for small clients	5,04	5,55	4,98	4,32	4,68
European Forest Institute	Contribution to the study for Science Policy No. 8 - report on Bark beetle disturbances	3,00	-	-	-	-
Universidade de Évora	Elaboration of framework for data processing and automatic analysis. Software solution for data processing. Framework for Verification and validation of result.	-	5,20	-	-	-
Griffith University	Data from REMOTE database together with written description of methods of collection	-	10,00	-	-	-
WWF Central and Eastern Europe	Delivery and implementation of the project in Šaštín area in Slovakia	-	4,84	-	-	-

Thermory AS	Testing of thermally modified wood with coating systems.	-	2,24	-	-	-
Thermory AS	Testing on the base of EN 927-6, Evaluation of results in final report	-	3,04	-	-	-
Thermory AS	Analyse of weathering for firetreated thermowood products.	-	-	1,93	-	-
Universidade de Évora	Poskytování služeb v oblasti měření nadzemní a podzemní biomasy korkových dubů.	-	-	6,93	-	-
Universidade de Évora	Poskytování služeb v oblasti měření nadzemní a podzemní biomasy korkových dubů	-	-	-	6,93	-
C.N.R.S.	Field and laboratory research	-	-	-	-	5,00
Total		197,28	265,18	722,31	217,61	401,18

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

Living with bark beetles: impacts, outlook, and management options

The [report](#) was elaborated by the international author team led by Tomáš Hlásny from our Faculty. It addresses emergent and pressing social and ecological problem of large-scale forest devastation by bark beetles. Recent damage to these forests is estimated to reach hundreds of millions Euro annually.

Several European states requested that the [European Forest Institute](#) gather experts and elaborate a report describing the reasons, consequences, and prediction of these outbreaks. The aim of the

²⁹ See Terms definition.

report – which was prepared by eleven scientists from Europe and the US – was also to explore proper management and policy responses. It was published in 2019 and introduced at the high-level political forum [Think Forest held in Prague](#). Since then, the authors have presented their ideas on many fora, including Virkenforum (2019), General Assembly of the European Organization of the Sawmill Industry, COFFI 2020 –ECE Committee on Forests and the Forest Industry, several meetings of the Ministerial Conference on the Protection of Forest in Europe, and many more.

The report has gained increased recognition in scientific, political, and professional communities in Europe over the last two years, reaching more than 5000 reads and 242 citations. The ideas presented in it also supported numerous research projects, including the successful H2020 project [RESONATE](#).

The report has a high social impact and is an essential contribution to building climate-adapted and resilient European forests: (i) developed directly at the request of ten European countries, (ii) the group leader is from FLD, (iii) a document of international importance was created (applied in several countries), (iv) the results were presented at forums with the participation of the country's president, ministers, and other high-ranking state officials. The output was followed up in 2023 by with very significant [POLICY BRIEF](#).

Firefighting in the natural environment

Forest fires usually represent a loss for the affected area, and not just economic and environmental. In the worst cases, human lives are lost as well. The book [Hašení požárů v přírodním prostředí](#) (Firefighting in the Natural Environment) provides comprehensive information on this issue. It is absolutely unique in its scope and amount of information, as it is practically the only material of this type and scope in the Czech Republic. It summarizes most of the theoretical knowledge about forest fires and applies this information in practice using practical recommendations, which are developed based on the principles of "lesson learned" and "best practices". It was created on the basis of close cooperation with the General Directorate of the [Fire Rescue Service of the Czech Republic](#). It describes, among other things, the basics of the theory of combustion and the dynamics of natural fires. Their understanding leads to the correct prediction of the spread of this destructive element, which ultimately greatly assists in fighting fires, planning, and the systematic development of prevention and preparedness of forest stands and the natural environment against fires. The book is therefore designed to enhance not only firefighting practice, but also to expand the knowledge of forest owners and the general public. The book is considered a fundamental building block of the issue of forest fires, of which general knowledge is still very limited.

In the Czech Republic, fire damage amounts to millions of Euros. The book is actually used as a textbook for training professional firefighters and every member of the fire protection units (firefighter) in the Czech Republic must have the knowledge. Thanks to the book, fires are fought more effectively. The value saved thanks to good firefighting interventions, both financially and in terms of human health, is difficult to quantify.

Tick App

The [KlíšťApka](#) (Tick App) mobile application is an innovative tool for predicting tick abundance in forest ecosystems and reducing the risk of infection with tick-borne diseases. It was developed under the leadership of FLD within research projects supported by Forests of the Czech Republic, in cooperation with a consortium of five research institutions.

The app allows users to interactively work with a tick risk map, which is based on a unique extensive database containing multi-year data from more than 180 locations across the Czech Republic and an analysis of more than 50,000 common tick individuals. The models consider vegetation structure, climatic conditions, seasonal dynamics, and other environmental factors, thereby refining the level of prediction. The app uses exact scientific data and advanced modelling.

The social benefit lies primarily in preventive functions – informing the general public about the risk of tick bites, which helps to minimize the health impacts and economic costs associated with the treatment of these diseases. Approximately 5,000 people are infected in the Czech Republic annually; the Tick App responds flexibly to this fact. The importance of the app is demonstrated by more than 40,000 installations, its use in health protection, and presentations at international conferences and workshops.

The app, from a sustainability perspective, contributes to the long-term monitoring of the effects of climate change on the occurrence of ticks, thereby helping to protect public health and adapt to changes in environmental conditions. The Tick App thus offers an effective tool and has high potential in health protection.

We present world-class capacities in the field who can confirm that the application has an extraordinary benefit for society: Dr. Olaf Kahl, Dr. Peter Kraiczky, Dr. Hein Sprong, and Prof. Igor Drobyshev.

Protect old-growth forests in Europe now

This output is presented as an example of the results of basic research. It involves acquiring unique data supported by significant projects (e.g. [EVA project](#)) involving an international team of experts. These outputs are essential for the protection of old-growth forests in Europe. A letter published in [Science](#) was authored by an international team led by Martin Mikoláš from our Faculty. In this work, we assess the current status of old-growth forest conservation in Europe and propose key priorities and strategic measures to enhance the protection of these vital ecosystems.

A central focus of our research is the primary and old-growth forests, which store large amounts of carbon and provide essential habitats for many rare species. Forests in the Balkans and Carpathians, in particular, harbour extensive areas of such forests. We have studied these forests through the [REMOTE project](#) for over 15 years. The efforts of this team, led by Miroslav Svoboda, have resulted in the establishment of one of the largest networks of permanent research plots in primary temperate forests. This plot network plays a crucial role as baseline data for assessing the impact of environmental changes on forest dynamics and functions.

The manuscript has gained increased recognition in European scientific, political, and professional communities (Research Interest Score is higher than 99% of research items published in 2023, as measured by ResearchGate). The ideas presented in the letter and the collaborative efforts of the author consortium have also led to the development of a new H2020 project, FORbEST, which will begin in May 2025. This project will focus on the conservation of carbon-rich and biodiversity-rich forests.

[The outputs are published](#) in excellent scientific journals listed in the Nature Index database, such as NATURE, SCIENCE, etc.

SUSselect mobile mapping app

The [SUSselect](#) mobile mapping app was created as part of the major international [SUSTREE project](#) (Interreg Central Europe). This project brought together forestry research experts with a focus on genetics and physiology from eight scientifically significant institutions in six countries. FLD played a key role in this project. The aim of the transnational cooperation was to study the enormous genetic diversity of forest tree species and subsequently use this knowledge in the form of possible cross-border transfer of seeds or reproductive material.

This innovative app helps to identify current and future vulnerability of seven major forest tree species on a European scale and also includes the possibility of finding optimal seed sources for forest restoration. The primary objective was to support the use of genetic material for afforestation that appears to be most promising in the future in a changing climate within the region. Project outputs therefore included a range of tools that support professional decision-making in forestry

operations leading to the achievement of these objectives. An important milestone in the project was achieved with the presentation of SUSTREE at the meeting of the [Standing Forestry Committee \(SFC\) in Brussels](#). This was followed by a workshop informing politicians and stakeholders, attended by invited guests from Brussels political bodies. A film documentary titled [Borderless Forests](#) also contributed to the further communication of the project's outputs.

Thanks to the SUSselect app, assisted migration models (across Europe) are being practically integrated into the management of forest ecosystems and forest tree breeding programmes in Europe and other parts of the world. We present world-class capacities in the field who can confirm that the application has an extraordinary benefit for practice and society: [Dr. Antoine Kremer](#) (France), [Dr. Arne Steffenrem](#) (Norway), [Dr. Silvio Schüller](#) (Austria), [Prof. Andreas Bolte](#) (Germany).

Bark beetle repellent

The bark beetle repellent, which is a recognized patent, was created in response to an urgent social and ecological problem; between 2018 and 2022, the bark beetle attacked large areas of spruce forests in Europe.

As part of the [Extemit-K](#) project, aimed at mitigating the consequences of the bark beetle outbreak, alternative methods of forest protection were sought and developed with the aim of reducing the use of insecticides. Based on scientific knowledge about the chemical communication of bark beetles, research was conducted on the olfactory perception and behavioural responses of bark beetles to signal odour stimuli from their natural environment. These stimuli can repel pests or reduce the aggregation power of their pheromones.

Highly volatile anti-attractants originating from non-host deciduous trees (alcohols, aldehydes, and acetates with a carbon chain of C6) were identified as key repellents, which bark beetles recognize as unsuitable for colonization. In addition, volatiles naturally occurring in host trees were used, such as 1,8-cineole, which was detected in resistant spruces, and trans-4-thujanol, whose higher concentration in young spruces may signal the optimal age of the tree for attack. In addition, volatiles produced by associated fungi, such as trans-Conophthorin, 1-octen-3-ol and 3-octanol, were used.

This innovative approach falls within the concept of so-called “green management”. None of the substances used are toxic in the applied concentrations; all come from natural ecosystems, are biodegradable, and are applied in milligram quantities per hectare via evaporators hung from trees. The product is effective for the protection of individual trees or isolated groups, in urban parks, and in the protection of significant forest fragments. FLD is now ready to commercialize this patent. This alternative forest protection method has high potential for integration into standard bark beetle management practices, thereby increasing their effectiveness without causing further environmental damage.

Modern methods of protecting forest tree seedlings using hydrogels and other substances

[The output](#) was created based on the project “Proposal of operational – adaptation measures utilizing hydrophilic polymers to reduce the dieback of major tree species due to drought” supported by the National Agency for Agricultural Research.

The aim of the project was to evaluate the effect of hydrogel in various application methods on the vitality and growth properties of seedlings of selected tree species. Assessment of seedling vitality leads to more efficient management of forest seedlings, savings on materials, and also enables the restoration of stands where it was previously impossible or very problematic due to insufficient rainfall. Simultaneously, innovative operational measures and effective equipment using hydrophilic polymers were created (automated mechanized dosing during planting and new application options). Based on the research and development results, a comprehensive complex of outputs for planting in areas with a lack of precipitation was created: a hydrogel tablet (patent), a certified methodology for handling it, and an application machine protected by an international patent.

The tablet containing hydrogel and other excipients demonstrably reduces plant stress from lack of moisture and from transplanting, and it significantly increases the germination of seedlings (by up to a third). Simultaneously, it delays the onset of the wilting point during prolonged drought. The fungi contained in the tablet help the seedling roots to take well in the given location and significantly reduce their stress. It lasts in the soil for 4–5 years, then decomposes.

The output can also be applied in agriculture when growing perennial crops. The output is suitable for application on a global scale. The tablet is also being tested in several African countries (e.g., in the Ivory Coast and Ghana). The tablet is already in the commercialization phase. The first deals have been closed with large companies - Forests of the Czech Republic and others.

Behavioural response of wild boar to measures against the spread of African swine fever (predictive model)

This [model](#) was created to present the basic procedures used in eradication of African swine fever (ASF) in the Czech Republic, as a good example of cooperation between universities and practice at the national and international level. Its main benefit is its content – the acquired knowledge, experience, and recommendations, which were passed in this form to foreign authorities and thus significantly helped in the eradication of this devastating disease. It was presented, for example, at a [European Commission conference](#), and at [GF-TADs](#) meetings in 2019. At the end of one seminar, the President of this organization stated that "the Czech example proves that small scale incursions of ASF can be eradicated when scientific advice is followed and implemented in the field.

For example, in China, ASF led to a decline in pig populations by 20–50%. The estimated economic impact in China over ten years approached \$119 billion, similar to Vietnam (up to \$4.4 billion in 2019) and other countries. In the European Union, thanks to a proactive approach and application of the latest scientific knowledge, losses caused by ASF are not yet so high. The [State Veterinary Administration](#) effectively applied a system of measures in infected areas of the Czech Republic and gradually eradicated the disease. FLD cooperated intensively in these measures and used the findings obtained as part of the study of wild boar behaviour. The Czech Republic was thus the first country in the European Union to successfully defeat the disease in wild boar. This procedure was successfully applied in subsequent years and is still used in Belgium, Sweden, Germany, and Italy.

The output was created based on the project "Behavioral reaction of free-living wild boar on measures adopted against spreading of AFS virus", supported by the National Agency for Agricultural Research.

FOREST RESTORATION web app: an innovative tool for effective forest restoration and support of sustainable management

The [FOREST RESTORATION](#) web app is a practical and user-friendly tool that is already used by more than 500 users (it was launched at the end of 2023). This app responds to the current challenges associated with the bark beetle outbreak and the need for effective forest restoration. It allows users to plan, calculate, and compare the costs of forest restoration up to the time of establishing the stand, including calculation of possible state-provided contributions to forest management.

The app is based on scientifically based models, performance standards and material inputs, which allows users not only to work with preset variants, but also to create their own models according to their requirements. Thanks to this, users can make informed decisions about how and with which tree species they will restore their forest stands. The app is free, online and usable on both computers and mobile devices.

Practical use of the app is wide: from small forest owners who need a quick and clear calculation of costs, to forestry enterprises that require detailed planning and optimization of processes. The app allows the user to modify individual parameters, such as area of the stand, representation of tree

species, prices of planting material, individual cultivation activities, up to wage tariffs, and then compare various scenarios of forest restoration. This allows users to choose the most suitable option, which also allows optimizing costs or determining the level of contributions provided for forest management.

In practice, the app significantly simplifies and streamlines decision-making and helps reduce the costs of forest restoration. It also supports sustainable forest management, which is key to preserving biodiversity and mitigating the impacts of climate change. It was created as part of an internal FLD call to support outputs intended for practice and society.

Transparent coating for oak wood, material based on oak wood with extended colour stability, component for the production of exterior wooden structures containing it and their use

The invention of a patented technical solution for a transparent coating system in the form of a glaze was developed within the scientific research project TA CR EPSILON.

This is a transparent coating system with a high degree of protection against UV radiation and other biotic and abiotic factors that have a long-term destructive effect on the surface structure of wood when exposed to interior and exterior conditions. The system has a 2.5-fold longer service life compared to previously used coating systems, which represents a 30–40% cost saving on surface protection and a time saving on its renewal in terms of base preparation and application to wood. The result of the transparent coating system technical solution expands the possibilities of current applications and further development of deciduous wood species on a large scale, namely for exteriors in the construction sector, for urban furniture, playgrounds, pergolas, load-bearing structural elements, gardens, cladding, fences, walkable terrace boards, pergolas, walkways and bridges, lookout towers, and more. Transfer of the technical solution to production took place through the Rhenocoll CZ company and the distribution and sales system in the Dřevocentrum.cz sales chain, which consists of 15 wholesalers throughout the Czech Republic. The developed system is marketed under the technical name of the DColor FK 47 UV Protect glaze. Furthermore, the coating system is used within the own production programme of MATRIX a.s. company and is being introduced into the production programmes of other manufacturers. Sales volume of the coating system are already in the order of thousands of litres. In each subsequent year, there is a significant increase in sales due to the introduction into wholesaler networks. A very realistic assumption is to achieve sales in regular volumes of 250,000 litres/year within five years, which with an average large package corresponds to 70,000 packages/year.

Our outputs consider the gender dimension; the vast majority of them for free (freely available applications, methodologies, policy briefs, and others), but also sold commercially, serve a wide range of users regardless of gender and age.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Expert output for policymaking	2019	Living with bark beetles: impacts, outlook, and management options
Book	2021	Firefighting in the natural environment
Software (app)	2023	Tick App
Article (Expert output for policymaking)	2023	Protect old-growth forests in Europe now

³⁰ Specify the specific type of result. Add rows as needed.

Software (app)	2019	SUSselect mobile mapping app
Domestic patent	2022	Bark beetle repellent
Prototype	2022	Modern methods of protecting forest tree seedlings using hydrogels and other substances
Predictive model	2019	Behavioural response of wild boar to measures against the spread of African swine fever
Software (app)	2023	FOREST RESTORATION web app: an innovative tool for effective forest restoration and support of sustainable management
Domestic patent	2023	Transparent coating for oak wood, material based on oak wood with extended colour stability, component for the production of exterior wooden structures containing it and their use

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

Examples of new user search results and commercialization.

As part of its scientific and research activities, the Faculty develops certified methodologies, maps, software, and results with legal protection (patents, utility models) that are ready for practical use. The outputs are focused on innovation and the application of acquired knowledge in practice. Subsequently, it focuses intensively on effective transfer of scientific and research results into practice, thereby supporting innovation and the application of new knowledge in the forestry and wood science sector. This process takes place in several ways:

Council for cooperation with practice

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

The Council for Cooperation with Practice consists of FLD management and eight representatives of major employers and professional organizations from the forestry and wood science sector. The Council holds regular meetings and functions as a link between the academic and educational life of the Faculty and professional practice, and expresses its views in particular on study plans with regard to the future employment of graduates, on student internships, on lifelong learning programmes, and on cooperation in the field of science and research. However, it also brings new impulses and opportunities for scientific and professional cooperation, focusing on transferring results into practice.

Collaboration with students and experts from practice

The Faculty is very active in experts' involvement in teaching, organizing excursions, student competitions, announcing thesis topics according to practical needs, and implementing various other activities. In this way, academic knowledge is combined with real-world challenges. An example is a student competition in cooperation with the Railway Administration, where the winning designs for wooden railway stops were implemented.

Newsletter for practice

FLD publishes an annual Newsletter for practice, which informs the professional public about the results of research projects and their practical use, as well as offers specific cooperation. This document is published as a supplement to the *Lesnická práce* journal and is also directly distributed to entities from forestry and wood science practice. It supports communication between academia and industry.

Professional events

FLD regularly organizes professional events, workshops, and training sessions that support deepening cooperation with practice and the transfer of scientific and research results to the real world. The most important events include Forestry Day, which focuses on the presentation of current research and results in forestry science, and Wood Science Day, which is an opportunity for experts from the wood processing sector to share innovations and discuss sustainable development. Other important forms of cooperation include workshops, where participants gain practical skills in modern procedures and technologies under experts' guidance. Professional training and lectures provide a platform for the dissemination of current knowledge between academics and experts from practice. Career Day is also useful for students, as it facilitates establishing contacts with potential employers. Another valuable opportunity for connecting academia and practice is Alumni Day, where students have the opportunity to talk with graduates about their career paths and practical experience, while also meeting potential employers.

Creation of expert opinions and support for legislative and strategic development

FLD actively participates in the creation of expert opinions and support for legislative and strategic development. It focuses on the preparation of strategic documents for the state sector, where it provides expert analyses and recommendations. It is also involved in commenting on legislative regulations. An example is active cooperation on the creation of the strategic document Raw Material Policy for Wood (in Czech), which was approved by the Government of the Czech Republic in 2024, or comments on the Forestry and Hunting Act, which help shape the legislative framework for forestry in the Czech Republic.

FLD actively seeks new users of its results through professional conferences, networking events, and direct contacts with businesses and public institutions or e.g. [EU-FarmBook](#). Collaboration is also sought through various research grants and European projects.

Typical users of research results include:

Forest owners and managers: The Faculty cooperates on research and applied projects that address specific issues in forestry. This involves cooperation with state owners ([Forests of the Czech Republic](#), [Military Forests and Estates](#)), municipalities, towns, church properties, but also private forests. Activities are also directed towards the nature conservation (national parks, protected areas). Examples include the Archbishop's Forests and Estates of Olomouc and the City Forests of Hradec Králové (film [Forests of the Future](#)), Bohemian Switzerland National Park ([virtual tour](#) after a forest fire), and Forests of the Czech Republic (establishment of seed orchards).

Forestry and wood processing companies: The cooperation focuses on the application of new technological procedures, products, and improvement of production processes in the wood processing industry and forestry. The Faculty also participates in the testing and development of new technologies for the forestry and wood processing sector. We cooperate, for example, with [Matrix a.s.](#) (development of coatings) and [Kästle CZ](#) (development of wooden core prototypes for downhill skis).

State and public institutions: The cooperation includes consultation and support in the creation of legislative documents and policies, e.g. Raw Material Policy for Wood. Also, the creation of applied outputs (software, certified methodologies) for the needs of state administration (e.g. Ministry of Agriculture, Ministry of the Environment), National Museum of Agriculture, and others.

Research and expert institutions: The Faculty cooperates with other academic and research institutions, for example in implementing projects financed from public sources. Examples include the National Institute of Public Health and the Research Institute of Forestry and Hunting ([Tick app](#)), State Veterinary Institute (African swine fever), Fire Rescue Service of the Czech Republic (summaries of fire protection units – forest fires), Czech Hunting Union and the Wood for Life Foundation (film [Forests of the Future](#)).

The public

Using applied outputs ([apps](#), [films](#), etc.) and activities of the university's third role. This also includes involvement in Citizen Science projects.

Commercialization and evaluation of research results:

The Faculty commercializes scientific results primarily through the sale of licenses (e.g. sale of the license for the film *Forests of the Future* for Czech Television), but also by supporting the establishment of start-ups (via the CZU Incubator). As part of commercialization, results are also used in the form of certified methodologies and software, which can be licensed to other entities in practice. In total, funds obtained from non-public non-grant sources for 2019–2023 amounted to 348,700 EUR. This is an almost 60% increase compared to the previous evaluated period. This significant increase was achieved primarily thanks to activities which followed from international projects (e.g. commercial organization of international conferences). In the area of wood processing

and expert commercial activities, the increase was mainly due to orders from the Laboratory of chemical processing of wood and biomaterials with direct outputs to the production sphere of the contracting authorities and other activities.

FLD actively supports commercialization through an internal call; every year, Faculty outputs are selected and intensively supported within commercialization (financially, by involving a commercialization specialist, etc.). The selected outputs supported in this way include the creation of a patent for transparent coating; thanks to this support, it is sold in thousands of litres and has high commercial potential. The Faculty support of Excellent Science and Teams (Documents S&R) is also vital. Emphasis is placed on the creation of new outputs intended for practice and society and their subsequent commercialization. It is clear from this long-term support that the creation of new outputs intended for practice is very important for the Faculty and it pays significant attention to it. The Faculty outputs are predominantly non-commercial and often have an extraordinary benefit for society (eradicating African swine fever, protecting forests from fires, protecting people from ticks, protecting forests from bark beetle outbreak, etc.). We consider it a key role of the Faculty for society.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Training, conferences and courses	16,692	11,269	26,936	5,556	6,565
Sales of wood processing	10,104	13,254	9,117	18,308	24,830
Expert and consulting activities	30,286	39,778	35,361	27,929	44,789
Foreign commercial grants	0,000	11,853	7,054	6,743	0,000
License sales	0,000	0,000	0,000	2,257	0,000
Total	57,082	76,155	78,468	60,793	76,183

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

We popularize the outputs of the Faculty science and research through various activities in order to reach the largest possible number of people. For example, we use the student association [Popularization of Science](#), where students popularize current scientific articles by scientists from our Faculty. We then distribute them on the Faculty's social networks ([Facebook](#), [Instagram](#), [TikTok](#), etc.), a special [university website for the public](#), and in the University magazine [Živá univerzita](#). Since 2022, we have been publishing the Faculty magazine for the public, [Leaves from the Forest](#). We contribute to the University podcast [Podcast plný života](#) with current topics. We create videos that we publish on the Faculty YouTube channels; the [Czech version](#) already has more than 1000 subscribers and 118 videos have been published there; the [English version](#) contains 21 videos.

We present current results in the field of science and research to the general public at various types of [Faculty educational events](#) and through [student association events](#). Our Faculty is open to the public several times a year. Three times a year (January, March, November) we organize [Open Days](#) with a complex accompanying programme in the form of open [laboratories](#) and collection demonstrations. We prepare a programme for the public with presentations on various topics as part of events such as [Night of Scientists](#), [Garden Fest](#), [Silva Regina](#), [Natura Viva](#), etc. We organize various [professional lectures](#) and [film screenings with discussions](#). We also work with children, create various [educational materials for schools](#), and implement forest pedagogy programmes.

Scientific results are regularly [presented in the media \(press releases, reports, articles\)](#) and in films produced by us. It is also important to promote scientific results at the university [Prague Science Film Fest](#), which we co-organize. We consider it important to present our scientific outputs at various [conferences and workshops](#). Our [applied outputs](#) are also significant. We regularly publish a [Newsletter for practice](#) not only for the professional public, which presents selected applied outputs. The [apps](#) we have developed are very popular with both the lay and professional public.

The courses of the [University of the Third Age \(U3A\)](#), which deal with various topics and which we regularly open to seniors, are also very popular.

Our most important outputs in this area are:

Forest bioeconomy for primary schools (year of establishment 2023)

Our scientists, foresters, and elementary school teachers, together with our [Norwegian partner Skogkurs](#), have created [educational material](#) for use in elementary school teaching. The [project](#) (Experience The Forest), funded by the EEA Funds, has produced [60 activities](#), which are divided into four thematic modules that can be used in and out of the classroom. Each activity consists of a methodological sheet for teachers and a worksheet for students. Methodological sheets provide teachers with necessary information, including recommendations for the appropriate grade, a list of necessary tools, approximate time requirements, and linking the activity to the cross-curricular themes of the Curriculum Framework (CF). Each module is structured in such a way that if students become familiar with all 15 activities during the course, they will gradually pass the so-called environmental graduation exam and thus develop their sustainability knowledge, skills, abilities, attitudes, and values. However, the modules are prepared so that each activity can be used independently, without prior connection. The materials are distributed to schools throughout the Czech Republic. Teachers particularly appreciate the link to the CF, the usability for teaching various subjects (science, geography, mathematics, Czech language, and others). The educational modules can be found in [electronic form](#).

Documentary film Forests of the Future (2023)

This [documentary](#), dedicated to the future of Czech forests, was filmed by the Faculty of Forestry and Wood Sciences of the Czech University of Life Sciences in Prague together with Czech Television, CZU Forests, Municipal Forests of Hradec Králové, Archbishop Forests and Estates Olomouc, and the Wood for Life Foundation. Leading scientists talk about the challenges Czech forests are facing and describe technologies that can help them on their path to regaining their health. The premiere of the film, voiced by actor Aleš Háma, was broadcast by Czech Television on ČT2 channel on 21st March, International Forest Day. The film can be viewed on [Czech Television's internet broadcast](#), and with [English subtitles](#) on YouTube FLD. The film was screened at international festivals, such as [Prague Science Film Festival](#), [Academia Film Olomouc](#) and Agrofilm. At the 39th International Agrofilm Film Festival in Nitra, it won the Rector's Award of the Technical University of Zvolen. It managed to prevail against 90 documentaries from 22 countries around the world.

Tick App (2023)

An innovative [smart mobile app](#) that predicts tick abundance and activity, including the risk of Lyme disease, brings a revolutionary approach to tick monitoring in forests. After launching the app, the user is greeted by an introductory animation and then an educational [Wiki section](#) that provides useful information about ticks. It contains practical measures about the spread of ticks and serious diseases, debunks myths about ticks, provides instructions for safe tick removal, and describes other, lesser-known tick species. The main function of the app is an interactive map of the Czech Republic, which shows in detail the risk areas of forest stands. The [app](#) also allows users to save information about ticks that bit them. The Tick App (KlíšťApka) is free to download for Android OS on [Google Play](#).

Virtual tour of Bohemian Switzerland National Park (2022)

A catastrophic forest fire hit Bohemian Switzerland National Park in July 2022. By Czech standards, it was an exceptionally large fire, affecting an area of more than 1,000 hectares of forest. The

introduction of new technologies into forestry practice, such as the [use of drones](#), has also proven effective in extinguishing it. Drones have proven to be the most suitable method of monitoring fire areas, as the use of helicopters increases the risk of spreading latent fire outbreaks. [Scientists from FLD CZU](#) took photos of the area where the fire was spreading and prepared a [virtual tour](#). Now you can see what the fire scene looked like after the massive forest fire was extinguished. The uniqueness of this output lies in the fact that the Park can be visited by people with disabilities who cannot physically visit the area. The tour is also available to the general public; after the largest forest fire in the Czech Republic, public entry was completely prohibited for safety reasons. This is a unique opportunity to see the National Park and see its condition immediately after the fire. Footage of the extinguishing of this extensive fire can be seen in the film [Forests of the Future](#).

Forest Diversity application and web portal – mapping of habitat trees (2022)

The [Forest Diversity Project](#) was created at the Faculty of Forestry and Wood Sciences of the Czech University of Life Sciences in Prague and deals with forests and their diversity. The purpose of the [Forest Diversity mobile](#) app was to create an online database of habitat trees as important elements supporting (not only forest) biodiversity based on data from mapping by nature conservation, forestry and educational institutions, as well as by the general public interested in nature and its protection (Citizen Science). In both cases, the potential for using the records for scientific purposes applies. Overall, the collected data and the project as a whole contribute to spreading awareness about the importance of habitat trees for protecting the biodiversity of a large number of endangered [species](#), the need for their protection, and responsible behaviour in their vicinity. This is an important prerequisite for the presence of these trees in the landscape and in suitable places in the urban environment. The application is also linked to a creatively designed [web portal](#) of the same name, which provides a map with saved records and is focused on education. The application is available for download for both [Android](#) and [iOS](#).

TreeZ – application for identifying tree pests (2021)

As part of the [project](#), a [web portal](#) connected to mobile apps (for [Android](#) platforms) was created, which primarily enables the identification, localization, and monitoring of the causes of tree damage. An integral part is the [pest atlas](#), which currently represents a database of more than 200 species of insect and fungal agents that most often occur on woody plants. The application allows users to quickly find a specific causal agent and then find out information about its biology, the possibility of confusion with a similar pest, and what defence options are available. Pest identification takes place in two phases: first by the user based on filtering from the pest atlas according to typical signs of damage; and second, identification is verified by an expert on the application operator's side. [The app](#) is popular with gardeners and owners of various types of land for easy identification of pests on woody plants.

The film Forests Without Borders (2019)

The film [Forests Without Borders](#) was created as part of the [SUSTREE project](#) "Conservation and sustainable use of forest biodiversity in the context of global climate change" (Interreg CENTRAL EUROPE). The film draws attention to the current issues of the reproductive material transfer within Central Europe, in particular the legislative obstacles to transfer, but also the problematic sharing of evidence on available reproductive material. The SUSTREE project does not consider the introduction of non-native forest tree species; rather, it recommends utilizing the enormous adaptive capacity of native species, which is the basis of newly developed delineation models. Extreme climatic events in recent years have underlined the need for broader cooperation within Europe at the level of practical forest management and joint reproductive material registers.

FLD Podcasts (2021–2024)

Nowadays, [podcasts](#) are one of the most effective ways of reaching a wide audience and presenting professional topics in a clear and engaging way. They allow sharing information, inspiring and opening up discussion about current issues and new findings. Podcasts are easily accessible and people can listen to them anytime and anywhere, which makes them an important tool for education and popularization of science.

Since 2021, the Faculty of Forestry and Wood Sciences CZU has been dealing with a diverse range of topics that reflect current challenges and interesting facts related to forests and nature. They include: [Large mammals in the Czech Republic](#); [Forestry under the influence of solar activity](#); [Managing urban greenery](#); [Ticks](#); [Bark beetle outbreak](#); [Hunting tourism](#); [Game telemetry](#); [Drones in forestry](#); [Forest fires](#); [Fungi on trees](#); [Ancient forests and their protection](#); and [Medicinal properties of forest plants](#). Podcasts on these topics bring valuable information to both experts and the general public.

Forestry education activities (forestry pedagogy, YPEF competition, Lesárium exhibition)

Forestry adult education and [forest pedagogy](#) play an important role in raising public awareness about the importance of forests and sustainable forest management. The Faculty of Forestry and Wood Sciences of the Czech University of Life Sciences in Prague [actively participates in these activities](#) through the annual implementation of forest education programmes for children in cooperation with CZU Forests, the [Summer children's university](#), and the organization of the regional and [national rounds of the international YPEF \(Young People in European Forests\) competition](#). This [international competition](#), which involves countries from all over Europe, helps young people better understand the importance of forestry. The Faculty also teaches [Forestry adult education and forest pedagogy](#), within which students can obtain a forest educator certificate. Forest pedagogy, based on direct contact with the countryside, helps people perceive the forest with all their senses and understand its meaning. As part of forestry education activities, [The Lesárium exhibition](#) was installed at the chateau in Kostelec nad Černými lesy in 2023; it introduces visitors to modern forestry, forest functions, and the history of forestry education. The exhibition also includes an outdoor trail for children with 14 different interactive elements.

Events for the public and the Faculty magazine "Leaves from the Forest" (Listy z lesa)

The Faculty of Forestry and Wood Sciences of the Czech University of Life Sciences in Prague organizes and co-organizes [dozens of events](#) every year; their aim is to present the public with current results of forestry and wood sciences and explain the principles of the forest ecosystem. The most important include [Night of Scientists \(video presentation\)](#), [Open Days](#), [professional fairs](#), and thematic excursions and lectures that present modern findings from research and practice. In addition to these events, since 2022, the Faculty has been publishing a [popular science magazine called Leaves from the forest](#), which presents the attractiveness and topicality of the forestry and wood sciences field. The magazine appeals to a wide range of readers, from experts to families with children. It offers interviews, information about scientific discoveries, but also fun, such as venison recipes or activities for children. Through these activities, the Faculty fulfils its social responsibility, [connects science with practice](#), and inspires [the public to learn about forests](#) and their importance for the future.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

For the previous evaluation period (2014–2018), FLD was rated by the International Evaluation Panel as Grade 1 “Excellent”. From 2019 to 2023, we continued to support science intensively, acquiring important projects, transferring outputs to practice, and focusing on popularization, which we describe in detail in previous chapters. Below, we present four recommendations for this evaluation period and briefly present the implementation of these recommendations, our strategies, and new results.

(I)

“The faculty is performing research of extremely high societal relevance both at the national and international levels. This fact is mirrored in the major sums obtained both from project grants and from contract research. *Such high success of course creates demands for support at least the same level in the future, which in turn demands a very high activity among the faculties scientists in applying for new grants and in finding new contract partners.”*

The Faculty continued to provide significant support for project activities. During the monitored period, new research infrastructure was acquired and existing equipment was renewed. Faculty management also allocated sufficient financial and human resources for the preparation and administrative support of the implementation of external projects. The department ensuring the implementation of projects has a sufficient number of well-experienced employees. This allowed scientists to focus purely on the scientific and research parts of project applications. During the monitored period, the **total financial amount received from external sources increased significantly (by 150%)**, and various grant sources were also diversified. In addition to a consistently high number (which has increased as well) of national projects (operational programmes, programmes of the Technology Agency of the Czech Republic, the Grant Agency of the Czech Republic, resources from the Ministry of Agriculture, etc.), the Faculty has received a large number of prestigious international grants (primarily from Horizon Europe, Horizon 2020, Interreg, etc.). FLD also coordinated some of these projects (e.g. REFOREST), which was the first time in its history. For other projects, it was responsible for work packages or tasks. This trend indicates a high level of expertise and internationalization of many scientists and scientific teams at the Faculty. Another positive is the significant diversification in the focus of projects from forest management, silviculture, forest bioeconomy, wildlife biology, and molecular biology to technological projects focused on wood utilization. In the area of contract research, we have also recorded an **increase in the financial volume (more than a threefold increase)**. This demonstrates a high level of cooperation with practice, who perceive our as a suitable partner for cooperation and for the development of new technologies. **FLD also significantly increased revenues from non-public sources (an increase of almost 60% compared to the previous period).**

(II)

“The faculty is highly active in producing research results that are directly applicable in forestry and wood processing. This strong ambition has to be upheld in the coming period. It is very important that strong connections and intense communication with different stakeholders is upheld,

strengthened and encouraged. The faculty is very active in finding connections in society and to transfer its knowledge into action. The interactions with non-academic bodies are very strong. The faculty has to make sure that it continues to actively support commercialisation of suitable project results.”

In the monitored period, **295 outputs intended for society and practice were created** (in the previous period, 247 outputs). Enormous efforts were devoted to communication with various stakeholders; see chapters 3.5 and 3.6. These activities are intensively supported in the form of [internal calls for excellent science and teams](#) (within these calls, publication activities, popularization, and other scientific and research activities are also supported, among other things). FLD is also very successful in evaluating its outputs for society and practice, the “Quality of selected outputs” according to [Methodology 2017+](#) (Module 1). As part of this collection, each institution determines its best outputs and submits them for evaluation. [The evaluation](#) of our outputs is significantly above average compared to other universities.

Outputs assessed as Level 1 "**World-leading result: FLD - 18.4% of outputs**, average of Universities ("U") - 9.7%;

Level 2 "Excellent results": FLD - 47.4% of outputs, "U" - 34%;

Level 3 "Very good results": FLD - 23.7% of outputs, "U" - 36.1%;

Level 4 "Average results": FLD - 10.5% of outputs, "U" - 15.4%,

Level 5 "Below-average results": FLD - 0% of outputs, "U" - 4.9%.

This critical assessment for universities points to the high quality and social relevance FLD outputs.

(III)

“The faculty should continue to increase its international visibility. This is best done by producing high level publications and results but also by actively nominating members for prizes and awards. The publication record has taken off significantly during the last years.” The faculty should actively support increased publication in high level journals to further increase the faculty’s visibility internationally.”

We are successfully increasing our [publication activities](#). In 2018, FLD published 185 outputs on the Web of Science, while **in 2023 it was 269 publications** (1.7 publications per 1 academic full-time employee). In terms of the quality of outputs, **22% of articles were published in the first decile according to Article Influence Score** and almost 90% of articles were published in the first and second quartiles, i.e. in very high-quality journals. We are scientifically robust in the scientific areas that are important to us: (i) Agriculture, Forestry and Fisheries, (ii) Biological sciences, and (iii) Earth and related environmental sciences. We consider the prestigious awards we have received as a commitment.

(IV)

“The faculty is already very active in supplying information about its activities. This level of ambition has to be kept up and even strengthened. It is important to constantly look for new channels to inform the general public.”

These activities are enormous considering the size of our institution (see in 3.5 and 3.6). In the long term we have been consistently dedicated to significant and pressing topics within the field and have been translating the results of our science into practice, where they are appreciated. Lastly, we also fulfil the role of a [socially responsible Faculty](#).

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
FLD	3.1	https://www.fld.czu.cz/en
Faculty Authorities	3.1	https://www.fld.czu.cz/en/r-9412-about-faculty/r-9446-faculty-authorities
Faculty departments	3.1.	https://www.fld.czu.cz/en/r-9413-departments
Excellence in Scientific Publications	3.1	https://www.fld.czu.cz/en/r-11220-news-homepage/czu-among-the-top-excellence-in-scientific-publications-reco.html
FLD Strategic plan	3.1	https://www.fld.czu.cz/en/r-9412-about-faculty/r-15634-official-documents/r-17434-strategic-plan-and-annual-plan-of-realization
FLD Study programs	3.1	https://www.fld.czu.cz/en/r-9414-study/r-9500-study-now
FLD - U3A	3.1; 3.6	https://www.fld.czu.cz/en/r-9414-study/r-9500-study-now/r-20982-other-studies/r-20983-u3a/u-3-a.html
FLD - Research Technical Background and Equipment	3.1	https://www.youtube.com/watch?v=NPIgm74rNR0
FLD -Publication activities	3.1; 3.2	https://www.fld.czu.cz/en/r-9415-science-research/r-9536-staff-outputs/r-12264-excellent-outputs
FLD – Projects	3.1	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-11062-projects
FLD – Applied outputs	3.1; 3.5; 3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-18790-applied-outputs
FLD - helps	3.1; 3.7	https://www.fld.czu.cz/en/r-9412-about-faculty/r-9449-faculty-activities/r-15677-we-help
FLD - partnership	3.1	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-15650-partnership
International Agricultural Exhibition	3.2	https://www.vcb.cz/en/events-calendar/zeme-zivitelka-2025-51st-year
Central European Forestry Journal	3.2	https://web.nlcsk.org/en/6594-2/
Journal of Forest Science	3.2	https://ifs.agriculturejournals.cz/artkey/inf-990000-1700_Editorial-Board-JFS.php
Dr. Andrew M. Liebhold	3.2	https://scholar.google.com/citations?user=lw73c08AAAAJ&hl=en

Project: HIVE: Centre for Biological Invasions in Forests	3.2	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-11057-visual-projects-and-partnerships/fld-celebrates-winning-the-prestigious-era-chairs-project.html
Conferences at FLD	3.2; 3.6	https://www.fld.czu.cz/en/r-9415-science-research/r-9537-conferences/r-15658-conferences-at-fld
EFI Conference	3.2	https://www.fld.czu.cz/en/r-9415-science-research/r-9537-conferences/r-15658-conferences-at-fld/efi-conference.html
2025 EFI Annual Conference	3.2	https://efi.int/membership/ac/2025
23rd EMAN Conference	3.2	https://www.fld.czu.cz/en/r-9415-science-research/r-9537-conferences/r-14327-23rd-eman-conference
IUFRO Conference	3.2	https://www.fld.czu.cz/en/r-9415-science-research/r-9537-conferences/r-15658-conferences-at-fld/iufro-conference.html
ISCE conference	3.2	https://www.uochb.cz/en/event-calendar/306/39th-annual-meeting-of-the-international-society-of-chemical-ecology
Arborist conference	3.2	https://www.fld.czu.cz/en/r-9415-science-research/r-9537-conferences/r-15658-conferences-at-fld/arborist-conference.html
WoodEMA onference	3.2	https://www.fld.czu.cz/en/r-9415-science-research/r-9537-conferences/r-15658-conferences-at-fld/woodema-conference.html
Climate, water, and soil conference	3.2	https://www.fld.czu.cz/en/r-9415-science-research/r-9537-conferences/r-15658-conferences-at-fld/climate-water-and-soil-conference.html
International conference to support forestry in Ukraine	3.2	https://www.fld.czu.cz/en/r-9415-science-research/r-9537-conferences/r-15658-conferences-at-fld/international-conference-to-support-forestry-in-ukraine.html
Hylobius Workshop	3.2	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-12439-news-projects-and-partnerships/fld-hosted-an-international-workshop-on-emerging-trends-in-p.html
Bioeconomy Platform of the Czech Republic	3.2	https://bioeconomy.czu.cz/en
Managing bark beetle outbreaks in the 21st	3.2	https://foresteurope.org/wp-content/uploads/2023/07/Policy-brief-Managing-bark-beetle-outbreaks-in-the-21st-century.pdf

century		
Deadwood and Fire Risk in Europe	3.2	https://publications.jrc.ec.europa.eu/repository/handle/JRC134562
Living with bark beetles: impacts, outlook and management options	3.4	https://efi.int/publications-bank/living-bark-beetles-impacts-outlook-and-management-options
European Forest Institute	3.4	https://efi.int/
How to Respond to Forest Disturbances in Europe	3.4	https://efi.int/policysupport/thinkforest/disturbances
Resonate	3.4	https://resonateforest.org/
Firefighting in the natural environment	3.4	https://hzscr.gov.cz/clanek/haseni-pozaru-v-prirodnim-prostredi.aspx
Fire Rescue Service of the Czech Republic	3.4	https://hzscr.gov.cz/hasicien/article/fire-rescue-service-of-the-czech-republic-frs-cr.aspx
Tick App	3.4; 3.5; 3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-18790-applied-outputs/r-18800-apps/klisapka-stay-one-step-ahead-of-ticks-in-the-forest.html
Dr. Olaf Kahl	3.4	https://www.researchgate.net/profile/Olaf-Kahl
Dr. Peter Kraiczy	3.4	https://www.researchgate.net/profile/Peter-Kraiczy
Dr. Hein Sprong	3.4	https://www.researchgate.net/profile/Hein-Sprong
Prof. Igor Drobyshev	3.4	https://www.researchgate.net/profile/Igor-Drobyshev
EVA project	3.4	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-11062-projects/r-12135-external-projects/r-15837-structural-funds/r-15844-completed-projects/r-13554-eva4-0
Science - Protect old-growth forests in Europe now	3.4	https://www.science.org/doi/10.1126/science.adh2303
REMOTE project	3.4	https://www.remoteforests.org/
REMOTE project - outputs	3.4	https://www.remoteforests.org/science.php

SUSTREE project	3.4	https://programme2014-20.interreg-central.eu/Content.Node/SUSTREE.html
SFC	3.4	https://ec.europa.eu/transparency/expert-groups-register/screen/expert-groups/consult?lang=en&do=groupDetail.groupDetail&groupID=3550
Borderless Forests	3.4	https://www.youtube.com/watch?v=NPVe8-1rihw
Dr. Antoine Kremer	3.4	https://www.kremer-antoine.com/vitae
Dr. Arne Steffenrem	3.4	https://www.nibio.no/en/employees/arne-steffenrem
Dr. Silvio Schüller	3.4	https://bfw.gv.at/en/departments-en/forest-growth-silviculture-genetics/
Prof. Andreas Bolte	3.4	https://www.thuenen.de/de/fachinstitute/waldoekosysteme/personal/leitung/prof-dr-andreas-bolte/prof-dr-andreas-bolte-publikationen
Extemit-K	3.4	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-11062-projects/r-12135-external-projects/r-15837-structural-funds/r-15844-completed-projects/r-12251-project-extemit-k
Hydrogel – a lifeline for drought-threatened forests?	3.4	https://www.fld.czu.cz/en/r-9415-science-research/r-9536-staff-outputs/r-15661-popularization-of-science/r-16889-hydrogel-a-lifeline-for-drought-threatened-forests
European Commission conference	3.4	https://www.face.eu/2019/03/twelfth-meeting-of-experts-on-african-swine-fever-in-europe-gf-tads/
GF-TADs	3.4	https://www.gf-tads.org/about/en/
State Veterinary Administration	3.4	https://en.svscr.cz/
FOREST RESTORATION	3.4	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-18790-applied-outputs/r-18800-apps/-obnova-lesa-forest-restoration-web-application-for-practice.html
DColor FK 47 UV Protect	3.4	https://eshop.drevocentrum-as.cz/z105679-dcolor-fk-47-uv-protect-5-l
MATRIX a.s.	3.4; 3.5	https://matrix-as.cz/
The Council for Cooperation with Practice	3.5	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-15650-partnership/r-11011-council

Railway stop	3.5	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-18790-applied-outputs/r-18801-others/railway-stop-chrenovice-podhradi.html
Newsletter for practice	3.5; 3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-18790-applied-outputs/r-20918-newsletter-for-practice
Raw Material Policy for Wood (in Czech)	3.5	https://mze.gov.cz/public/portal/mze/-a48340---kGKIJMp6/surovinova-politika-pro-drevo? linka=a583970
EU-FarmBook	3.5	https://eufarmbook.eu/en
Forests of the Czech Republic	3.5	https://lesycr.cz/en/
Military Forests and Estates	3.5	https://www.vls.cz/en
Forests of the Future	3.5; 3.6	https://www.youtube.com/watch?v=B08e8PVFINM
Kästle CZ	3.5	https://kaestle.com/cs-cz
FLD – Ouputs - apps	3.5; 3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-18790-applied-outputs/r-18793-other-outputs
FLD – Outputs - films	3.5	https://www.fld.czu.cz/en/r-9412-about-faculty/r-9449-faculty-activities/r-15676-our-movies/our-movies.html
FLD – Support of Excellence Science	3.5	https://www.fld.czu.cz/en/r-9415-science-research/r-12984-documents
FLD - Popularization of Science	3.6	https://www.fld.czu.cz/en/r-9415-science-research/r-9536-staff-outputs/r-15661-popularization-of-science
FLD -FB	3.6	https://www.facebook.com/fld.czu.cz?mibextid=wwXlfr&rid=R5tamIOqJ3EF1gMd&share_url=https%3A%2F%2Fwww.facebook.com%2Fshare%2F12H6castGQP%2F%3Fmibextid%3DwwXlfr#
FLD-IG	3.6	https://www.instagram.com/lesarna/?igsh=MTlwcWZnc3NreWo2Mg%3D%3D#
FLD-TikTok	3.6	https://www.tiktok.com/@lesarnapraha? t=ZN-8t2MBIRon2s& r=1
Special CZU web for public	3.6	https://zivauni.cz/
CZU – Magazin – Živá univerzita	3.6	https://www.czu.cz/cs/r-7210-o-czu/r-7701-pro-media/r-8557-magazin-ziva-univerzita
Leaves from the Forest	3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-15650-partnership/r-20964-leaves-from-the-forest

CZU - Podcast plný života	3.6	https://www.youtube.com/playlist?list=PL2xZHQPvGICC WYwhNAEY-ljLpPvgoTSj
Faculty YouTube channels - CZ	3.6	https://www.youtube.com/@FLDvPraze
Faculty YouTube channels - AJ	3.6	https://www.youtube.com/@FLD_%C4%8CZU
FLD - Events	3.6	https://www.fld.czu.cz/en/r-9412-about-faculty/r-9449-faculty-activities/r-15654-exhibitions-and-fairs
Activities of student associations	3.6	https://www.fld.czu.cz/en/r-9412-about-faculty/r-9449-faculty-activities/r-15872-activities-of-student-associations
FLD -Open days	3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-12132-cooperation-with-schools/r-12888-open-days
FLD - Laboratories	3.6	https://www.fld.czu.cz/en/r-9415-science-research/r-18420-research-profile/r-18422-laboratories
FLD Night of Scientists	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/night-of-scientists.html
CZU – Garden fest	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/czu-garden-fest.html
Silva Regina Trade Fair	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/silva-reginatrade-fair-2022.html
Natura Viva	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/natura-viva-2023.html
FLD -Professional lectures	3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-12132-cooperation-with-schools/r-20991-professional-lectures-and-guided-tours-of-the-faculty
FLD - film screenings with discussions	3.6	https://www.youtube.com/watch?v=PYRTKvAuY-Q&t=38s
Educational materials for schools	3.6	https://zazitles.cz/kategorie-dokumentu/materialy-pro-ucitele/
FLD - TV, radio and news	3.6	https://www.fld.czu.cz/en/r-9412-about-faculty/r-9449-faculty-activities/r-15675-pr-media/r-15790-tv-radio-and-news
FLD - Press releases	3.6	https://www.fld.czu.cz/en/r-9412-about-faculty/r-9449-faculty-activities/r-15675-pr-media/r-15785-press-releases/press-releases.html
FLD - TV	3.6	https://www.fld.czu.cz/en/r-9412-about-faculty/r-9449-faculty-activities/r-15675-pr-media/r-15790-tv-radio-and-news/televize-1.html

FLD - News	3.6	https://www.fld.czu.cz/en/r-9412-about-faculty/r-9449-faculty-activities/r-15675-pr-media/r-15790-tv-radio-and-news/zpravodajstvi-na-internetu-1.html
Prague Science Film Fest	3.6	https://psff.cz/en/
Skogkurs	3.6	https://skogkurs.no/english/
FLD - Forest bioeconomy for primary schools	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/forest-bioeconomy-for-primary-schools.html
Experience The Forest	3.6	https://zazitles.cz/experience-the-forest/
Čt - Forests of the Future	3.6	https://www.ceskatelevize.cz/porady/14934436907-lesy-budoucnosti/
Prague Science Film Fest - Forests of the Future	3.6	https://psff.cz/en/profil-filmu/forests-of-the-future/
AFO - Academia Film Olomouc	3.6	https://afo.cz/en/home/
Tick App – wiki section	3.6	https://klistapka.czu.cz/#wiki
Google Play - Klistapka	3.6	https://play.google.com/store/apps/details?id=com.v.eibon.klistapka&hl=cs&gl=US&pli=1
FLD – drones for measuring of forests	3.6	https://www.youtube.com/watch?v=oaWFrLUebhg
FLD -Virtual tour of the Bohemian Switzerland NP	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/virtual-tour-of-the-bohemian-switzerland-national-park.html
Virtual tour of the Bohemian Switzerland NP	3.5; 3.6	https://wkhul-02.czu.cz/NPCSfire2022/
Forest Diversity Project	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/lesodiverzita-mapping-of-habitat-trees.html
Forest diversity – video instructions for app	3.6	https://www.youtube.com/watch?v=7VSDc8CgKL8
Web -Forest diversity	3.6	https://lesodiverzita.cz/gallery-of-forest-species
App -Forest diversity (Google play)	3.6	https://play.google.com/store/apps/details?id=cz.czu.lesodiverzita&hl=cs&gl=CS
Forest diversity - App - (iOS)	3.6	https://apps.apple.com/cz/app/lesodiverzita/id6444812514?l=cs

TreeZ	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/treez.html
TreeZ – web portal	3.6	https://treez.fld.czu.cz/
Pest atlas	3.6	https://treez.fld.czu.cz/atlas
TreeZ – app (Google Play)	3.6	https://play.google.com/store/apps/details?id=com.czu.gradology
FLD- TreeZ – app	3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-18790-applied-outputs/r-18800-apps/treez-app-and-website.html
Forests Without Borders	3.6	https://www.youtube.com/watch?v=NPVe8-1rihw
SUSTREE project	3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-11062-projects/r-12135-external-projects/r-12139-international-projects/r-15839-completed-projects/r-12278-sustree
FLD Podcast	3.6	https://open.spotify.com/show/1HswMjbCj6fc3F5gp0bcUK
FLD Podcast - Large mammals in the Czech Republic	3.6	https://open.spotify.com/episode/0xWR13CF2gP3olgAZfliV4?si=61f1fc8ef717490a&nd=1&dlsi=9bf4cce591c64375
FLD Podcast - Forestry under the influence of solar activity	3.6	https://open.spotify.com/episode/0gySsgCQ4Wl6QH2Fpp7tRC
FLD Podcast - Managing urban greenery	3.6	https://open.spotify.com/episode/7r39h8w9U1U7iLV50bOZHHz?si=2f241b7dac7c4709&nd=1&dlsi=6af6afc7eaab4aaa
FLD Podcast - Ticks	3.6	https://open.spotify.com/episode/69fyjkGaCFPSNxSCCS9D6p?si=5a727a8fbba64a02&nd=1&dlsi=cb57f1772fbb4971
FLD Podcast - Bark beetle outbreak	3.6	https://open.spotify.com/episode/3mxz9CbGhySGsyuOLWf4Rw
FLD Podcast - Hunting tourism	3.6	https://open.spotify.com/episode/3roY1snWTvFm9lLKxhtEQG
FLD Podcast - Game telemetry	3.6	https://open.spotify.com/episode/73jdojoNoHheHkX0XxvRQp?si=c7ea870c6c8e4a1b&nd=1&dlsi=63828ba03c7848eb
FLD Podcast - Drones in forestry	3.6	https://open.spotify.com/episode/53j3NiU9MWWMEzuUNlh1nB?si=54442bbb6a4c4dad&nd=1&dlsi=59b6d936bc2442bb
FLD Podcast - Forest fires	3.6	https://open.spotify.com/episode/5GJ64CTD30IHj3oRzc65jv?si=21e9a46f75554ac4&nd=1&dlsi=b65d1b21d4ef4fd6

FLD Podcast - Fungi on trees	3.6	https://open.spotify.com/episode/3ea38EjFBDxdzvbDqStxZq?si=9e14c61772964fcb&nd=1&dlsi=f76d014718e94654
FLD Podcast - Ancient forests and their protection	3.6	https://open.spotify.com/episode/2wGxd6PvwHoWUYl3EK N9ZS?si=46af346ab5c14998&nd=1&dlsi=db1635e07ab348b8
FLD Podcast - Medicinal properties of forest plants	3.6	https://open.spotify.com/episode/2lf2XnToos6CfHqYbbJSpZ
Forest Pedagogy in Cr	3.6	https://www.lesnipedagogika.cz/cz/home
FLD – Forest pedagogy	3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-12132-cooperation-with-schools/r-12886-forest-pedagogy
Summer children university	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/summer-children-university.html
YPEF -FLD	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/yfef-national-round-2023.html
YPEF	3.6	http://www.yfef.cz/en/
UIS – Syllabus for forest pedagogy	3.6	https://is.czu.cz/katalog/syllabus.pl?odkud=;zobrazit_sklad=0;zobrazit_obdobi=0;obdobi=;zpet=/katalog/index.pl?vzorek=Lesnick%C3%A1%20osv%C4%9Bta%20a%C2%A0lesn%C3%AD%20pedagogika,Dohledat=Dohledat,obdobi=255,jak=dle_jmena;predmet=226074;typ=1;jazyk=3;vystup=1;lang=CZ
The Lesárium exhibition	3.6	https://www.fld.czu.cz/en/r-11220-news-homepage/the-lesarium-exhibition.html
FLD Night of Scientists (video)	3.6	https://www.youtube.com/watch?v=bBmkoJ8syLI
Project meeting LIFE Adapt Brdy: Starting processes towards close-to-nature management	3.6	https://adaptbrdy.czu.cz/en/r-19279-news-life-adapt-brdy-en/project-meeting-life-adapt-brdy-starting-processes-towards-c.html
Practical training in Brdy	3.6	https://www.fld.czu.cz/en/r-9417-projects-and-partnerships/r-12439-news-projects-and-partnerships/practical-training-in-brdy-future-foresters-learn-sustainable.html
FLD - Internal grants	3.7	https://www.fld.czu.cz/en/r-9415-science-research/r-9535-internal-grants

Methodology 2017+	3.7	https://vyzkum.gov.cz/FrontClanek.aspx?idsekce=15607
Research profile	3.7	https://www.fld.czu.cz/en/r-9415-science-research/r-18420-research-profile
FLD publications activities 2020-2024	3.7	https://m17.rvvi.cz/en/m1/summary/

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Tropical AgriSciences (FTZ)

FORD: 4 - Agriculture and veterinary sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

The Faculty of Tropical AgriSciences (FTZ) plays a distinctive role in the Czech Republic by focusing on tropical agriculture, rural development, and the sustainable management of natural and energy resources in tropical and low-income regions. This specialized orientation ensures that FTZ's research, development, and innovation (R&D&I) activities have a unique international reach and direct social impact.

The faculty's research is designed to improve the livelihoods of rural populations in low-income countries while generating globally applicable knowledge, methodologies, and technologies. FTZ's R&D&I agenda aligns closely with pressing global challenges, as outlined in the United Nations Sustainable Development Goals (SDGs). Notable contributions include:

- Advancing food security and poverty reduction (SDG 2, SDG 1) through innovative agricultural practices and resource-efficient farming systems.
- Promoting sustainable biogas production and renewable energy solutions (SDG 7, SDG 13), fostering resilience in energy access and climate change mitigation.
- Enhancing biodiversity conservation and sustainable land use (SDG 15) to protect natural ecosystems while ensuring economic viability for local communities.

Beyond academic research, FTZ fosters social impact through its diverse and international academic community, which includes faculty and students from low-, middle-, and high-income countries. This multicultural engagement strengthens global collaboration and ensures that R&D&I initiatives

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

address real-world challenges through on-site fieldwork, applied research, and direct capacity building in affected regions. FTZ is highly active in its development projects around the world, with real-life application. Something, what we call “research for development”. Among simple examples can be more than 990 biogas plants built around the world. Or for example the activities for saving the giant eland, as well as other antelope species of West and Central African savanna. Being reflected also by R&D&I capacities distribution in Natural Sciences (35%), Engineering and Technology (10%), Agricultural and veterinary sciences (50%) and Social sciences (5%).

Moreover, FTZ actively disseminates research findings to the public, raising awareness of global challenges through media engagement and science communication. By making scientific knowledge accessible beyond academia, the faculty contributes to informed public discourse and policy development on sustainability and development issues.

Mission, Vision, and Long-Term Goals

Mission

The mission of FTZ is to generate, apply, and disseminate knowledge that contributes to sustainable development in tropical and low-income regions. Through cutting-edge research, innovation, and education, the faculty seeks to enhance food security, improve rural livelihoods, and promote the sustainable management of natural and energy resources. FTZ is committed to fostering international collaboration, empowering local communities, and advancing global sustainability efforts.

Vision

FTZ aspires to be a leading global institution in tropical agricultural sciences and sustainable rural development. By integrating interdisciplinary research, innovative teaching methodologies, and strong partnerships with international institutions, FTZ envisions shaping resilient agricultural systems, enhancing biodiversity conservation, and developing sustainable energy solutions that address pressing environmental and societal challenges.

Societal Contribution of R&D&I

FTZ’s research and innovation activities directly contribute to addressing global sustainability challenges, particularly in the context of food security, climate resilience, and rural development. The faculty’s strong engagement with international organizations, policymakers, and local communities ensures that its scientific contributions translate into practical solutions with tangible benefits. Additionally, FTZ plays a crucial role in knowledge transfer, equipping students and professionals with the skills needed to tackle complex environmental and agricultural issues in a rapidly changing world.

Long-Term Goals

To further enhance its impact, FTZ has set the following long-term goals:

- Strengthening interdisciplinary and applied research to address emerging challenges in tropical agriculture and environmental sustainability.
- Expanding international collaborations with academic institutions, NGOs, and industry partners to foster knowledge exchange and capacity building.
- Enhancing research-driven education and training programs to prepare future leaders in tropical agroecology and sustainable development.
- Increasing public outreach and science communication efforts to raise awareness about the importance of sustainable practices and policies.

- Developing innovative and scalable solutions for sustainable food production, renewable energy, and biodiversity conservation.

Through these efforts, FTZ remains dedicated to making a lasting and meaningful contribution to global sustainability, reinforcing its role as a leader in research and education for tropical and low-income regions.

Then, specifically, Table 3.1.1 presents the evolution of academic, research, and support staff at the FTZ. The total number of staff (measured in FTE) increased from **45.46 FTE in 2019** to **61.48 FTE in 2023**, marking a steady rise in personnel capacity. The representation of women followed a similar trend, increasing from **31.36 FTE in 2019** to **39.41 FTE in 2023**, indicating sustained efforts toward gender inclusivity. The number of **professors** grew modestly, from **4 FTE in 2019** to **5 FTE in 2023**, with a fluctuating number of women in these positions. This has been linked with the older female professors retiring during this period. The **associate professor category** remained relatively stable, with a slight increase from **8 FTE in 2019** to **8.75 FTE in 2023**, and women making up a significant proportion of this category. The **assistant professor category** saw notable growth from **7.5 FTE in 2019** to **11.63 FTE in 2023**, with women consistently representing a substantial share. There was a **significant increase in R&D personnel**, from **5.3 FTE in 2019** to **10.53 FTE in 2023**, demonstrating FTZ's growing research capacity. As it is among our FTZ priority to increase number of **R&D personnel**. The proportion of **women in R&D roles** remained high, accounting for over **65% of R&D personnel** in 2023. The **technical and economic staff category** experienced notable growth, increasing from **12.66 FTE in 2019** to **22.20 FTE in 2023**, reflecting the faculty's need for strong administrative and operational support. Women played a significant role in this category, making up the majority of the workforce. A slight decrease was observed in **scientific, research, and development staff engaged in teaching**, dropping from **5 FTE in 2019** to **3.37 FTE in 2023**. This is a shift in the balance between research and teaching responsibilities. Leaving majority of teaching duties among the academic staff.

The overall expansion of FTZ's workforce highlights the faculty's commitment to strengthening its research and teaching capacities. A consistent rise in the proportion of women across various categories aligns with broader institutional and societal efforts toward gender equality in academia and research. The **age structure** of FTZ's R&D&I personnel in 2023 reveals a balanced distribution across different career stages, with a notable presence of mid-career professionals aged 30–49 years.

The **student** enrolment at FTZ from 2019 to 2023 shows a steady intake across all levels of study, with undergraduate programs consistently attracting the highest number of students. Women's participation remained strong, particularly in lifelong learning courses, where they made up the majority, while in doctoral studies, their representation was lower compared to undergraduate and master's levels. Overall, the faculty maintained a balanced gender ratio, reflecting its commitment to inclusivity and accessibility in higher education.

Table 3.1.1 - Staffing per FTE²

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	4/2	4,55/2,3	5,33/1,997	5,474/1,474	5/1	24,354/8,771
Associate Professor	8/3	8,25/3	7,8/3,334	8,717/4	8,75/4	41,517/17,334
Assistant Professor	7,5/5	9,613/6,637	10,934/7,263	11,778/7,716	11,625/7,625	51,45/34,241
Assistant		0,477/0,477	0,012/0			0,489/0,477
R&D Personnel ³	5,3 / 4,7	9,26/6,014	10,637/7,709	10,897/7,994	10,532/7,131	46,626/33,548
Researchers in other categories ⁴		0,477/0,477				0,477/0,477
Technical and economic staff ⁵	12,66/13,66	19,578/17,328	20,975/18,2	22,222/17,897	22,195/17567	100,63/84,652
Scientific, research and development staff involved in teaching activities	5/3	6,125/2,545	5,626/3,083	3,184/2,001	3,374/2,091	23,309/12,72
Early career researchers ⁶	6/4	6/4	6/4	6/4	7/5	31/21
Total ⁷	45,46/31,36	58,33/38,778	61,314/41,586	62,272/41,082	61,476/39,414	288,852/192,22

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					2	1	1		1	1		
Associate Professor			1	1	6	2			1			
Assistant Professor			3	3	6	3						

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

Assistant													
R&D Personnel ⁹	1	1	2	2	1	1	1	1					
Researchers in other categories ¹⁰													
Technical and economic staff ¹¹	1	1	8	7	3	3	2	2	4	3			
Scientific, research and development staff involved in teaching activities	2	1	2	1	2	1							
Early career researcher ¹²	5	4	2	1									
Total ¹³	4	3	16	14	20	11	4	3	6	4	0	0	

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					3	1	2					
Associate Professor			3	2	4	2	1				1	
Assistant Professor			4	2	9	6						
Assistant												
R&D Personnel ¹⁵	2	2	7	3								
Researchers in other categories ¹⁶												
Technical and economic staff ¹⁷	3	2	11	7	10	9	4	3	4	3		

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

Scientific, research and development staff involved in teaching activities			3	3	2	1				1		
Early career researcher ¹⁸			7	5								
Total ¹⁹	5	4	28	17	28	19	7	3	5	3	1	

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	258	167	289	185	344	213	274	184	248	157	807	506
Master's ²⁰	124	66	171	72	217	96	231	96	167	81	511	231
Doctoral	85	41	107	46	108	43	107	46	79	34	186	85
Lifelong Learning Courses	35	30	35	30	22	21	24	23	16	13	60	53
Total	502	304	602	333	691	373	636	349	510	285	1564	875

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes											
	2019		2020		2021		2022		2023		Total	
Undergraduate	1/1		1/1		1/1		1/1		1/1		1/1	
Master's	0/6		0/6		0/6		0/6		0/7		0/7	
Doctoral	0/2		0/3		0/3		0/3		0/3		0/3	
Lifelong Learning courses	1/0		0/0		1/0		0/0		1/0		1/0	
Total	2/9		1/10		2/10		1/10		2/11		2/11	

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	35
	1.2 Computer and information sciences		Zvolte položku.	
	1.3 Physical sciences		Zvolte položku.	
	1.4 Chemical sciences		Zvolte položku.	
	1.5 Earth and related environmental sciences	15	Balanced basic and applied research	
	1.6 Biological sciences	20	Balanced basic and applied research	
	1.7 Other natural sciences		Zvolte položku.	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	10
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering	5	Balanced basic and applied research	
	2.8 Environmental biotechnology	5	Balanced basic and applied research	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine		Zvolte položku.	
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences		Zvolte položku.	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	20	Balanced basic and applied research	50
	4.2 Animal and Dairy science	15	Balanced basic and applied research	
	4.3 Veterinary science	10	Balanced basic and applied research	
	4.4 Other agricultural sciences	5	Balanced basic and applied research	
5. Social Sciences	5.1 Psychology and cognitive sciences		Zvolte položku.	5
	5.2 Economics and Business		Zvolte položku.	
	5.3 Education		Zvolte položku.	
	5.4 Sociology		Zvolte položku.	

	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences	5	Balanced basic and applied research	
6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	
	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion		Zvolte položku.	
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

FTZ holds a strong and well-recognized position within the global research community, supported by its extensive international collaborations, prestigious awards, and the active engagement of its academic staff in various scientific and professional organizations.

Prestigious R&D&I Awards

FTZ researchers have received numerous national and international awards recognizing their contributions to tropical agriculture, environmental sustainability, and rural development. These distinctions highlight the faculty's excellence in research and innovation, reinforcing its reputation in the scientific community. Among examples can be mentioned: Petra Chaloupková, Vice-dean for International Relations, has been awarded the prestigious ICA Excellence Award in the category of Networking in 2024. This award was presented by the Association for European Life Sciences Universities (ICA) in recognition of her outstanding contributions to the field of networking and international relations. Or for example many authors from FTZ received Rector's Awards for outstanding publications listed in the Nature Index. Or such as when our graduate Dr. Naji Sulaiman received an International Doctoral Award for 2024 from the Italian Botanical Society.

Editorial Board Memberships

Many FTZ faculty members serve on the editorial boards of high-impact international scientific journals, ensuring that the faculty contributes to shaping the global research agenda in tropical agrisciences and sustainability studies. Their participation also enhances the visibility and credibility of FTZ within the broader academic network. Some of them at the level of Editors-in-Chief, or Associate Editors, while majority as editors or guest editors. All the details are visible in Table 3.2.2.

Membership in Professional Societies

FTZ academics hold elected memberships in leading professional societies related to agriculture, environmental sciences, and international development. These memberships facilitate collaboration, knowledge sharing, and the dissemination of research findings across multiple disciplines. Some examples to be mentioned:

Bohdan Lojka (European Agroforestry Federation; Member of the Executive committee), Petra Chaloupková (AGRINATURA association; Member of the Board of Directors, Vice-president 2021-2023, Czech Evaluation Society), Vladimír Krepl (UNIDO Vienna, Agri-Business Development Branch; Senior Expert), Zbyněk Polesný (Society for Economic Botany; Member of The Council), Patrick van

Damme (International Society of Ethnobiology; Member of The Board), Patrick van Damme (European Forum on Agricultural Research for Development; Chairman), Karolína Brandlová (Derbianus Conservation, z.s.; Chairwoman), Irena Valterová (International Society of Chemical Ecology; Secretary), Hynek Roubík (Member of Advisory Board to the Czech Minister of Science), Hynek Roubík (ATSAF - Council for Tropical and Subtropical Agricultural Research; member), Hynek Roubík (Platform for Bioeconomy of the Czech Republic; member), Hynek Roubík (ECPR Standing Group on Environmental Politics; member), Hynek Roubík (Czech Academy of Agricultural Sciences, Department of Agricultural Engineering, Energy and Construction; member), Jan Banout (ATSAF – Council for Tropical and Subtropical Agricultural Research; member), Jan Banout (European Academy of Science and Art; member), Tatiana Alexiou Ivanova (National Bureau of Accreditation of Higher Education; member of evaluation committee), Tatiana Alexiou Ivanova (Czech Academy of Agricultural Sciences, Department of Agricultural Engineering, Energy and Construction; member), Tatiana Alexiou Ivanova (V4 Biochar Platform; member), Jiří Hejkrlík (CAAEES – Czech Association of Agrarian and Environmental Economists and Sociologists; Czech Evaluation Society; Fairtrade Czech Republic and Slovakia – member of the board), Anežka Daničková - Council Member of the Union of Botanical Gardens of the Czech republic.

Furthermore, relevant is also involvement of staff in relevant organizations and their boards, such as Karolína Brandlová (Research Coordinator, Antelope & Giraffid TAG EAZA; 2019–2023; and Scientific Advisor, Safari Park Dvůr Králové; 2019–2023).

Major Invited Lectures and Guest Scholars

FTZ faculty members are regularly invited to deliver keynote addresses and lectures at prestigious international conferences and symposiums. In addition, the faculty frequently hosts distinguished foreign researchers and experts who contribute to advancing knowledge and fostering global academic partnerships. Details can be seen in Table 3.2.3. and 3.2.4.

Involvement in Research Evaluation and Project Assessments

From 2019 to 2023, FTZ staff actively participated in the evaluation of national and European research projects and program calls. Their involvement in funding agencies, peer review panels, and advisory boards demonstrates the faculty's expertise and influence in shaping research priorities and funding decisions. Those are especially TAČR (Technology Agency of the Czech Republic), GAČR (Grant Agency of the Czech Republic) and Horizon Europe and various national agencies of different countries. Details can be seen in the Table 3.2.5.

Additional Contributions to the Scientific Community

Beyond these recognitions, FTZ continues to provide vital services to the scientific community through organizing international conferences (such as MCYR (<https://mcyr.ftz.czu.cz/en>), leading collaborative research initiatives, and engaging in policy advisory roles (such as Agri Policy Lab - <https://biogas.czu.cz/en/r-19968-agri-policy-lab>). By facilitating dialogue between academia, policymakers, and industry stakeholders, FTZ ensures that its research has a meaningful impact both locally and globally.

These achievements underscore FTZ's prominent position in the research community and its ongoing commitment to advancing knowledge, fostering innovation, and addressing critical global challenges.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
Ing. Petra Chaloupková, Ph.D., dr. h. c.	ICA Excellence Award 2024	Association for European Life Science Universities
doc. Ing. Bc. Tatiana Alexiou Ivanova, Ph.D.	SDGs 2024 Awards	Asociace společenské odpovědnosti, MZV, MŽP, MŠMT
Ing. BSc. Abubakar Sadiq Musa, Ph.D.	Josef Hlávka Award 2024	Foundation of Josef, Marie, and Zdenka Hlávka
MSc. Rohit Bharati	Professor Stoklasa Award	CZU
prof. Mgr. Jan Šobotník, Ph.D., Ing. Iva Bernáthová, Mgr. Barbora Černá Bolfíková, Ph.D., doc. Ing. Karolína Brandlová, Ph.D. and prof. RNDr. Pavla Hejčmanová, Ph.D.	Rector's Award for outstanding publications listed in the Nature Index	CZU
Dr. Naji Sulaiman	International Doctoral Award for 2024	Italian Botanical Society
Ing. Dumitru-Claudiu Sănduță	Minister of Agriculture Award	Ministry of Agriculture
prof. RNDr. Pavla Hejčmanová, Ph.D.	Awarded a two-year fellowship under Project SavannaLife (2020–2022) by the Ministry of Education, Youth, and Sport of the Czech Republic.	Ministry of Education, Youth, and Sport of the Czech Republic
doc. Ing. Hynek Roubík, Ph.D.	SDGs 2024 Awards	Asociace společenské odpovědnosti, MZV, MŽP, MŠMT

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
prof. Mgr. Jan Šobotník, Ph.D.	Journal of Tropical Ecology (Associate Editor) (0266-4674)
prof. dr. ir. Patrick Van Damme	Afrika Fokus (2031-356X)
prof. Ing. Ladislav Kokoška, Ph.D.	Frontiers in Pharmacology (Associate Editor) (1663-9812)
doc. Ing. Zbyněk Polesný, Ph.D.	Agroecology and Sustainable Food Systems, (2168-3565)
doc. Ing. Hynek Roubík, Ph.D.	Scientia Agriculturae Bohemica (Editor-in-Chief) (1805-9430)
prof. Ing. Jan Banout, Ph.D.	Foods (2304-8158)
prof. Mgr. Jan Šobotník, Ph.D.	European Journal of Entomology (Editor-in-Chief) (1802-8829)
prof. Ing. Ladislav Kokoška, Ph.D.	Journal of Advanced Research (Editorial Advisory Board Member) (2090-1232)
doc. Francisco Ceacero, Ph.D.	BMC Zoology (2056-3132)
doc. Francisco Ceacero, Ph.D.	Frontiers in Mammal Science (Frontiers Media) - Associate Editor, Section "Physiology and the Whole Organism Ethology" (since 2022).

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
prof. Mgr. Jan Šobotník, Ph.D.	Pheromone and vibratory communication	University of Florida	2022
prof. Ing. Bohdan Lojka, Ph.D.	Agroforestry - an old solution for new problems	Technical University of Munich, Germany	2023
doc. Ing. Hynek Roubík, Ph.D.	Opportunity for Baltic Brilliance: Phosphogypsum Processing in Lithuania	Lithuanian Ministry of Economy and Innovation, Lithuania	2023
prof. RNDr. Pavla Hejcmanová, Ph.D.	West African savanna life: Derby eland & West African giraffe ecology and conservation	Nelson Mandela University, South Africa	2022
prof. RNDr. Pavla Hejcmanová, Ph.D.	Science and Conservation - a perfect combination?	Swansea University, UK	2022
prof. RNDr. Pavla Hejcmanová, Ph.D.	Ecological carrying capacity for large herbivores and spatial aspects of the ecology of large herbivores in the savannah	Cheikh Anta Diop University, Dakar, Senegal	2023
doc. Francisco Ceacero, Ph.D.	Biology of antlers and (Barbary) deer biology	University 8th May 1945, Guelma, Algeria	2022, 2023
Ing. Jiří Hejkrlík, Ph.D.	Collective Actions in the Rural Development	Tashkent State Technical University	2024
Ing. Petra Chaloupková, Ph.D., dr. h. c.	Dietary Supplements versus functional foods: consumer's attitudes to their consumption	Prince of Songkla University, Thailand	2022
Doc. Ing. Karolína Brandlová, Ph.D.	Wildlife management - introduction, biodiversity values, threats, human-wildlife conflicts and other dimensions	Cheikh Anta Diop University, Dakar, Senegal	2023

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Johannes Peham, Ph.D.	AIT, Austrian Institute Of Technology 17:30-18:30, 15.2.2024	MOBILISE: A novel and green mobile One Health laboratory for (re-)emerging infectious disease outbreaks	2023
Prof. Julius Kewir	University of Dschang in Cameroon	Advances in renewable energy research in Sub-Saharan Africa	2023
prof. Yacoubou BAKASSO	ABDOU MOUMOUNI UNIVERSITY, Niger	Biodiversity for Sustainable Development in Sahel – A	2023

		case of crop plants and poultry	
Maxime Forest, PhD	Yellow window consultancy	Gender and Climate: The Case for Gender-sensitive Research and Development Programs	2023
Prof. Natalia Hanazaki	Universidade Federal de Santa Catarina, Brazil	Connections between people's migrations and plants for food	2023
Bastian Dreher, MBA	ECOTOP, Bolivia	Introduction to Syntropic Agriculture	2023
Margherita Gomasasca, DVM	Vétérinaires Sans Frontières International	Veterinarian cooperation for the benefit of people and the environment. Experiences of the VSF-International network	2023
Alexia Rondeau, DVM	Vétérinaires Sans Frontières International	Community-Based Animal Health Workers (CAHWs): Guardians for quality, localized animal health services in the global South	2023
Assoc. prof. Pierre-Cyril Renaud	Université d'Angers, France	Tropical socio-ecosystems in transition: Landscapes at the interface between agricultural development and conservation	2023
Dr. Cameron Radford	Leibniz-Institut für Zoo- und Wildtierforschung (Leibniz-IZW), Germany	Different approaches to resolving conflict and achieving coexistence between livestock keepers and cheetahs in Namibia	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme	Year
doc. Ing. Hynek Roubík, Ph.D.	Technology Agency of the Czech Republic	Technology Agency of the Czech Republic	2021,2022,2023
doc. Ing. Hynek Roubík, Ph.D.	Horizon Europe – European Commission	Horizon Europe – European Commission	2022,2023
doc. Ing. Hynek Roubík, Ph.D.	The Research, Development and Innovation Council (R&D&I Council) is a professional and consultancy body of the Government of the Czech Republic - Panelist	The Research, Development and Innovation Council (R&D&I Council) is a professional and consultancy body of the Government of the Czech Republic - Panelist	2022,2023

prof. Mgr. Jan Šobotník, Ph.D.	Grant Agency of the Czech Republic	Grant Agency of the Czech Republic	2019-2023
doc. Ing. Hynek Roubík, Ph.D.	The Education, Audiovisual and Culture Executive Agency of the European Commission	The Education, Audiovisual and Culture Executive Agency of the European Commission	2021, 2022, 2023
prof. Ing. Jan Banout, Ph.D.	IFS, International Foundation for Science, Stockholm, Sweden	IFS, International Foundation for Science, Stockholm, Sweden	2020, 2021, 2022, 2023
prof. Ing. Jan Banout, Ph.D.	Austrian Partnership Programme in Higher Education and Research for Development (APPEAR)	OeAD Austria's Agency for Education and Internationalisation	2019, 2020, 2021, 2022, 2023
prof. RNDr. Pavla Hejcmanová, Ph.D.	Evaluator for Barrante Fellowship Programme "Biology & Environment" (France-Czechia)	Barrante Fellowship Programm	2020, 2021, 2022, 2023
Mgr. Martina Komárková, Ph.D.	Evaluator for EU MSCA Doctoral Networks	MSCA	2020, 2021, 2022, 2023
Mgr. Martina Komárková, Ph.D.	Evaluator for MŠMT Program INTER-EXCELLENCE II (INTER-COST, INTER-ACTION)	Ministry of Education of the Czech Republic	2019, 2022, 2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

- *Agroforestry Systems for the Landscape Protection and Restoration* supported the faculty's goal of sustainable land management by promoting agroforestry systems that mitigate climate change impacts and enhance ecosystems resilience. The main objective of this project was to research and quantify the expected non-production functions and benefits of traditional and modern AFS, i.e. silvo-arable, silvo-pasture, sapling plantations, etc. for the current landscape, especially in the areas of soil protection, temperature and water regime and biodiversity both at the level of selected habitats and the landscape. An important objective was also to obtain information on the planting, growth and appropriate management of tree species on agricultural land and the possible influence of these tree species on agricultural production (growth and yields of agricultural crops, welfare of livestock). Among the main results were biodiversity increase, soil protection (prevention of erosion) and improvement of the water management and microclimate.
- *Functional Evolution of the Termite Gut Microbiome* identified specific genes responsible for carbohydrate and nitrogen metabolism. Understanding these mechanisms leads to the development of innovative biotechnological applications, such as efficient biomass conversion processes, which are essential for sustainable agriculture and energy production. The research also revealed that the composition and function of termite gut prokaryotic communities have been remarkably conserved since 150 million years ago.
- *SAVANNALIFE* contributed to faculty's focus on biodiversity conservation by studying wildlife movement and resource distribution, crucial for protected area management in Africa. The research linked environmental features of savanna ecosystems in West Africa with spatiotemporal animal behavior and revealed the influence on animal movements concerning the dynamic distribution of resources and livestock in protected areas.

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

- *DIGITAF* intergates digital technologies with agroforestry, improving sustainability in farming practices, which aligns with the faculty’s emphasis on innovation for agricultural development. Biodiversity Assesment Tool has been designed to evaluate the impact of AF practices on biodiversity, assisting stakeholders in making informed decisions. The project has set up Living Labs in 6 EU countries including Czechia. These labs serve as collaborative platforms where local stakeholders, including farmers, researchers, and policymakers, co-develop and test digital solutions tailored to regional agroforestry challenges. Three scientific papers were published.
- *Spread of Ticks and Tick-born diseases* addressed emerging health threats affecting both humans and animals, reflecting the faculty’s commitment to One Health approach in tropical medicine and epidemiology. The project identified previously unrecognized pathogens affecting both animals and humans. This includes the detection of novel bacterial species within the Rickettsia and Borrelia genera, expanding the understanding of tick-born disease diversity. Comprehensive mapping efforts have documented the distribution of various tick species, highlighting the expansion of ticks into new regions, which correlates with changes in climate and land use.
- *Phosphogypsum Processing to Critical Raw Materials* focuses on recycling industrial waste into valuable raw materials, promoting technological innovation in circular economy practices. The project has contributed to the academic community with publications detailing methodologies and findings, which discusses the potential of phosphogypsum in addressing raw material shortages in the European Union. Progress has been made in scaling up the innovative Rare Earth Elements recovery process to pilot plant operations, moving closer to industrial application.
- *Biogas Technology to Increase the Resilience of Communities in the Western Zambia* has achieved significant outcomes in reduction of deforestation by replacing traditional cooking fuels like charcoal and firewood by renewable energy from biodigesters. The other main results of this project were use of sustainable fertilization techniques by smallholder farmers leading to increased crop yields and empowering local communities, especially women through socio-economic benefits.
- *AGRIGEP* promotes diversity and equal opportunities in agricultural research and education, which aligns with the faculty’s mission of inclusive development. The project focuses on developing and implementing tailored Gender Equality Plans to foster long-term institutional reform, such as creating materials and guidelines, organizing training sessions, formulating GEP with sector-specific measures addressing unique challenges in agriculture and life-sciences, ensuring relevance and effectiveness.
- *Strengthening of research activities of the universities in developing regions* like Ethiopia and Bosna and Herzegovina fostered international collaboration especially by organizing scientific seminars, mobility of teachers and students and knowledge transfer.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary (Coordinator)

Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
Horizon 2020	LEAP4FNSSA - Support to the implementation of the Long-term EU-AU Research and Innovation Partnership for Food	385 / 15.4	385 / 15.4	385 / 15.4		
GAČR	Funkční evoluce střevního mikrobiomu termitů		2 560.3 / 102.4	2 560.3 / 102.4	2 560.3 / 102.4	
MŠMT	Hybné faktory a mechanismy selekce habitatů a charakteristiky pohybu ve společenstvech původních kopytníků ve vztahu k distribuci zdrojů a pastvě hospodářských zvířat v chráněných územích západní Afriky (SAVANNALIFE)		1 645 / 65.8	1 645 / 65.8	1 645 / 65.8	823 / 32.9
MZV	Publication and Research Activities Development for Education in Life Sciences at Hawassa University		1 495 / 59.8	1 495 / 59.8	1 500 / 60	1 155 / 46.2
MZV	Development of study programs and research in sustainable agriculture and aquaculture in Cambodia					1 115 / 46
ČRA	Support of applied research at the Royal University of Agriculture	1 115 / 46				
MZV	Zvyšování vědecko-výzkumných kapacit a podpora vzdělávání na Mostarské univerzitě a na Univerzitě Džemala Bijediće v Mostaru		1 000 / 40	1 000 / 40	1 000 / 40	939 / 37.6

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

ČRA	Meziuniverzitní spolupráce jako nástroj zvýšení kvality vybraných ukrajinských univerzit			1 743 / 69.7		
TAČR	Vývoj těsnícího víčka pro mikrotitrační destičky k testování těkavých látek			492 / 19.7	492 / 19.7	492 / 19.7
MŠMT	Opportunities and Challenges for Biogas in the Global South - GasTrade				90 / 3.6	90 / 3.6
MSCA (EU)	MSCA4UKRAINE - Yelizaveta Chernysh					1 254 / 50.2
IDRC (CA)	Bio-Pellets for a Sustainable Danube Region				65 / 2.6	50 / 2
MZV	Empowering the Future of AgriSciences in Ukraine: AgriSci-UA					1 440 / 57.6
Total		1 500 / 60.4	7 085 / 283.4	5 760 / 230.4	7 352,3 / 294	6 713 / 269
In the role of another participant (Partner)						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
TAČR	Agrolesnické systémy pro ochranu a obnovu funkcí krajiny ohrožované dopady klimatických změn a lidskou činností	564 / 22.6	564 / 22.6	564 / 22.6	564 / 22.6	
NAZV	Šíření klíšťat a klíšťaty přenášených onemocnění: nová a opomíjená rizika pro domácí a hospodářská zvířata a člověka	850 / 34	850 / 34	850 / 34		
TAČR	Pokročilý systém teplovodního kotle s nízkoemisními automatickými hořáky na standardizovaná tuhá paliva ze zbytkové biomasy	871 / 34.8	871 / 34.8	871 / 34.8		
ECDC (EU)	Enhancing Whole Genome Sequencing (WGS) and/or Reverse			601 / 24	1 202 / 48.1	

²⁷ Ibid.

	Transcription Polymerase Chain Reaction (RT-PCR) national infrastructures and capacities to respond to the Covid-19 pandemic in the Czech Republic.					
Erasmus+ (EU)	PISAI - Participatory and Integrative Support for Agricultural Initiative	230 / 9.2	230 / 9.2			
Erasmus+ (EU)	ESCAPAdE - Erasmus Curricula in Applied Plant Sciences	248 / 9.9	248 / 9.9	165 / 6.6		
TAČR	Testovací kit na genetické ověření původu psa	589 / 23.5				
ČRA	Through Biogas Technology Towards Higher Resilience of the Communities in Western Province of Zambia			200 / 8	1 100 / 44	1 100 / 44
Horizon Europe (EU)	DIGital Tools to help AgroForestry meet climate, biodiversity and farming sustainability goals: linking field and cloud (DIGITAF)				311 / 12.4	620 / 24.8
TAČR	Phosphogypsum Processing to EU Critical Raw Materials				729 / 29.2	1 250 / 50
Horizon – WIDERA (EU)	OSIRIS - Open Science to Increase Reproducibility in Science					1 409 / 56.3
Erasmus+ (EU)	UNICOM - Universities-Communities: strengthening cooperation					313 / 12.5
Horizon – WIDERA (EU)	AGRIGEP - Assessment and implementation of Agriculture and Life Science Universities' first Gender Equality Plans in widening countries					1 585 / 63.4

Total	3 352 / 115.6	2 763 / 110.1	3 251 / 129.6	3 906 / 156	5 657 / 226
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Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
OPŽP	Analýza genetických vzorků velkých šelem pro potřebu projektu „Soužití s velkými šelmami“			537 / 21.5	537 / 21.5	537 / 21.5
ČRA	Výzkum a vzdělávání v oblasti produkce, zpracování a konzumace ovoce v jižní Etiopii			647 / 25.9	647 / 25.9	647 / 25.9
University of Pésc (HU)	UniMOB					25 / 1
Holistic Solutions	iAgro Cambodia					18 / 0.7
FAO	Strengthening country capacities for NDC implementation in the Agriculture and LULUCF Sectors and supporting the identification of potential Direct Access Entities from different sectors relevant for the implementation of the Country Work Programme in Aze			826 / 33		
Total				2 010 / 80	1 184 / 47	1 227 / 49

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

During 2019–2023, the Faculty of Tropical AgriSciences (FTZ) has produced significant research results with direct societal applications, particularly in sustainable energy solutions and tropical medical diagnostics.

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

²⁹ See Terms definition.

Patent: Lam An Investment Join Stock Company, Vietnam; Výzkumný ústav zemědělské techniky, v. v. i., ČR; Česká zemědělská univerzita v Praze, ČR. Palivo na bázi rýžové slámy. KOLAŘÍKOVÁ Michel; BANOUT Jan; ALEXIOU IVANOVA Tatiana; PHAMOVIÁ Marie; JEVIČ Petr; ŠEDIVÁ Zdeňka; MĚKOTOVÁ Pavla; HUTLA Petr a AN LE Truong. Uděl.: 2022-10-06. Číslo dokumentu: 309396. <https://isdv.upv.gov.cz/doc/FullFiles/Patents/FullDocuments/309/309396.pdf> This patent covers a composition of the mixture for solid biofuels (pellets) production and use, which is composed of residual rice straw biomass with the addition of calcium-based additive. This solution helps to overcome operational and technical problems that commonly occur during the combustion in fuel boilers. Pellets made of patented mixture are produced and sold in Vietnam by the company Lam An.

Utility model: Česká zemědělská univerzita v Praze, Výzkumný ústav zemědělské techniky, v. v. i. Palivo na bázi miscanthu a reziduí po čištění zrnin a olejin. ANDERT David; GERNDTOVÁ Ilona; HUTLA Petr; JEVIČ Petr; MĚKOTOVÁ Pavla; PRAŽAN Radek; BANOUT Jan; ALEXIOU IVANOVA Tatiana a KOLAŘÍKOVÁ Michel. 37 221. Uděl.: 2023-08-08. <https://isdv.upv.gov.cz/doc/FullFiles/UtilityModels/FullDocuments/FDUM0037/uv037221.pdf> This technical solution presents a biofuel made of mixture of energy crop - miscanthus and residues after cleaning grains and oilseeds, where the given composition makes possible to burn this fuel in the pellet boilers at the common operational combustion temperatures without slagging and fouling.

Utility model: Lam An Investment Join Stock Company; Výzkumný ústav zemědělské techniky, v. v. i.; Česká zemědělská univerzita v Praze. Palivo na bázi rýžové slámy. KOLAŘÍKOVÁ Michel; BANOUT Jan; ALEXIOU IVANOVA Tatiana; PHAMOVIÁ Marie; JEVIČ Petr; ŠEDIVÁ Zdeňka; MĚKOTOVÁ Pavla; HUTLA Petr a AN LE Truong. 35 487. Uděl.: 2021-10-26. <https://isdv.upv.gov.cz/doc/FullFiles/UtilityModels/FullDocuments/FDUM0035/uv035487.pdf> This utility model brings a solution for valorization of abundant rice straw as an alternative fuel with improved properties (increased ash melting behavior), suitable for combustion in fuel boilers. This result was invented during the TAČR Delta project (2019-2021).

Technically implemented results (prototype, functional sample)

Česká zemědělská univerzita v Praze. 2020. Rychlá detekce genomové RNA SARS-CoV-2 pomocí metody LAMP. [Prototyp] Původci: ČERNÝ Jiří. Česká zemědělská univerzita v Praze. Identifikační číslo: SARS-CoV-2 LAMP 0.1. Prototype allows fast detection of SARS-CoV-2 RNA in samples without need of previous RNA extraction. It leads to significant decrease in time needed to perform the analysis and price reduction.

CZU mobiLAB (<https://mobilab.czu.cz/en>), which represents a complex solution that enables the application of state-of-the-art molecular detection methods in remote or inaccessible areas. The principal advantage of the proposed solution is the concept of a mobile laboratory, which is unique in terms of its size and weight. It can be transported in an SUV/off-road vehicle, by animal force, or can be even carried by humans, which is crucial in inaccessible areas. The essential facilities are provided in an inflatable tent. CZU mobiLAB is currently serving in two countries (Ethiopia and Zambia) with total of 3 units delivered.

The research results produced by FTZ between 2019–2023 contribute to both sustainability and inclusivity. In terms of gender considerations, the development and implementation of these innovations actively involve diverse research teams, including women scientists and engineers, ensuring a balanced perspective in technological advancements. The biofuel solutions derived from rice straw and miscanthus offer economic opportunities for both men and women, particularly in rural communities where sustainable energy sources can enhance livelihoods. Similarly, the deployment of CZU mobiLAB in Ethiopia and Zambia strengthens local healthcare systems, indirectly benefiting women, who often bear primary responsibility for family health. The portable diagnostic tools improve disease detection in remote areas, leading to better maternal and child health outcomes.

From a sustainability perspective, the biofuel innovations directly support circular economy principles by transforming agricultural residues into clean energy, reducing dependence on fossil fuels and mitigating environmental pollution. These solutions help address air quality issues associated with traditional biomass burning while offering economically viable alternatives for local communities. The SARS-CoV-2 detection prototype and CZU mobiLAB contribute to public health resilience by facilitating early disease detection, preventing outbreaks, and reducing healthcare costs, thereby fostering long-term societal sustainability. Collectively, these research outputs align with Sustainable Development Goals (SDGs), particularly SDG 7

(Affordable and Clean Energy), SDG 3 (Good Health and Well-being), and SDG 12 (Responsible Consumption and Production).

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Domestic patent (Patent č.309396 (PV 2021-322))	2021	„Palivo na bázi rýžové slámy - Fuel based on rice straw“
Domestic patent (Patent č.310126 (PV 2023-151))	2023	„Palivo na bázi miscanthu a reziduí po čištění zrnin a olejnin - Fuel based on miscanthus and residues after grain and oilseed cleaning “
European patent application (PCT/CZ2022/059531, č. 22803372)	2022, (2024)	„Microplate sealing lid for testing volatile agents“
Sold licence	2020	Author's work - database of genetic markers of dogs and analytical kit
Sold licence	2022	Technology and know-how for the production of natural latex rubber at room temperature

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

³⁰ Specify the specific type of result. Add rows as needed.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

FTZ actively collaborates with Czech and foreign Universities, Research institutions as well as commercial sector (e.g., AirTechnic s.r.o., Klaster česká peleta - Česká peleta, z.s.p.o., Ponast spol. s.r.o., Atea Praha s.r.o.). Commercialization of R&D&I results, fostering the collaboration between the university and the private sector and searching for the new users is done in cooperation with the Technology Transfer Office (OTT) of CZU. OTT aims to connect the research and technological potential of FTZ and CZU with the needs of the commercial sphere and manages university's intellectual property.

During the period of 2019-2023, FTZ produced several significant results already applied in practice or heading towards application in practice, e.g.:

1 European patent application – international application: Microplate sealing lid for testing volatile agents. A sealing microlid (a novel microplate sealing lid) designed to evaluate the biological effects of volatile agents in vapour phase in combination with microplate is disclosed. The apparatus of the present invention allows quantitative, rapid, simple, labour- and cost-effective susceptibility testing of organism or cell cultures to volatile agents in vapour phase. The invention should have a worldwide application. This invention followed TAČR GAMA project.

2 Czech patents: 1) Fuel based on the rice straw, which got a widespread application in Vietnam. The fuel is sold by Lam An company – one of originators of the result. 2) Fuel based on miscanthus and residues after grain and oilseeds cleaning, can be potentially used by many agricultural processing companies.

2 Utility models: 1) Fuel based on rice straw – output of TAČR DELTA project. 2) Fuel based on miscanthus and residues after grain and oilseeds cleaning.

2 Licences sold in total amount of 55 000 CZK + VAT: 1) Technology and know-how for the production of natural latex rubber at room temperature – output of TAČR GAMA project. Licence sold to DBH company. 2) Author's work – database of genetic markers of dogs and analytical kit used to verify the origin and detection of hybrid categories in dogs by characterization of allelic frequencies of these breeds in Central Europe – output of TAČR GAMA project. Licence sold to GenRex s.r.o.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Licences sold (CZU – GenRex s.r.o.: Author's work - database of genetic markers of dogs and analytical kit)		30 000 CZK +DPH / 1 183 + VAT			
Licence sold (CZU – DBH: Technology and know-how for the production of natural latex rubber at room temperature)				25 000 CZK +DPH / 986 + VAT	

Total					

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

FTZ is actively engaged in disseminating scientific knowledge to the broader public, fostering awareness of tropical agrisciences, sustainability, and global development challenges. Over the period 2019–2023, the faculty has organized and participated in numerous popularization activities, including conferences, public lectures, citizen science initiatives, and media outreach. These efforts aim to bridge the gap between scientific research and societal needs, ensuring that FTZ's work has a broader impact beyond academia.

Some of the most significant activities include:

1. Public Lecture Series on Sustainable Agriculture and Climate Change Adaptation

FTZ has regularly organized public lectures addressing pressing issues related to sustainable agriculture, climate change resilience, and biodiversity conservation. These lectures, often held in collaboration with international experts and institutions, have provided valuable insights for students, researchers, and the general public. Notable speakers have included specialists from the United Nations Food and Agriculture Organization (FAO) and leading universities worldwide. The lecture series has contributed to increasing awareness and encouraging dialogue on sustainable solutions for agricultural development and climate adaptation.

[National Development Day was held at the Ministry of Foreign Affairs](#)

<https://www.ftz.czu.cz/en/r-10623-news-home/national-development-day-with-the-participation-of-represent.html>

<https://www.ftz.czu.cz/en/r-10623-news-home/participants-of-the-ces-2023-conference-discussed-the-future.html>

<https://www.ftz.czu.cz/en/r-10623-news-home/fta-hosted-the-international-conference-global-research-coll.html>

<https://www.ftz.czu.cz/en/r-10623-news-home/invitation-to-the-sea-turtles-exhibition-in-the-lobby-of-the.html>

<https://www.ftz.czu.cz/en/r-10623-news-home/forumforag-regional-event-czech-republic.html>

<https://www.ftz.czu.cz/cs/r-8683-aktuality-home/pozvanka-na-prednasku-prirozene-metody-obnovy-pudniho-zdravi.html>

<https://www.ftz.czu.cz/en/r-10623-news-home/beauty-of-the-west-african-savannah-photo-exhibition-and-sem.html>

<https://www.ftz.czu.cz/cs/r-8667-aktuality-projekty/nova-vystava-ve-vestibulu-ftz-gandoka-zije.html>

2. Media Collaborations on Key Global Issues

FTZ researchers have been featured in national and international media outlets, contributing expert opinions on critical topics such as climate change, fair trade, wildlife conservation and the impacts of the COVID-19 pandemic. During the SARS-CoV-2 outbreak, FTZ experts provided analysis on virus mutations and their implications for public health policies. Other topics covered include hedgehog conservation research, distance schooling at universities, and food security challenges. These media engagements have helped disseminate scientific knowledge to a broad audience and enhance public understanding of pressing global challenges.

e.g.:

- <https://www.science.org/content/article/pangolin-poaching-hot-spots-revealed-dna-tests>
- <https://www.samoaoobserver.ws>
- <https://www.ceskatelevize.cz/porady/10101491767-studio-ct24/220411058321102/>
- <https://radiozurnal.rozhlas.cz/vytvorite-li-spravne-podminky-i-do-puste-krajiny-se-vrati-zivot-veri-agrolesnik-8461752>
- <https://reportermagazin.cz/5062/cesi-vytvorili-mobilni-laborator-ktera-ma-odhalit-ebolu-i-covid-19/>
- <https://dvojka.rozhlas.cz/nebrante-se-ockovani-vakciny-funguji-ujistuje-virolog-jiri-cerny-8442219>
- <https://www.ftz.czu.cz/cs/r-8683-aktuality-home/lecba-nova-antibiotika-primo-do-plic-nadechem.html>
- <https://reportermagazin.cz/37851/africka-staz-na-cely-zivot/>
- <https://www.ftz.czu.cz/cs/r-8683-aktuality-home/samozrejme-se-nechavam-pokousat.html>
- https://www.idnes.cz/onadnes/zdravi/virolog-jiri-cerny-infekce-ockovani-hiv-nemoc-bakterie.A240925_151420_zdravi_krd

3. Participation in Science Festivals and Public Events

FTZ has been an active participant in major science festivals such as Vědafest, Sciencefest, and Země živitelka. These events attract thousands of visitors, including students, educators, and families, providing hands-on learning experiences about tropical agriculture, sustainability, and conservation. Activities such as interactive exhibits, live demonstrations, and expert talks have helped inspire interest in science and research among young audiences and the general public.

<https://www.vedafest.cz/>

[Researchers` Night](#)

<https://www.vcb.cz/kalendar-akci/zeme-zivitelka-2025>

4. Collaboration with NGOs on Sustainable Rural Development

FTZ has worked closely with various NGOs (i.e. People in Need, ADRA, Caritas) to implement sustainable agricultural practices in rural areas, particularly in developing countries. Through training programs, knowledge-sharing initiatives, and on-the-ground projects, FTZ researchers have helped local communities improve food security, water management, and climate resilience. These outreach efforts have empowered rural populations with practical skills and sustainable solutions for long-term agricultural development.

<https://www.ftz.czu.cz/cs/r-8683-aktuality-home/prestizni-oceneni-pro-projekt-realizovany-za-spoluucasti-ved.html>

<https://www.ftz.czu.cz/cs/r-8683-aktuality-home/propojeni-akvakultury-a-bioplynovych-technologii-v-zambii.html>

<https://www.czu.cz/cs/r-7212-veda-a-vyzkum/r-7653-aktuality-vav/v-zapadni-zambii-uspesne-pokracuje-projekt-cra-podporujici-o.html>

<https://www.ftz.czu.cz/cs/r-8667-aktuality-projekty/trainings-on-diversifying-the-eating-habits-of-ethiopians.html>

<https://www.ftz.czu.cz/cs/r-8667-aktuality-projekty/jak-se-susi-mango-v-kambodzi-treba-i-v-susarnach-z-ftz.html>

5. Establishment of Agri Policy Lab

The Agri Policy Lab was established as an innovative platform to advance agricultural policies and practices through interdisciplinary research and policy recommendations. By engaging policymakers, researchers, and industry stakeholders, the lab has contributed to the formulation of evidence-based strategies addressing key challenges in agriculture and rural development. The lab's work has influenced policy discussions at national and international levels, strengthening the link between academic research and practical policymaking.

<https://biogas.czu.cz/en/r-19968-agri-policy-lab>

6. Open Days at FTZ

FTZ organizes three Open Days annually, welcoming prospective students and the general public to explore study programs, research opportunities, and student life at the faculty. These events provide an interactive platform where visitors can meet research teams, learn about ongoing projects, and engage with FTZ organizations advocating for key topics such as wildlife conservation and fair trade. Through presentations, laboratory visits, and discussions, Open Days play a crucial role in popularizing science and attracting new talent to the field of tropical agriculture and sustainability.

<https://www.ftz.czu.cz/en/r-10623-news-home/open-days-at-the-faculty-of-tropical-agrisciences-2025.html>

<https://www.ftz.czu.cz/en/r-10623-news-home/open-day-at-the-faculty-of-tropical-agrisciences.html>

7. FTZ Expert in Podcasts

FTZ experts regularly participate in podcast series covering pressing global challenges and advancements in tropical agriculture, biodiversity conservation, and sustainable development. These podcasts provide an accessible way for the general public, students, and professionals to stay informed about current research and its real-world applications. Episodes have featured discussions on climate resilience, endangered species protection, and ethical food production, helping to disseminate scientific knowledge beyond traditional academic audiences.

- <https://zivauni.cz/podcast/68-mezinarodni-pusobeni-studentu-ftz/>
- <https://zivauni.cz/podcast/64-botanicka-zahrada-czu/>
- <https://zivauni.cz/podcast/53-agrolesnictvi-novinka-ci-navrat-do-starych-casu/>
- <https://open.spotify.com/episode/0Xv6GD4vibe1MjE2JjAvp?si=EkTROJlrSZ-s02d5ga5nGw>

- <https://open.spotify.com/episode/6Maaj6hQ533kX35W6WWB8f?si=U7ANKDiCSV6nIB3VMge11g>

8. Communication via Social media and Faculty Website

FTZ actively engages with the public through its website and social media platforms, where it shares research findings, success stories, and updates from its research teams. These channels serve as key tools for science communication, making complex research topics accessible to a broader audience. Regular posts highlight fieldwork, international collaborations, and real-world applications of FTZ research, fostering greater public awareness and interest in tropical agriculture, sustainability, and global development challenges.

- <https://www.ftz.czu.cz/en/r-10623-news-home>
- <https://www.facebook.com/ftz.czu.cz/>
- <https://www.youtube.com>
- <https://www.linkedin.com>
- <https://www.instagram.com/ftz.czu.cz>

9. FTZ Botanic Garden Activities

Botanic Garden of FTA actively contributes to the popularization of science and public communication through educational programs, guided tours, workshops and expert lectures. Its main objectives in this area include raising awareness of the importance of tropical and subtropical plants, biodiversity conservation, and promoting ecological thinking. Since its establishment, the Botanic Garden of FTZ has been actively involved in the popularization of science and public communication, emphasizing the importance of tropical plants and their role in ecology and the economy. The activities of the BG aim to make research and ecological knowledge accessible to a broad audience, fostering active interest in plant biodiversity conservation and environmental education.

<https://www.ftz.czu.cz/en/r-9419-departments/r-9475-departments/r-10258-botanical-garden>

Each of these examples highlights FTZ's commitment to making research and innovation accessible and relevant to society. By continuing to expand its outreach and popularization efforts, FTZ aims to further bridge the gap between academia and the broader public. Each of these initiatives plays a crucial role in raising public awareness and engaging diverse audiences in the importance of sustainable development and tropical agriculture. FTZ remains committed to enhancing its science communication strategies and fostering greater public involvement in research and innovation.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

When considered recommendations from the previous evaluation period, the faculty has made significant strides in enhancing its international visibility and collaboration, with particular emphasis on securing funding from international sources. This is for example reflected in stronger involvement especially in Horizon Europe programs (in all of those where FTZ is involved at least one WP is led and also on Horizon Europe being coordinated by FTZ). Our ongoing efforts to establish partnerships with leading institutions in Europe have bolstered our international profile and expanded the faculty's research capacity. We have actively participated in high-impact international research projects, and the faculty continues to take leadership roles in collaborative activities aimed at addressing global challenges, particularly in tropical agriculture and sustainable development. Which has been also reflected in an increased number of Nature indexed publications during the current period.

To further strengthen the scientific outreach, we are focusing on building new and maintaining existing partnerships with key organizations and networks, such as Agrinatura, ELLS, IRC. This has enabled us to increase our impact on both local and international communities, particularly in the target countries where our work has the most direct effect. Additionally, we are refining our approach to consultancies by leveraging our expertise in tropical agriculture and SDG-related research, which will contribute to both our economic return and enhanced research capacity. Furthermore, we have established Agri Policy Lab, which focusses on cooperation with policy makers.

Acknowledging the need for improvements in the commercialization of research outputs and the formalization of collaborations with non-academic sectors, we have taken steps to develop a strategic framework for engaging with industry partners. We are in the process of developing a strategy that outlines clear steps forward for advancing these aspects of our work. There are also currently more patents pending and one FTZ start up in the process.

While we have made great strides in public outreach, we recognize the need to always align our external communications more closely with the core focus areas of tropical agriculture and SDGs. In the last period, we were focussing on showcasing our strengths and expertise, with an increased focus on themes relevant to the agricultural challenges faced by our target countries. Reflecting the faculty's primary research priorities.

As research is in the core of our work, but its showcasing is also important. Moving forward, we will continue to sharpen the faculty's profile by developing clear strategies for international visibility, supporting start-ups (or spin-offs), and effectively communicating our core competencies. We believe that with refining these aspects, we will aim even more to increase the faculty's attractiveness to international partners and further solidify our position as a leader in tropical agricultural research and development.

Moving forward, with the motto for 2025+ being *"Leading Excellence in Tropical AgriSciences"*.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
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FTZ Annual Report 2023		https://www.ftz.czu.cz/dl/128918?lang=en
FTZ Annual Report 2022		https://www.ftz.czu.cz/dl/118353?lang=en
FTZ Annual Report 2021		https://www.ftz.czu.cz/dl/114519?lang=en
FTZ Annual Report 2020 (Czech)		https://www.ftz.czu.cz/dl/114519?lang=en
FTZ Annual Report 2019 (Czech)		https://www.ftz.czu.cz/dl/114518?lang=en
FTA Strategic Plan 2021+		https://www.ftz.czu.cz/dl/105300?lang=en
Strategic Plan 2015 - 2020		https://www.ftz.czu.cz/dl/81723?lang=en

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: The Institute of Education and Communication

FORD: 5 - Social sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

It is imperative to acknowledge at the outset that in 2023, there was a change in the management of the IEC. The new management has initiated measures to enhance the status quo in the domain of science and research, as well as the caliber of the implemented educational activities. Nevertheless, it is important to recognize that the outcomes of any change in strategy invariably require a certain time period in which to manifest. Prior to 2023, the IEC had not yet achieved any WoS outputs in the designated categories of Q1-Q4. However, since 2023, seven flow outputs have been documented. However, the enhancement of adequate performance necessary for the implementation of IEC activities lies beyond the evaluated period of this evaluation report. It is also important to note that the IEC is significantly more humanistic in nature than the other parts of the CZU, which may in itself result in a lower level of scientific outputs and projects.

The academic staff involved in scientific research are published in the field of "Social Sciences", more specifically in "Education". These publications include monographs, conference papers, or journals in the Q3-Q4 categories (WoS outputs occurred after the change in IVP management strategy in 2023, with a noticeable increase in quality publication results appearing in 2024).

The Institute of Education and Communication is a higher education institute with the following organisational structure: two departments (the Department of Pedagogy and the Department of

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

Professional and Personal Development), the Department of Lifelong Learning, and the Centre for Education of Foreign Students at CZU in Prague. Its vision encompasses the provision of quality education and career counselling, with a focus on fostering professional development, including the reflection of trends and innovations in the respective domains. The mission of the institute is twofold: firstly, to provide educational and counselling activities for the development of teachers in vocational education and counsellors in the field of education and human resource development; and secondly, to provide educational and counselling activities for the development of teachers in vocational education and counsellors in the field of education and human resource development. The long-term objective of the institute is to supply the labour market with graduates who meet the following criteria: (a) teachers who are equipped with modern pedagogical theory focused on current trends in didactics, meet the national competency framework for teacher graduates, and can reflect elements of digitalization, tandem teaching, etc., in practice, and (b) career counsellors who are familiar with the labour market offerings in the Czech Republic and beyond, possess counselling techniques, and can thus effectively develop career thinking, decision-making, and strategies in their clients.

It is evident that the aforementioned activities result in social benefits, both within the framework of the "Strategy of Educational Policy of the Czech Republic until 2030+" and within research activities focused on applied research (see the TAČR project Proposal and Implementation of the Concept and Methodology of "Career Learning" in Vocational Education).

In order to achieve its stated goals, the institute has accredited two professionally oriented bachelor's degree programmes. The first of these is "Teaching Practical Training", a traditional programme, and the second is "Career Counseling and Education", a programme unique in the Czech Republic which was introduced in 2020. Additionally, it offers an accredited educational programme, "Study of Pedagogy", within the framework of lifelong learning, which meets the standards of further education for teaching staff. It is notable that the demand for admission to these programmes consistently exceeds the capacity for enrolment. Annually, the institute hosts approximately 350 students in bachelor's programmes (of whom approximately 75% are female) and 120 participants in lifelong learning programmes (of whom approximately 60% are female).

The institute's full-time staff consists of an average of eight academic employees (two-thirds of whom are women), and the part-time staff includes an average of two academic employees, predominantly men. The qualification level over the years includes approximately one professor, one associate professor, six assistant professors, and two assistants. With regard to age, 45% of the staff are under 40 years old, 19% are in the 40-50 age range, and 34% are in the under-70 category.

The academic staff involved in scientific research are published in the field of "Social Sciences", more specifically in "Education". These publications include monographs, conference papers, or journals in the Q3-Q4 categories (WoS outputs occurred after the change in IEC management strategy in 2023, with a noticeable increase in quality publication results appearing in 2024).

Table 3.1.1 - Staffing per FTE²

Academic/	Total / Of which women
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² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

Professional position	2019	2020	2021	2022	2023	Total
Professor	0,5/0,5	0,5/0,5	0,5/0,5	0,5/0,5	0,333/0,333	2,333/2,333
Associate Professor	1,0/1,0	1,0/1,0	1,0/1,0	1,0/1,0	1,0/1,0	5/5
Assistant Professor	8,4/5,4	8,051/5,051	7,002/4,951	7,467/5,467	8,175/6,119	39,095/26,988
Assistant	-	1,383/0,833	0,767/0,167	0,734/0	1,0/0	3,884/1
R&D Personnel ³	0,9/0,8	1,527/1,387	1,246/1,098	1,127/0,979	-	4,8/4,264
Researchers in other categories ⁴	-	-	-	-	0,338/0,033	0,338/0,033
Technical and economic staff ⁵	9,250/7,80	10,075/8,360	9,591/7,913	10,533/8,629	10,020/8,755	49,489/41,457
Scientific, research and development staff involved in teaching activities	-	-	-	-	-	-
Early career researchers ⁶	-	-	-	-	-	-
Total ⁷	20,05/15,5	22,536/17,131	20,106/15,629	21,381/16,575	20,866/16,24	95,513/73,425

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	-	-	-	-	-	-	-	-	1	1	-	-
Associate Professor	-	-	-	-	-	-	-	-	1	1	-	-
Assistant Professor	-	-	5	4	1	0	1	1	2	1	-	-
Assistant	-	-	-	-	-	-	-	-	-	-	-	-

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

R&D Personnel ⁹	-	-	-	-	-	-	-	-	-	-	-	-
Researchers in other categories ¹⁰	-	-	-	-	-	-	-	-	-	-	-	-
Technical and economic staff ¹¹	-	-	-	-	-	-	-	-	-	-	-	-
Scientific, research and development staff involved in teaching activities	-	-	-	-	-	-	-	-	-	-	-	-
Early career researcher ¹²	-	-	-	-	-	-	-	-	-	-	-	-
Total ¹³	-	-	5	4	1	0	1	1	4	3	-	-

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	-	-	-	-	-	-	-	-	-	-	-	-
Associate Professor	-	-	-	-	-	-	-	-	-	-	1	1
Assistant Professor	-	-	3	1	4	3	3	3	1	1		
Assistant	-	-	-	-	1	0	-	-	-	-	-	-
R&D Personnel ¹⁵	-	-	-	-	-	-	-	-	-	-	-	-
Researchers in other categories ¹⁶	-	-	2	1	-	-	1	0	1	0	-	-
Technical and economic staff ¹⁷	-	-	-	-	-	-	-	-	-	-	-	-

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

Scientific, research and development staff involved in teaching activities	-	-	-	-	-	-	-	-	-	-	-	-	-
Early career researcher ¹⁸	-	-	-	-	-	-	-	-	-	-	-	-	-
Total ¹⁹	-	-	5	2	5	3	4	3	2	1	1	1	1

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	369	273	376	278	353	264	337	250	354	252	1789	1317
Master's ²⁰	-	-	-	-	-	-	-	-	-	-	-	-
Doctoral	-	-	-	-	-	-	-	-	-	-	-	-
Lifelong Learning Courses	107	86	103	71	155	91	142	92	147	84	654	424
Total	476	359	479	349	508	355	479	342	501	336	2443	1741

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes												
	2019		2020		2021		2022		2023		Total		
Undergraduate	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	9/0	9/0
Master's	-	-	-	-	-	-	-	-	-	-	-	-	-
Doctoral	-	-	-	-	-	-	-	-	-	-	-	-	-
Lifelong Learning courses	2/0	1/0	2/0	1/0	2/0	1/0	2/0	1/0	2/0	1/0	10/0	5/0	
Total	3/0	2/0	4/0	3/0	4/0	3/0	4/0	3/0	4/0	3/0	19/0	14/0	

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	
	1.2 Computer and information sciences		Zvolte položku.	
	1.3 Physical sciences		Zvolte položku.	
	1.4 Chemical sciences		Zvolte položku.	
	1.5 Earth and related environmental sciences		Zvolte položku.	
	1.6 Biological sciences		Zvolte položku.	
	1.7 Other natural sciences		Zvolte položku.	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine		Zvolte položku.	
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences		Zvolte položku.	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries		Zvolte položku.	
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences		Zvolte položku.	100 %
	5.2 Economics and Business		Zvolte položku.	
	5.3 Education	100 %	Applied Research	
	5.4 Sociology		Zvolte položku.	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences		Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	
	6.2 Languages and Literature		Zvolte položku.	

	6.3 Philosophy, Ethics and Religion		Zvolte položku.
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.
	6.5 Other Humanities and the Arts		Zvolte položku.
	Total	100 %	-
			100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

The institute has a notable presence within the professional community, as evidenced by its representation on the editorial boards of two prominent journals: Journal on Efficiency and Responsibility in Education and Science and Paidagogos. The institute's academic staff members, namely Dr. Němejc and Dr. Smékalová, are frequently invited to deliver lectures in the field of education. International experts from Finland, Latvia, Italy, the Netherlands and Spain have accepted invitations to participate in educational and creative activities, including Professor Chamorro, Rodrigues, Associate Professor Magliocca and Dr. Noom, Ruhalahti, Bickovska. The institute's close collaboration with secondary vocational schools across the Czech Republic, for which it trains teachers of specialised subjects, is also recognised by the professional community. Within this network, the institute is a member of several professional associations and consortia.

The period under review offers significant scope for enhancement in the monitored activities, which are part of the new IEC management strategy since 2023.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
-	-	-

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
Ing. Karel Němejc, Ph.D.	Journal on Efficiency and Responsibility in Education and Science (ISSN 1803-1617)
Lucie Smékalová, PhDr., Ph.D. et Ph.D.	Paidagogos, ISSN 1213-3809

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
Ing. Karel Němejc, Ph.D.	Secondary School as a Partner in Community-Led Local Development	15th International Scientific Conference: Rural Environment - Education - Personality	2022
Ing. Karel Němejc, Ph.D.	Implementation of Innovative Teaching Topics in Vocational Agricultural Education	16th International Scientific Conference: Rural Environment - Education - Personality	2023
Lucie Smékalová, PhDr., Ph.D. et Ph.D.	Identification of Transferable Competencies and their Impact on the Paradigm Change in Higher Education in the 21st Century.	Jelgava: The Latvia University of Agriculture, Institute of Education and Home Economics, 7. 5. 2021, online;	2021

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Sanna Ruhalahti, dr.	Tampere University of Applied Sciences, Finsko	<u>Motivation in Digital Open Badge-Driven Learning in Vocational Teacher Education</u>	2019

Anna Bickovska, dr.	Latvia University of Life Sciences and Technologies, Lotyšsko	Metaphoric Associative Cards (MAC) as Tool in Career Counselling	2022
Pedro P. Chamorro, Prof.	University of Cordoba, Španělsko	Coping with the Stressors, a Specific Example of the Case of Infertility	2023
Pierpaolo Magliocca, Assoc. Prof.	University of Foggia, Itálie	<u>Understanding Human–Technology Interaction: Evolving Boundaries</u>	2023
Pierpaolo Magliocca, Assoc. Prof.	University of Foggia, Itálie	<u>From the Dark Side of Industry 4.0 to Society 5.0: Looking “Beyond the Box” to Developing Human-Centric Innovation Ecosystems</u>	2023
Jan-Willem Noom, dr.	AERES Wageningen, Nizozemí	Professional Values of a Reflective Practitioner	2023
Miguel A. M. Rodrigues, Prof.	University of Almeria, Španělsko	Group Dynamics	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
-	-	-	-

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

It is evident that all projects fulfilled the mission and purpose of the Institute of Education and Communication, as the institute focuses on the professional development of vocational education and career counselling in both educational and research contexts.

(1) TAČR: Proposal and Implementation of the Concept and Methodology of "Career Learning" in Vocational Education. The project's outcome is a professional monograph that reflects the methodology for developing career counselling in secondary vocational education.

(2) CATCH: 21st Skills: Changing the Approach to Teaching in Higher Education. The output of this project is a publication that includes didactic procedures and guidelines for developing 21st-century skills. Implementation with partners: The project is being conducted in collaboration with partners in Bulgaria, Italy, Spain and Turkey, with an equal distribution of the research responsibilities among the participating countries.

(3) RESUME: Responsibility, Sustainability, and Mobility in Education. The outcome of this endeavour was the adoption of principles and practices of sustainable development and socially conscious behaviour in vocational education in the Czech Republic and Norway. The students were granted the opportunity to engage in shadowing, study, and career counselling at six workplaces in Norway. The implementation of this programme was overseen by the partner Norwegian University of Life Sciences, with IEC serving as the programme's coordinator.

(4) FUTURE WORK: The output presents an innovative gaming MOOC for the development of four clusters of skills that are in demand in the labor market (career and social skills; digital skills; green skills; entrepreneurial skills). The project was implemented in collaboration with the following partners: These partners include Sofia University St. Kliment Ohridski, Bulgaria (coordinator); Business Foundation for Education, Bulgaria; Innovation Hive, Greece; and Link Campus University, Italy (equal share). The content was also contributed by a part of the university, namely the Faculty of Environmental Sciences.

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

(5) MULTICLASS: Multicultural Classrooms: Inclusive Learning and Teaching in Higher Education. The outcome of this project was a didactic handbook, accompanied by a compendium of teaching materials designed for academic staff to enhance their competencies in the effective management of multicultural and diverse classrooms. The subsequent implementation of the programme with various academic partners is outlined below: The project was coordinated by University Kâtip Çelebi in Izmir, Turkey, and included the following partners: HoGent, Belgium; Sofia University St. Kliment Ohridski, Bulgaria; Transilvania University of Brasov, Romania; San Jorge University, Zaragoza, Spain; Yasar University, Turkey; and Yildiz Technical University, Turkey. The content was also contributed by a part of the university, namely the Faculty of Tropical AgriSciences.

(6) EduSTA: Academy for Sustainable Future Educators, Erasmus+ Teacher Academies. The outcome of this collaboration was the creation of digital badges (micro-credentials) designed to enhance the qualifications of vocational education teachers. The badges, which were issued on the online platform "Open Badge Factory," focused on four key areas: "Sustainability Literacy," "Educational Ecosystem Design," "Action Approach," and "Reflective Practice." The project was implemented in collaboration with the following partners: Tampere University of Applied Sciences, Finland (coordinator); Hanzehogeschool Groningen, Netherlands; University of Girona, Spain; University of Gothenburg, Sweden.

The period under review offers significant scope for enhancement in the monitored activities, which are an integral component of the novel IVP management strategy since 2023. Project activities have been supported by the IEC Motivation Programme since that same year.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
TAČR	The proposal and implementation of the concept and methodology of "Career Learning" in vocational education is the objective of the programme to support applied social science and humanities research, experimental development, and innovation ETA 2, (02/2019 – 12/2022).	269/10 743	293/11 720	293/11 720	293/11 720	-
Total		269/10 743	293/11 720	293/11 720	293/11 720	-
In the role of another participant						
	Project name	Support (in thousands CZK/EUR)				

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

Provider ²⁷		2019	2020	2021	2022	2023
European Commission (Erasmus+ - 2019 - KA 2 Strategic Partnerships).	21st Skills: Changing the Approach to Teaching in Higher Education (CATCH) (09/2019-12/21)	121/4 826	362/14 477	362/14 477	-	-
The Financial Mechanism of the European Economic Area (EHP)/Norway.	RESUME: Responsibility, Sustainability and Mobility in Education (08/2020-08/2022/	-	66/2 646	159/6 350	106/4 234	-
European Commission (Erasmus – Cooperative Partnerships (KA220),2022.	4s' Future Work (02/2023–12/2024; partneři: Sofia University St. Kliment Ohridski, Bulharsko (koordinátor); Business Foundation for Education, Bulharsko; Innovation Hive, Řecko; Link Campus University, Itálie	-	-	-	-	321/12 993
European Commission (Erasmus – Cooperative Partnerships (KA220), 2022.	MULTICLASS: Multicultural Classrooms: Inclusive Learning and Teaching in Higher Education (12/2022–12/2024; partneři: University Kâtip Çelebi in Izmir, Turecko (koordinátor); HoGent, Belgie; Sofia University St. Kliment Ohridski, Bulharsko; Transilvania University of Brasov, Rumunsko; San Jorge University, Zaragoza, Španělsko; Yasar University, Turecko; Yildiz Technical University, Turecko)	-	-	-	13/547	324/13 101
European Commission	EduSTA: Academy for Sustainable Future Educators, Erasmus+ Teacher Academies (06/2022–05/2025; partneři: Tampere University of Applied Sciences, Finsko (koordinátor); Hanzehogeschool Groningen, Nizozemsko; University of Girona, Španělsko; University of Gothenburg, Švédsko	-	-	-	164/6 810	772/31 219
Total		121/4 826	428/17 123	521/20 827	283/11 589	1 417/57 313

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
-	-	-	-	-	-	-

²⁷ Ibid.

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

Total					
-------	--	--	--	--	--

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

The project, which is funded by the TAČR, has resulted in the creation of a book that is designed as a methodology, accompanied by worksheets. The intended audience is students and teachers of secondary vocational schools. The project's social impact is intended to extend to the general public through the provision of mandatory copies in libraries. The text's gender dimension is addressed in both the authoring team and the target group of users. The framework for educational programmes in the area of "Man and the World of Work" and the work of school counsellors have been employed to ensure the sustainability of the project.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
B_Book (Methodology)	2022	A Strategy for the Development of Career Counselling in Secondary Vocational Education: A Methodological Approach to Educating Students in Career-oriented Thinking.

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

²⁹ See Terms definition.

³⁰ Specify the specific type of result. Add rows as needed.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

The translation of research outcomes into practical applications is facilitated by project deliverables, such as the distribution of educational resources and the execution of instructional programmes. In the context of career counselling, this process entails the dissemination of a professional monograph that encapsulates the methodology employed in the development of career counselling within the framework of secondary vocational education. In the field of teaching, the following publications were created: (a) a monograph containing didactic procedures and guidelines for developing 21st-century skills; (b) a didactic handbook with a set of teaching materials for academic staff to better manage multicultural and diverse classrooms; (c) the content of digital badges (micro-credentials) for enhancing the qualifications of vocational education teachers; (d) an innovative gaming MOOC for the development of four clusters of skills that are in demand in the labor market.

The target demographic of the programme includes students and teachers of secondary vocational schools, as well as academic staff. Collaboration is facilitated through a network of training schools and workplaces, with additional training schools and workplaces being sought according to the classification of core fields of education via the Infoabsolvent portal.

The project outputs are not based on commercialisation, and thus financial returns cannot be provided. The utilisation of public funds for project support precludes the possibility of commercialisation.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
-	-	-	-	-	-
Total					

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

The Institute of Education and Communication (IEC) has been actively involved in the popularisation of science, research, and innovation, as well as communication with the public through various activities that have reached both the general public and the professional community during the period under review. Significant examples include:

Open Days, held regularly, allow the public to obtain information about the institute's educational programs, research activities, and projects. These events have been found to contribute to raising awareness and supporting public interest in the institute's activities.

Popularization lectures and seminars organized by IEC focus on current topics such as digital transformation, ecological sustainability, or innovations in education. These events have attracted experts and the general public, thereby contributing to the dissemination of scientific knowledge.

International cooperation encompasses projects such as "4s' Future Work," "EduSTA," and "MULTICLASS," which represent pivotal components of IVP's activities aimed at popularising science. The "4s' Future Work" project, for instance, has developed gamified online courses (MOOC) with a focus on cultivating digital, ecological, entrepreneurial, and social competencies among university students. The courses have been designed using modern technologies and interactive elements, and they have achieved a high level of popularity. The "MULTICLASS" project focused on inclusive education in multicultural classrooms and created practical materials and training for academic staff, thus supporting the internationalisation of education. The "EduSTA" initiative sought to enhance the qualifications of vocational education teachers and explore innovative methods for recognizing micro-credentials. The project developed educational modules and digital badges that support literacy in sustainable development and innovative teaching approaches.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

In the period 2019–2023, the Institute of Education and Communication (IEC) concentrated on implementing the recommendations of the International Evaluation Panel with a view to enhancing the social relevance of its research, more effectively transferring results into practice, and expanding its impact on society. The primary steps undertaken during this period entailed the consolidation of collaborative ties with both professional and non-academic domains, in conjunction with the refinement of strategies for the dissemination of research outcomes. The institute cultivated cooperative relationships with professional institutions at both national and international levels, emphasising the practical implementation of project outcomes. This endeavour encompassed the organisation of regular seminars and workshops within the domain of vocational education and career counselling. The emphasis placed on activities with a direct impact on the quality of vocational education and career counselling is also worthy of note. Key outputs include the development of new educational tools that reflect current practical needs. This research was carried out in collaboration with practical partners, ensuring that the results met the actual needs of the target groups. Another key area of focus for IEC was the popularisation of research results. To this end, an effective dissemination strategy was developed, with the aim of sharing results not only with relevant professionals but also with the general public. In addition to organising regular professional seminars, IVP actively participated in international conferences, where it presented its achievements and strengthened networking at a global level.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)

SELF-EVALUATION REPORT FOR MODULES 4 AND 5

HIGHER EDUCATION INSTITUTION NAME: Czech University of Life Sciences Prague (CZU)

COMPANY REGISTRATION NUMBER (CRN): 60460709

MODULE 4 – VIABILITY

ORGANISATION AND MANAGEMENT OF R&D&I

4.1 Organisation and management of R&D&I

The HEI will briefly describe its organisational structure¹ and describe the R&D&I management system including the role of the HEI's central management, the management of faculties, and the HEI's institutes in organizing and managing R&D&I. It should also describe the role and structure of the technical and economic apparatus.

Maximum 1000 words.

Self-assessment:

At the CZU, R&D management is entrusted to the Vice-Rector for Science and Research, who closely cooperates with the Vice-Rector for Development, the Vice-Rector for Strategy, and, among others, the Vice-Rector for Quality of Academic Activities. The Vice-Rector for Science and Research very closely co-operates with Vice-Deans for Science and Research of all faculties and the Institute through the monthly meetings. In case of urgent issues that need to be solved, the meeting is called as well.

The Department for Science and Research, Centre for Projects Implementation, Strategy Department and Quality Assurance Office have been established within the Rectorate with the primary focus on methodical management in the area of R&D&I. Similar departments work within Dean's Offices of the individual Faculties and the university institute. The Project teams at individual faculties send regularly information about upcoming calls, both national and international, they also provide administration support during proposal preparation and during the preparation of final/partial reports. In addition, these teams coordinate various forms of cooperation with external entities and also take care about PR of the projects. (Example of the project team: <https://www.fzp.czu.cz/en/r-9411-projects-and-partnerships/r-9879-project-team>) At the rectorate, Office of the Support of International Projects (<https://www.czu.cz/en/r-9186-about-university/r-9195-university-offices/r-9204-core-offices/r-9209-project-management-department#i-707d151938a001b172e8029cbeccf67b>) provides information and consulting to those interested in the field of agricultural and food sciences and related fields in technical and socio-economic areas, including environmental sciences. The support of participation of leading Czech research teams in international projects will allow for them to contribute to shaping the European research area with great emphasis is be put on bio-economy.

The basic accounting service is provided by secretariats of each department, for large international projects also rectorate accounting office is involved. The final accounting balance necessary for final reports of all projects is done by the grant accounting office of the Rectorate.

In autumn 2019, the Statute of the International Advisory Board of the CZU, as well

¹ A graphical representation of the organisational structure will be provided as an annex.

as nomination of its members were approved. Due to the covid travel restrictions, the visits of the Advisory Board occurred in 2022 and 2024 and it is intended to hold the on-site meeting every two years.

R&D&I QUALITY MANAGEMENT AND SUPPORT SYSTEM

4.2 System of support for a quality R&D&I environment and incentive measures for quality science

The HEI will briefly describe the systemic incentive measures/tools to support quality R&D&I (if applicable). For each measure/tool described, an example will be provided to illustrate the effectiveness of the measure/tool in practice (e.g. number of projects supported by internal grants, statistics on the use of advisory systems, number of newly established research teams, etc.). The description will pay particular attention to:

- A system of support for attracting national and international projects of projects.
- A system for project consultancy/management/administrative support.
- Science management (e.g., personnel and financial capacity for R&D&I transfer, personnel and financial capacity of the project acquisition support system, science managers, data analysts, business and innovation advisors, etc.).
- The existence of internal funding schemes.
- Strategy/opportunities for establishing new research teams (including international ones) and supporting them within the HEI (e.g. sharing of R&D&I equipment, laboratory and information facilities, administrative support, etc.).
- Support system for students and early career researchers².
- a system to support excellent science (e.g. support for excellent scientists, research teams, PhD students, collaborations, infrastructure, etc.).
- A system of support for interdisciplinary research and collaboration within the HEIs.
- The concept of providing conditions for the emergence of new, high quality research directions/topics, especially those with application potential.

Maximum 300 words per point.

Self-assessment:

At all Faculties, teams, usually called “project teams”, continuously follow the calls of both national and international grant agencies and inform researchers. In addition, the members of the teams help to prepare project proposals especially from the administration point of view. The teams are also involved in preparation of annual and final reports. Large structural projects are handled by the project department at the rector’s office. The routine accounting for the projects is carried out at the departmental level, the annual financial reports are carried out by accounting office at the rectorate.

Internal funding of research teams mostly comes from the budget allocated to Long-term Conceptual Development of Research Organization (*see also section 4.11.*). In some Faculties research teams were created and those teams are supported partially by faculty budgets. The teams are composed of researchers, postdocs and Ph. D. students from the faculty but not necessarily from one Department. Through these research groups, young researchers have the possibility to develop their careers.

<https://www.fzp.czu.cz/en/r-9409-science-research/r-9674-leading-research-groups>

<https://www.ftz.czu.cz/en/r-9419-departments/r-13921-fta-research-groups>

² Student grants, support for PhD students, postdocs and early career scientists.

The Universities, and this applies to CZU as well, receive a special fund from the Ministry of Education, Youth and Sports to support grants for Ph.D. students. The project proposals are evaluated on the Faculty bases as a competition as there are always more applications and requested funds than the available funds. The required outcome of the proposal is at least one paper published in a journal indexed on Web of Science.

Motivation programmes of the CZU Rectorate

- The Rector's award for publication outputs of the CZU employees in journals included in the first decile in the WoS.
- Prof. Stoklasa award for best graduates from the CZU doctoral programmes.
- Awards for original work of doctoral students published in prestigious periodicals, where doctoral students are first authors.
- Motivation programme to encourage doctoral students to publish in journal Scientia Agriculturae Bohemica (bonus for the first author of published articles)
- Financial support for excellent Ph.D. students
- The award of the Minister of the Environment for excellent dissertation thesis prepared by graduates from the CZU doctoral study programmes (6 awards per year)
- The award of the Ministry of Agriculture for excellent dissertations prepared by graduates from the CZU doctoral study programmes (6 awards per year)
- Motivation programmes of the individual Faculties

A number of Faculties award employees for their publication activities, especially for articles published in D1, Q1 and Q2 according to the evaluation of the database Web of Science. Incentives are provided in a form of one-off awards or an increase in personal evaluation bonuses. At some Faculties, employees receive bonuses also for articles published in journals included in the Nature Index and journals Nature and Science.

4.3 Quality control system for R&D&I environment

The HEI will briefly describe the system of internal and external evaluation of research units, including the following aspects:

- Internal and external evaluation of R&D&I quality: This includes the evaluation of R&D&I by the HEI's authorities, the evaluation of research teams (if such a system exists), and the involvement of international scientific councils or other independent advisory bodies in quality control and of R&D&I management.
- The ethical aspects of research: This includes adherence to ethical principles and good scientific practice, compliance with related legislation (codes of ethics, ombudspersons, ethics committees and ethics hotlines, and systems for reporting whistleblowing and ethical misconduct).

The HEI shall demonstrate the functioning of the quality control systems in the R&D&I environment by examples (e.g., brief information on the evaluations carried out and their results, specific examples of the use of whistleblowing or the handling of ethical violations, etc.).

Maximum 500 words plus 200 words for each example described (max. five).

Self-assessment:

Activities related to the quality assurance and internal evaluation at CZU are fully in line with the strategic plan and the Standards and Guidelines for Quality Assurance in the European Higher Education Area. CZU has successfully passed the international evaluation of its activities in the

program of the European Association of Universities (Institutional Evaluation Programme – IEP) in 2022.

The quality management is managed and coordinated by the Vice-Rector for Quality of Educational and Creative Activities through individual committees and individual vice-deans of the faculties, and a rectorate workplace is established to support the quality management and accreditation processes - The Quality Department of the Rector's Office which provides the basic building block of the quality system and regularly compiles various information and feedback for the quality including the Research quality.

The quality system is firmly anchored by internal regulations, which determine what kind of feedback and corrective measures CZU has and precisely define the individual competences and responsibilities. In the quality management system, all boards play a role – but most of all Council for Internal Evaluation (RVH). The competent Vice-Rector coordinates the responsible Vice-Deans, who delegate the management process to the heads of departments and they to the regular academics. The organisational arrangements for the quality assurance and internal evaluation system consist of two types of structures: (1) the structure of CZU for issuing management instructions and obtaining information related to quality assurance and internal quality evaluation (includes mainly the Rector, Deans and Directors of the University Institute) and (2) the structure for setting requirements for educational, creative and related activities and for discussing and approving matters related to quality assurance and internal quality evaluation activities (includes mainly the Internal Evaluation Council of CZU, the Scientific Councils of the university and its units, the Board of Trustees and the Academic Senate of CZU).

The overarching and guaranteeing body that primarily operates in the field of quality assurance and internal quality assessment at CZU is the Internal Evaluation Council. Its position linking the two structures is determined by its composition, which includes academic staff and students nominated by the components of both the quality assurance structure and the internal evaluation structure. The International Advisory Board is also external advisory body for the quality system, including the evaluation of research. This body is composed of prominent European experts who participate in feedback mechanisms and the development of the quality system.

The example of good practice in the evaluation of scientific/research results is the annual preparation of the level for discussion in the academic community. The results of the status in the area of publications are annually linked to individual academics and their impact on implemented study programs is evaluated, where the connection with science is essential.

<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-13754-quality-of-educational-and-creative-activities>

4.4 Sustainability and resilience of R&D&I

The HEI will describe the arrangements for sustainability and increasing the resilience of R&D&I, if such a system exists, and provide examples of its implementation. These include:

- The sustainable development concept (strategy, objectives, plan and implementation).
- Social responsibility strategy.
- A knowledge transfer system, if it is established at central level.³
- The third role, the transfer of R&D&I results to society and interaction with local actors.
- The concept of research data management (data collection, access and sharing of data, use of the information obtained for R&D&I management, responsibility for data files, archiving and backup of data).
- Ethics and personal data protection.
- Intellectual property protection.
- Ensuring institutional resilience (resistance to foreign influence, cyber security, risk prevention, prevention of misuse of R&D&I and knowledge transfer results, a system to prevent or mitigate the negative impacts of R&D&I and knowledge transfer in society).
- Digitisation and the use of smart technologies.
- The institutional strategy for Open Science 2.0/Open Access (if one exists), including information on the operation of the institutional repository or similar tools.
- A system for training undergraduate and postgraduate students as well as staff in the field of intellectual property protection and technology transfer.

The HEI will demonstrate the effectiveness of its procedures by examples (e.g., the number of people trained in intellectual property protection and technology transfer, data on the usage of Open Access repositories, handling of risk incidents, etc.).

Maximum 300 words per point.

Self-assessment:

In 2018, the CZU vouched for the Corporate Social Responsibility (CSR) principles, with the emphasis on sustainable development, adopting as one of the strategic documents its first CSR Strategy, which was replaced in 2020 by the CZU Sustainability Strategy 2030. Since 2018, the CSR Report (the ČZU Sustainability Report since 2023) has been issued regularly (on an annual basis).

The university has worked for a long time on research, development and education in the fields related to nature and landscape protection, food security and precision agriculture and forestry, not only in the Czech Republic or Europe, but with a significant focus on developing countries (programmes of the Faculty of Tropical AgriSciences). Also, within its own operations, the ČZU, by gradually introducing various measures, has a long standing commitment to reduce negative impacts of its own activities in accordance with sustainable development principles (reducing impact on the environment, communities, etc.).

The CZU pursues a mission of promoting the principles of sustainability in the area of science, research and education and in linking sustainable solutions with practice. The CZU has introduced and promoted education in sustainable development and transferred results of research into practice, hence contributing to the solution of current challenges, especially in the profile educational and research areas, such as Agriculture, Food Sciences, Forestry, Earth Sciences, Biology, Ecology and Environmental Sciences and Economic Disciplines.

<https://csr.czu.cz/en/r-15346-sustainability-strategy-and-sustainability-reports>

³ If the knowledge transfer system is decentralised to the unit level, the HEI shall describe how the system works.

Technology Transfer Office (<https://ott.czu.cz/en>) was founded at the CZU in 2012 originally as the Center for Innovation and Technology Transfer (CITT). The office focuses on fostering collaboration between the university and the private sector, aiming to connect the research and technological potential of the university with the needs of the commercial sphere. At the same time, the office manages university's intellectual property and supports business development of young innovative companies with high growth potential. TTO is responsible to the Vice-Rector for Development and Sustainability. TTO has representatives in all faculties and institutes of CZU, closely connected to individual discipline-focused scientific teams or individuals, serving as information and distribution channels within the university. Therefore, TTO maintains an updated overview of ongoing research activities across the entire university.

Through the Czech University of Life Sciences Prague (CZU) Library, CZU focused on education in media literacy for seniors and high school students as part of the project "Media Literacy Interactively and for All (MEDGRAM)". <https://medgram.cz/en/about-project/>

The university utilises tools such as the Data Stewardship Wizard (DSW), which supports researchers in planning data management and ensures that data is FAIR from the point of collection and processing. The university is developing a Data Management Platform (DaMP), which currently provides essential data storage, backup, and archiving functions.

Since 2024, the CZU has been developing this area within the project ("Improving the Quality and Efficiency of the Educational Process and Strategic Management at CZU in Prague"), which focuses on strategic management in the data management created by students. This project includes:

- Establishing a Data Management Competence Centre (DMCC), which will provide institutional support and strategic leadership in this area.
- Implementing the Data Management Platform modules to store theses and archive data created during studies.
- Developing methodological guidelines for data management and embedding them in the university's strategic regulations.
- Conducting training for academic and non-academic staff focused on working with the Data Management Platform modules and effective data management.

The project aims to improve the quality of data management at CZU and promote transparency and reproducibility in scientific work. These measures will take place gradually until 2028, with the first outputs, such as establishing the DMCC, planned for 2025.

The CZU Code of Ethics introduces the essential ethical principles that guide employees and students of the CZU in their academic and other activities within the university and non-university spheres, in particular as regards educational, scientific and research, development and innovation, artistic and other creative activities, or their work in the public space. Ethical principles set forth herein reflect the historical mission of universities as the highest link in the educational system.

<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations>

Protection of intellectual property at the CZU were formulated in 2014 and afterwards amended in 2017. The Directive regulates the relationships and determines certain rights and obligations of employees and students of the Czech University of Life Sciences Prague associated with the creation, protection and use of the results of creative activities in relation to the CZU, with the intent to

support the creative potential of CZU, its employees and collaborating entities, and so that CZU employees, CZU, industry and society as a whole benefit from this activity.

<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations#widget-2832> (Rector's directives)

The topic of proper publishing practices and increasing awareness against predatory publishers was addressed through the project "Stop Predatory Practices," (<https://www.stoppredatorypractice.com/>) in which CZU, through the CZU Library, joined the international RESCUE Consortium (Roadmap to improve Ethics in Science and Curb prEdatory publishing). As part of this initiative, open educational materials and a teaching module for instructors were developed, and several educational events for professionals were organised both at CZU and beyond.

The CZU adheres to the principles of Open Science, as evidenced by strategic documents such as the Rector's Declaration on the Principles of Open Science dated November 15, 2022. The central Open Science Centre (OS Centre) under the CZU Library provides support in the areas of Open Science and Data Management. Through this centre, the university is part of numerous professional working groups both in the Czech Republic and abroad (Open Science working group, Association of Libraries of Czech Universities (AKVŠ); Core Services working group, European Open Science Cloud implementation in the Czech Republic (EOSC-CZ); Education working group, EOSC-CZ; Thematic Social Sciences working group EOSC-CZ; Datastewards Community in the Czech Republic; EOSC-Pillar Ambassadors Programme; Community of Practice OpenAIRE and Centre for Open Science)

The university emphasises the principle of "as open as possible, as closed as necessary." These principles are implemented primarily through the promotion of research data management in accordance with the FAIR principles (Findable, Accessible, Interoperable, Reusable), open access to scientific information, and support for the reuse of research outputs.

The university is developing a Data Management Platform (DaMP), which currently provides essential data storage, backup, and archiving functions. The platform's further development and full completion are part of the project "Improving the Quality and Efficiency of the Educational Process and Strategic Management at CZU in Prague", with completion planned for 2028.

Support for academic staff and students in the areas of Open Science (OS) and Research Data Management (RDM) is provided by the OS Centre under the university library. In the future, the data management agenda will be handled by the newly established DMCC. The OS Centre organises consultations, training sessions, and other educational activities focused on data management, FAIR principles, open access, and general issues related to Open Science.

Intellectual property and data management are also subjects of education for doctoral students. An example is the PhD Library Course, which is available to all postgraduate students and mandatory for selected faculties. It is held annually, and over the past 5 years, 450 PhD students have participated in it.

Within the project Quality Improvement of Studies at CZU Prague in 2020 - 2022, the CZU Library organised lectures and workshops for academic staff focused on copyright issues and their application in teaching and scientific practice. Participants had the opportunity to receive information on how to act ethically and follow the principles of intellectual property protection in their practice. They also learned ways to protect the results of their work while being able to share and promote them within the professional community and to the public. The project was followed up by offering training and consultation within the CZU Library.

PERSONNEL POLICY

4.5 Structure of human resources

The HEI shall describe the current state, age structure, degree of internationalization and development trends of the staff involved in R&D&I, along with their distribution by a job title and gender for the period of 2020–2024 as detailed in annex tables (Tables 4.5.1 to 4.5.3) (including the provision of technical and economic facilities).

Maximum 1000 words.

Self-assessment:

When comparing the years 2020 and 2024, it can be seen from the table 4.5.1. that the numbers increased for Professors (79.3 to 87.1 FTE) and also the percentage of foreign professors (from 0,61 to 1.46%). The percentage of women professors slightly decreased from 22.5% to 19.6%. In terms of Associate Professors all the numbers increased between 2020 and 2024. For Assistant professors, the FTE and percentage of women increased while percentage of foreign Assistant professors dropped down. The category Assistant is represented only by low number of FTE (17.1 in 2020 and 17.4 in 2024). R&D personnel substantially dropped down from 277 FTE in 2020 to 167 FTE in 2024 with percentage of foreign personnel about 30% in both 2020 and 2024. Research in other categories exhibit high percentage of women but the values decreased from 66.9% to 47.5%. Technical and economic staff increased from 576 to 703 between 2020 and 2024 with constant percentage of women (57-59%). The percentage of foreign personnel in this category increased from 10.8 to 20.4%. The number of foreign employees increased from 95 to 129 FTE with decreasing percentage of women (64% to 48%).

The percentage of professors is more or less evenly distributed among categories 40-49 years, 50-59 years, 60-69 years and 70 years and older in both 2020 and 2024. In 2024, there is one professor at the age category 30-39 years. In terms of Associate Professors, the highest percentage can be found within the age category 40-49 years (40% men and 7% women in 2020, 39 % men and 11% women in 2024). The highest percentage of Assistant professors is also in the group age 40-49 in both 2020 and 2024. For Assistants, the highest percentage is in the age group 30-39 years. All remaining categories are spread over the whole age range.

4.5.1 Staff involved in R&D&I of the university (FTE) in the period under review

Academic/professional position	Total 2020	Of which women [%]	Of which foreign [%] ⁴	Total 2024	Of which women [%]	Of which foreign [%]
Professor	79,257	22,46 %	0,61 %	87,125	19,55 %	1,46 %
Associate Professor	131,274	19,14 %	3,67 %	152,894	25,79 %	5,92 %
Assistant Professor	346,244	38,28 %	10,2 %	390,423	40,77 %	6,33 %
Assistant	17,081	48,00 %	0,17 %	17,435	42,86 %	0,97 %
R&D Personnel ⁵	276,919	46,81 %	29,33 %	166,720	40,76 %	32,85 %

⁴ Researchers with Slovak citizenship are not considered foreign.

⁵ The category "Other scientific, research and development personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

Researchers in other categories ⁶	19,413	66,86 %	0,8 %	47,482	41,60 %	2,7 %
Technical and economic staff ⁷	576,415	58,87 %	10,76 %	703,617	57,23 %	20,41 %
Early career researcher ⁸	137,222	47,725%	5,94%	140,286	51,491%	7,83%
Scientific, research and development staff involved in teaching activities	150,091	38,61 %	44,46 %	82,447	45,19 %	29,36 %
Total number of foreign nationals	95,274	64,32 %	100 %	129,654	48,68 %	100 %

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, research and development staff, scientific staff not falling into other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Note: The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

4.5.2 Percentage of HEI's staff involved in R&D&I, categorized by age structure, job title, and gender in the year 2020 (number of physical employees and staff)

Academic/professional position	Under 29 years [%]		30-39 years [%]		40-49 years [%]		50-59 years [%]		60-69 years [%]		70 years and over [%]	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					19,5% (19)	4,3% (5)	20,9% (24)	5,2% (6)	24,3% (28)	5,2% (6)	21,7% (25)	1,7% (2)
Associate Professor			8,9% (16)	2,8% (5)	39,4% (71)	7,2% (13)	12,8% (23)	2,8% (5)	15,6% (28)	2,2% (4)	7,2% (13)	1,1% (2)
Assistant Professor	1,3% (7)	0,2% (1)	25,1% (136)	9,4% (51)	29,3% (159)	10,5% (57)	7,9% (43)	3,9% (21)	7,6% (41)	2,2% (12)	1,8% (10)	0,7% (4)
Assistant	17,0% (8)	10,7% (5)	23,6% (11)	8,5% (4)	17,0% (8)	4,3% (2)	8,5% (4)	2,1% (1)	4,3% (2)	2,1% (1)	2,1% (1)	
Early career researcher ⁹	6,1% (16)	3,4% (9)	47,3% (124)	20,2% (53)	8,8% (23)	5,7% (15)	3,1% (8)	2,3% (6)	1,9% (5)	1,1% (3)		
R&D Personnel ¹⁰	18,5% (62)	11,1% (37)	26,2% (88)	13,7% (46)	14,0% (47)	7,5% (25)	4,2% (14)	2,1% (7)	1,5% (5)	0,6% (2)	0,6% (2)	
Researchers in other categories ¹¹	2,4% (1)		19,5% (8)	7,3% (3)	24,4% (10)	14,6% (6)	7,3% (3)	4,9% (2)	9,8% (4)	4,9% (2)	2,4% (1)	2,4% (1)
Technical and economic staff ¹²	11,0% (112)	5,0% (51)	15,3% (156)	7,4% (75)	14,2% (144)	9,5% (97)	13,0% (132)	9,1% (93)	7,2% (73)	4,9% (50)	2,0% (20)	1,4% (14)

⁶ The category "Researchers not falling under other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁷ Who participates in the management and support of R&D&I in the institution.

⁸ See Definition of Terms in Methodology HEI2025+.

⁹ See Definition of Terms in Methodology HEI2025+.

¹⁰ The category "Other scientific, research and development personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹¹ The category "Researchers not falling under other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹² Who participates in the management and support of R&D&I in the institution.

Scientific, research and development staff involved in teaching activities	4,9% (12)	2,8% (7)	37,0% (91)	12,6% (31)	20,3% (50)	8,5% (21)	4,99 (12)	1,6% (4)	3,7% (9)	1,6% (4)	1,6% (4)	0,4% (1)
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Note: The total number of employees/workers as of 31.12. of the calendar year in question is to be given, irrespective of the proportion of full-time equivalents, but only in an employment relationship, i.e. not including persons working parttime agreements. Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

4.5.3 Percentage of HEI's staff involved in R&D&I, categorized by age structure, job title, and gender in the year 2024 (number of physical employees and staff)

Academic/professional position	Under 29 years [%]		30-39 years [%]		40-49 years [%]		50-59 years [%]		60-69 years [%]		70 years and over [%]	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor			0,8% (1)		16,9% (21)	1,6% (2)	21,0% (26)	4,0% (5)	22,6% (28)	4,3% (9)	24,2% (30)	1,6% (2)
Associate Professor			5,1% (11)	1,9% (4)	39,4% (85)	11,1% (24)	18,5% (40)	4,2% (9)	8,3% (18)	2,8% (6)	7,9% (17)	0,9% (2)
Assistant Professor	1,4% (9)	0,5% (3)	19,4% (126)	7,4% (48)	30,6% (198)	13,6% (88)	12,0% (78)	5,9% (38)	5,4% (35)	1,9% (12)	1,5% (10)	0,5% (3)
Assistant	15,2% (5)	3,0% (1)	30,3% (10)	12,1% (4)	24,2% (8)	9,1% (3)	3,0% (1)	3,0% (1)				
Early career researcher ¹³	8,5% (24)		46,3% (130)	18,5% (52)	9,6% (27)	6,0% (17)	3,6% (10)	3,2% (9)	2,5% (7)	1,8% (5)		
R&D personnel ¹⁴	18,5% (60)	7,4% (24)	29,9% (97)	11,7% (38)	15,4% (50)	4,3% (14)	4,9% (16)	1,5% (5)	3,1% (10)	1,5% (5)	1,2% (4)	0,3% (1)
Researchers in other categories ¹⁵			16,1% (14)	5,7% (5)	21,8% (19)	8,0% (7)	12,6% (11)	6,9% (6)	14,9% (13)	5,7% (5)	4,6% (4)	3,4% (3)
Technical and economic staff ¹⁶	9,7% (121)	5,3% (66)	13,1% (163)	6,9% (86)	16,5% (206)	10,3% (129)	14,4% (180)	9,5% (118)	7,8% (97)	4,3% (54)	1,3% (16)	0,9% (11)
Scientific, research and development staff involved in teaching activities	3,7% (5)	2,2% (3)	30,9% (42)	13,2% (18)	24,3% (33)	11,0% (15)	7,4% (10)	2,9% (4)	3,7% (5)	0,7% (1)		

Note: The total number of employees/workers as of 31.12. of the calendar year in question is to be given, irrespective of the proportion of full-time equivalents, but only in an employment relationship, i.e. not including persons working parttime agreements. Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹³ See definitions in Methodology HEI2025+.

¹⁴ The category "Other scientific, research and development personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁵ The category "Researchers not falling under other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁶ Who participates in the management and support of R&D&I in the institution.

4.6 Academic and Research Careers

The HEI will briefly describe the central system for HR recruitment, placing particular emphasis on recruitment from outside the HEI, especially from abroad, as well as system of career development of academic and research staff, if such system exists. Information will be provided on:

- Career development rules and legislation related to the recruitment and career development of domestic and foreign employees (e.g. Career Code, HR Award, OTMR policy, etc.).
- International tenders.
- The process of new employee adaptation and mentoring.
- Transparent distribution of institutional time, attitudes towards chaining of contracts and senior academic positions.
- Rules for filling senior positions in the context of R&D&I.
- The rules and support system of sabbaticals.
- Measures for the return of workers after a stay in an external workplace, including a foreign workplace.
- Arrangements for workers to return after maternity/parental leave or other career breaks (e.g. caring for family members).
- Other relevant information at HEI discretion.

The HEI shall provide a reference to an existing career code or similar document (if one exists). The HEI shall describe the effectiveness of the systems used with examples (e.g. a model example of the adaptation process, a specific anonymised example of an academic's career path, statistics on the return after maternity/parental leave or career breaks before and after the implementation of the measures, etc.).

Maximum 300 words per point.

Self-assessment:

On November 12, 2021, CZU was awarded the HR Excellence in Research (HR Award) by the European Commission and thus ranked alongside other prestigious institutions in Europe (<https://www.czu.cz/en/r-9191-projects-and-partnerships/r-16736-strategic-setting-of-human-resources-development-at-czu>). With this award, CZU confirms that in the area of recruitment and employment of (not only) academic and scientific staff, it adheres to the rules set out in the Charter and the Code and proves that it is a quality employer for potential employees from all over the world.

The GAP Analysis and action plan was introduced at the end of 2020 and serves as a basis for the European Commission evaluators assessing the subsequent progress of CZU in the sub-areas of implementation of the principles of the Charter and the Code, and in case of a positive assessment, the prestigious award will be granted to our university for another three-year period (<https://www.czu.cz/en/r-9191-projects-and-partnerships/r-16736-strategic-setting-of-human-resources-development-at-czu>)

Open, Transparent, and merit-based Recruitment Checklist (OTM-R) is available as well (<https://www.czu.cz/en/r-9191-projects-and-partnerships/r-16736-strategic-setting-of-human-resources-development-at-czu>). The implementation of an Open Recruitment Policy is a key element of the HRS4R strategy. Using these principles, CZU states how it will use Open, Transparent and Merit-Based Recruitment Toolkit, and how it intends to implement the practices of Open, Transparent and Merit-Based Recruitment.

In June 2024, ČZU adopted Career Regulation (<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations>). The Career Plan is created for all employees of ČZU, with the exception of the positions of Rector, Bursar, Deans of Faculties,

Visiting and Emeritus Professor and employees in blue-collar occupations. It also does not apply to employees who are hired for a fixed-term contract of a maximum duration of 2 years and no extension of this contract is envisaged. The Career Regulation aims at academic and scientific paths while within the career management it is focused on professional development, career advancement and career Change.

In 2023, the updated version of the Rules for Habilitation Processing or Processing for Appointment a Professor of the ČZU Prague (<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations>). The Rules clearly describe the process for Associate Professor and Professor application and the necessary requirements for applicants to be eligible to start the process.

Also, at the end of 2023 Wage Regulations were updated (<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations>)

A supportive function of career growth is also performed by the Tender Regulations (<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations>) valid since March 2022 which defines requirements for processes connected with filling positions of academics and other employees. Tools that enable academics to form their career growth, especially in dependence to their performance, have been used at the ČZU for many years.

The applicants for the position of associate professor undergo a public defense of their „habilitation“ thesis with three external reviewers during the meeting of the Faculty Scientific Board. The final decision is made by a secret ballot in the presence of only members of the Scientific Board. The applicants for full professorship have a public scientific lecture in front of the Faculty Scientific Board and the decision is made by a secret ballot in the presence of only members of the Scientific Board. If the defense is successful, the applicant has to undergo another defense in front of the University Scientific Board which makes the final decision.

HTML links

<https://www.czu.cz/en/r-9191-projects-and-partnerships/r-16736-strategic-setting-of-human-resources-development-at-czu>

<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations>

4.7 Gender equality measures

The HEI will briefly describe the measures relating to the application of gender equality in the areas required for assessment criteria 4.5, 4.6, with an emphasis on:

- Gender equality in recruitment and career development.
- Legislation and documents regulating gender equality (e.g. Gender Equality Plan, Action Plans, strategic documents for equality, including links to overarching strategies, etc.).
- The filling of leadership positions (including gender balance in leadership positions, see Table 4.7.1).
- Nominations to professional bodies.
- Evaluation and remuneration.
- Measures to reconcile the work and family life of researchers (flexible working hours, flexible forms of work, maternity/parental leave management, facilitating child/dependent care, age management in relation to gender).
- Measures to eliminate negative workplace behaviour such as mobbing and sexual harassment.

The HEI shall provide evidence of the examples from practice (e.g. use of flexible working hours, dealing with cases of mobbing or sexual harassment, compliance with the principles of gender equality in HEI professional bodies, etc.).

Maximum 300 words per point.

Self-assessment:

The Gender Equality Plan of CZU (GEP) was approved at the end of 2021.

(<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-15702-strategic-plans-and-documents>)

The GEP is focusing on the following areas:

- a) conducting research at CZU focused on gender issues in their broader context,
- b) raising awareness of gender issues, gender equality and equal gender opportunities in a broader context (e.g., work-life balance),
- c) support for the preparation, presentation and use of gender-oriented data on the operation of CZU,
- d) support of gender sensitive language in the internal and external communication of CZU,
- e) promoting communication related to gender issues,
- f) working intensively with examples of good practice in gender mainstreaming,
- g) use of foreign experience in resolving issues of gender equality and gender mainstreaming,
- h) gender-sensitive institutionalization of work with employees and students promoting gender equality and equal gender opportunities.

The CZU lays great emphasis on principles of gender equality. All related issues are solved largely in the context of the Social Responsibility Strategy of the CZU, introduced in 2018, which, inter alia, addresses gender aspects. The CZU believes that social responsibility should be channelled in both external and internal directions. Gender equality is also promoted by the current CZU bodies. Gender equality is in the center of the decision-making of these bodies, and in relevant cases, gender statistics are employed to make sure that any problems in relation to social identity of men and women are identified in advance. Gender problems are tackled by the trade union organization,

which thus provides a certain control mechanism vis-à-vis the University's control bodies and parts. Feedback obtained from employees shows that the way the University addresses this area is perceived by them as positive, even though (or because) so far no formalized measures have been introduced for an equal representation of men and women in various positions.

The CZU allows its employees who are carers of dependent children or ill family members to adjust their working times as necessary. Parents of dependent children can take unpaid time off work after parental leave. The CZU provides its employees with 5 unpaid sick days for them to take care of any current health problems on a preventive basis, a procedure that might avoid long-term absences from work, which is undesirable for the ill employee, the employer as well as other employees organization-wise.

In September 2016 the University's children's group "Poníček" (Small horse) Kindergarten was opened. By forming the children's group, the University responded to requirements of its employees who prefer for their children to attend an establishment that provides regular care in a kindergarten style. Pursuant to Act No. 24/2014 Coll., the children's group works in a system similar to that of a kindergarten but assumes care and schooling of children who are as young as two. The "Poníček" Kindergarten provides meals in a form of organic quality lunches, subsidized by the University, lets the children take an afternoon nap; the group's offer of regular activities includes various clubs, also English classes, and organization of plentiful activities for children. The "Poníček" Kindergarten provides for an occasional attendance of children as necessary.

At the moment, a new kindergarten is built in the campus of the Czech University of Life Sciences. It is designed to accommodate up to 66 children and should be finished early next year.

Another activity that help families to harmonize their personal and professional life is the organization of summer camps for children of the CZU employees; during these summer camps, education takes place in a form of lectures, games and educational trips. The CZU is an owner of a recreation center in the Jizerské hory in the north Bohemia, which serves year-round primarily for relaxation of its employees and their family members.

Working conditions of men and women employees at the CZU observe requirements of the Labour Code and other applicable legislation. The CZU takes care to ensure equal treatment and to comply with the principle of non-discrimination of men employees, women employees, men students and women students. Problems of various harassment forms were registered at the CZU during the evaluated period only occasionally. Issues of harassment, bossing and other socially unacceptable forms of conduct, if any, are solved by the CZU Ethics Committee (<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations>). The Ethics Committee proceeds in accordance with the Code of Ethics of the CZU and its activities are based on the Rules of Procedures of the Ethics Committee.

4.7.1 Gender balance in management positions

Senior staff	2020		2024	
	Men	Women	Men	Women
Rector	1	0	1	0
Vice-Chancellor	6	0	5	1
Dean ¹⁷	5	1	6	0
Academic Senate	25	7	24	10
Scientific/Artistic/Academic Council	36	6	39	4
Quaestor	1	0	1	0
Board of Directors	9	0	8	1

Note: If one person holds more than one of these positions within the HEI, he/she will be counted in each.

4.8 Mobility of academic and research staff (including sectoral and inter-sectoral mobility)

The HEI shall describe in a concise and structured manner its strategies and objectives for the mobility of academic and research staff (including PhD students), with particular emphasis on mobility related to the development of excellent science and interdisciplinary (intersectoral) mobility. The HEI shall identify potential barriers to mobility, including gender-based barriers. The HEI shall provide information on long-term stays abroad by its own academic staff or, conversely, by foreign staff at the HEI being evaluated.¹⁸

The achievement of the set objectives will be demonstrated by the HEI by describing specific examples of mobility or by brief statistics on mobility during the period of 2020–2024.

Maximum 500 words plus 200 words for each example given (max. five examples with a specific description of the relevance of mobility to the stated objectives).

Self-assessment:

Mobility of Ph.D. students and academic/research staff are mostly executed through the ERASMUS program but not exclusively. The mobility of Ph.D. students is required by the law and Ph.D. students should stay at least one month abroad during their study. During the period of 2020-2024 a total of 801 stays abroad were completed by Ph.D. students of the Czech University of Life Sciences. Out of those, 58 were longer than 3 months. During the same period, a total of 177 foreign Ph.D. students came to ČZU.

In terms of academic/research staff, a total of 1650 stays abroad longer than five days were completed during the period 2020-2023. Out of those, 27 stays were longer than 3 months. The trips were realized to a total of 138 countries across the world. At the same time, 879 foreign researchers came to ČZU.

¹⁷ or other head of a relevant work unit of a higher education institution under Section 22(1) of the Higher Education Act performing R&D&I activities, regardless of the designation.

¹⁸ Long-term mobility means an uninterrupted period of more than three months.

Name with titles	Length of stay	Hosting institution	Subject of the stay
Ing. Anna Brunerová, Ph.D.	6 months	University of Lampung Bandar Lampung, Indonesia	Publication Brunerová, A., Brožek, M., Dung, D.V., Phung, L.D., Hasanudin, U., Iryani, D.W., Chaloupková, V., Roubík, H., 2024. Manual wooden low-pressure briquetting press: An alternative technology of waste biomass utilisation in developing countries of Southeast Asia. Journal of Cleaner Production 436, 140624. https://doi.org/10.1016/j.jclepro.2024.140624
Ing. Rostislav Mařan	4 months	Strabag BMTI Austria	Development and applications of Werkstatt 4.0. information system. Development and applications of information system AS4U BAN-Stamm. Development and application of optical sensors for monitoring Schalung in the Czech Republic. Data collecting for further research in his doctoral thesis. Implementation of the proposed sensors.
Shahin Nozari, Ph.D.	6 months	New Mexico State University, Las Cruces, NM, USA	Publication: Nozari, S., Pahlavan-Rad, M.R., Brungard, C., Heung, B., Borůvka, L., 2024. Digital soil mapping using machine learning-based methods to predict soil organic carbon in two different districts in the Czech Republic. Soil & Water Research 19(1), 32-49. https://doi.org/10.17221/119/2023-SWR
Doc. Federico Morelli, Ph.D.	3 months	University of Queensland, Fuller Laboratory, Brisbane, Australia	Research paper: Benedetti, Y., Morelli, F., Callaghan, C.T., Fuller, R., 2021. Distribution and protection of avian specialization in Europe. Global Ecology and Biogeography 31(1), 10-24. https://doi.org/10.1111/geb.13405
Doc. Ing. Vítězslav Moudrý, Ph.D.	3 months	Museo nacional de ciencias naturales, Španělsko	Publication: Zarzo-Arias, A., Penteriani, V., Gábor, L., Šimová, P., Grattarola, F., Moudrý, V., 2022. Importance of data selection and filtering in species distribution models: A case study on the Cantabrian brown bear. Ecosphere 13(12), e4284 https://doi.org/10.1002/ecs2.4284

RESEARCH INFRASTRUCTURE

4.9 Research infrastructure

The HEI will describe the system for acquiring/optimizing expensive instruments and equipment, as well as refurbishing outdated expensive instruments. The HEI will also briefly present the internal organisation of the research infrastructure (including technology, expensive instruments, and instrumentation)¹⁹. The HEI will describe the system of sharing (including external research entities) of instruments and instrumentation, including expensive instruments and instrumentation units, referred to as 'core facilities' (if such a system exists). The HEI will demonstrate the effectiveness of the systems with examples (e.g., specific instruments acquired/optimised and their relevance to the achievement of research objectives, examples of sharing of expensive instruments and instrumentation, statistics on sharing of expensive instruments and instrumentation, etc.). The HEI will briefly comment on the data in Table 4.9.1.

The HEI shall also indicate whether it hosts large research infrastructure projects. The name and a brief description will be provided.

Maximum 500 words plus 200 words for each example given (max. five examples).

Self-assessment:

Total infrastructure spending in years 2020-2024 amounted to 123 775.16 thousand EUR while the total amount during the years 2014-2018 amounted to only 54 539.29 thousand EUR. The increase between these two periods is 127% . The major increase was recorded in the category “buildings and structures” where 84 736,32 thousands EUR were spend in the period 2020-2024 as compared to 23 017.52 thousand EUR during the period 2014-2018. Also, cost expenses related to the acquisition of small fixed assets for R&D&I amounted during the period 2020-2024 to 13 194.62 thousand EUR and were about 188% higher than in the period 2014-2018 (4 584.67 thousand EUR). In addition, the costs for repairs and maintenance rose from 808.71 thousand EUR to 1 589,05 thousand EUR in respective periods.

Laboratories of the Faculty of Environmental Sciences offer services and analyses using modern instrumentation to both external and internal clients on the basis of a valid pricelist. The final price is determined by agreement between the laboratory and client in the case a new quantification analytical method is developer (<https://www.fzp.czu.cz/en/r-9406-about-faculty/r-9407-departments-labs>) .

The list of shared instruments is posted as a catalogue of instruments/services on offer on the website of the Faculty of Engineering. The catalogue is at disposal for cooperation between Faculties within the CULS as well as for external entities. Monthly presentations of instrumentation of the individual departments are held at the Faculty of Agrobiological Sciences, Food and Natural Resources. Those who are interested in sharing instruments are referred to the list of instruments and laboratories, which includes information regarding the possible options of use. The Faculty makes effort to set up a sharing system, especially of expensive instruments located in the individual departments.

The shared infrastructure of the Faculty of Economics and Management for R&D&I purposes is incorporated in the virtual organizational unit of the Faculty's Scientific Laboratory. The unit is composed of the following laboratories in particular: GIS Laboratory, Laboratory of Virtual Reality, IoT Laboratory, AI Laboratory, Big Data Processing Laboratory, Laboratory of Mathematical

¹⁹ The definition of research infrastructure is set out in the Framework for State Aid for Research, Development and Innovation (2014/C 198/01) and Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in accordance with Articles 107 and 108 of the Treaty.

Modelling and Simulations, Multimedia Laboratory, Laboratory of Advanced Testing. These laboratories are available for other faculties as well.

<https://www.pef.czu.cz/en/r-9397-science-research/r-21047-fem-scientific-laboratories/r-21050-iot-laboratory>

Laboratories at the Faculty of Forestry and Wood Sciences offer a wide variety of analyses

<https://www.fld.czu.cz/en/r-9415-science-research> (bottom of the webpage)

Examples of fine instruments at the Czech University of Life Sciences Prague

Instrument	Type of analysis	Faculty	Share with other faculty or external entity (if applies)
Electron microscopy	SEM, EDX, EBSD	Faculty of Engineering	CZU: Faculty of Engineering, Faculty of Environmental Sciences, Faculty of Agrobiology, Food and natural resources Czech Technical University Lublin University of Technology Czech Academy of Sciences Technical University of Liberec
Artificial Intelligence Laboratory	Development of artificial intelligence methods for decision support	Faculty of Economics and Management	Faculty of Engineering, Faculty of Environmental Sciences, Faculty of Forestry and Wood Sciences
High-performance liquid Chromatograph	A gas chromatograph enabling complete two-dimensional separation, equipped with a mass spectrometric detector with a time-of-flight analyzer, is used in the FLD laboratory mainly for the quantitative and qualitative description of the studied samples. An example of quantitative analysis can be the	Faculty of Forestry and Wood Sciences	

	<p>determination of the concentration of substances with a pheromone effect in extracts from beetles and from commercially available or laboratory-prepared evaporator baits for bark beetles, or the determination of terpenic substances in the bast of the studied trees. In the case of qualitative analysis, the profiles of the recorded substances are often processed using advanced statistical methods in order to reveal the relationships between the samples and identify the compounds that are of greatest importance for these relationships.</p>		
Eddy Covariance open path	<p>The data are used to set up and validate hydrological models over the area of the Amálie pilot site. Furthermore, to observe the impact of newly deposited natural and area-based measures. The data is primarily used for analyses leading to the calculation of current evapotranspiration, energy balance and CO₂ concentrations. The stations complement a dense monitoring network of meteorological data from the area, from which, for example, temperature, humidity and precipitation maps of the area are then calculated. The data is publicly shared via a web browser.</p>	Faculty of Environmental Sciences	<p>Data are used by Research teams from Faculty of Environmental Sciences and Faculty of Agrobiolgy, Food and Natural Resources. Also, the data are shared with project partners from Academy of Sciences (Czech Globe) and Institute on Soil Conservation</p>
CT scanner SOMATOM Scope	<p>The Siemens Somatom Scope Power CT system is a 16-slice multidetector device with a powerful PC and software. It is specifically used in the display of vertebrate specimens/cadavers of various sizes from ducks to deer. However, CT is able to display any object of a biological</p>	Faculty of Forestry and Wood Sciences	

	nature - antlers, the root system of plants, the structure of wood and its products or individual organs, e.g. the heart. It can also be used for forensic purposes in the field of terminal ballistics either directly on shot game or ballistic gel and thus evaluate the effects of the bullet.		

4.9.1 Summary of expenditure/costs on research infrastructure and equipment for the period under review (including related non-investment and personnel costs).

Costs/expenses in thous. EUR/year	2020	2021	2022	2023	2024	Total value of assets ²⁰
Costs/expenses related to the acquisition of small fixed assets for R&D&I	2 805,08	1 960,46	3 876,73	2 356,86	2 195,49	13 194,62
Cost of repairs and maintenance of equipment	331,26	309,59	403,54	328,38	216,28	1 589,05
Acquisition of tangible (DH) and intangible (DN) assets for R&D&I (investments)						
Of which software	877,86	559,81	858,84	295,59	569,67	3 161,77
Of which other intangible fixed assets						
Of which land, buildings and structures	20 135,41	4 252,80	24 107,96	16 776,63	19 463,53	84 736,32
Other intangible fixed assets (machinery, apparatus, equipment, etc.	4 738,38	3 466,18	4 076,74	3 770,49	5 041,60	21 093,39
Total infrastructure spending in years²¹	28 888,00	10 548,83	33 323,82	23 527,95	27 486,56	123 775,16

²⁰ Enter the sum of the row.

²¹ Enter the sum of the column.

FINANCES

4.10 Budget and structure of financial resources

The HEI shall provide and comment on an overview of the total R&D&I budget in the period of 2020–2024, broken down by organisational units of the evaluated HEI and by source of funds (Table 4.10.1). The HEI shall also comment on the shares of total costs/outputs covered by public and non-public sources by type of R&D&I for the period under evaluation as shown in Table 4.10.2.

As complementary data, the university will provide an overview of prestigious research projects obtained during the period of 2020–2024 (ERC²², MSCA²³, HHMI²⁴, HFSP²⁵, NSF²⁶, Horizon Europe²⁷, NIH²⁸, Wellcome Trust²⁹, EDF³⁰, OP JAK³¹, OP TAK³², NPO³³, GA ČR³⁴, TA ČR³⁵ etc.). Include information on the amount of funding received and whether the HEI were principal investigator or co-investigator in Tables 4.10.3, 4.10.4 and 4.10.5.³⁶

In addition, the HEI will describe in more detail up to five of the most important projects from the list of prestigious individual projects abroad (ERC, MSCA, HHMI, HFSP, NSF, etc.), providing basic information at the HEI's discretion and regardless of the funder: title, field of expertise, agency, amount of funding, other project participants, and other relevant information as appropriate.

A maximum of 500 words plus 200 for each example of a prestigious international individual project given.

Self-assessment:

From 2020 to 2024, CZU has been chiefly involved in Applied research (84 % on average), while Basic research represented 8 % and Experimental development and innovations represented 8 %. The projects from foreign sources totalled **18.412 million EUR as beneficiaries**, while the funds received from abroad as „another participant“ yielded **10.275 million EUR. The total amount of funds received from foreign sources during the period 2020-2024 represents an increase of 184% as compared to period 2017-2018.** The funds received from domestic providers amounted from 2020

²² The European Research Council (ERC) is part of the 'Excellent Science' pillar of Horizon Europe. The ERC funds cutting-edge research by supporting individual Principal Investigators and their research teams.

²³ Marie Skłodowska-Curie Action (MSCA) is part of the "Excellent Science" pillar of Horizon Europe and is also aimed at supporting young researchers, including PhD students.

²⁴ Howard Hughes Medical Institute - a non-profit organization in the USA significantly supporting international biomedical research.

²⁵ Human Frontier Science Program - an international programme to support research, particularly in the natural sciences and computer science.

²⁶ National Science Foundation (USA).

²⁷ Horizon Europe - the EU's 9th Framework Programme for research and innovation, running from 2021-2027.

²⁸ National Institutes of Health (NIH) - an agency under the United States Department of Health and Human Services. NHI is a major player in project support for biomedical research.

²⁹ major UK private foundation supporting mainly biomedical research.

³⁰ European Defence Fund.

³¹ Operational Programme Jan Ámos Komenský - Priority 1 - Research and Development - multiannual programme under the Ministry of Education, Youth and Sports. Within the framework of the OP JAK it is possible to draw financial resources from the European Structural and Investment Funds (ESIF) in the period 2021-2027.

³² Operational Programme Technologies and Applications for Competitiveness. The European Regional Development Fund (ERDF) is available in the period 2021-2027 to co-finance business projects in the areas of research, development and innovation, digitalisation and digital infrastructure, business development, smart and sustainable energy and the circular economy.

³³ National Recovery Plan - under Pillar 5 - Research, Development and Innovation of the National Recovery Plan, the Recovery and Resilience Facility (RRF) is available for the period 2022-2026.

³⁴ Grant Agency of the Czech Republic.

³⁵ Technology Agency of the Czech Republic.

³⁶ The military and the police HEIs, as parts of the organisational unit of the state, are treated specifically in terms of the possibility to participate in the projects.

to 2024 to 3 086.1 million CZK (**121.74 million EUR**) as beneficiary and 633.42 million CZK (**24.99 million EUR**) as another participant. **The total amount of funds from domestic provides increased by 66% as compared to the period of 2014-2018.** Most of the funds were obtained from public funding in the Czech Republic: Czech Science Foundation, Czech Technological Agency of the Czech Republic, and National Agriculture Foundation, with 2 785.15 million CZK (**109.87 million EUR**) as beneficiary and 452.96 million CZK (**17.87 million EUR**) as another participant. Non-public sources (76.92million CZK, **3.03 million EUR**) represented only a minor part (2 %) of financial sources for ČZU R&D&I.

The total funds from all sources during the period 2020-2024 amounted to 178.447 million EUR as compared to 98.866 million EUR in the period 2014-2018, i.e. increased by 80.5%.

Individual Prestigious Projects:

1) BEAST - Biodiversity dynamics Across a continuum of Space, Time, and their scales

<https://petrkeil.github.io/funding/post/2023/01/01/BEAST.html>

<https://www.fzp.czu.cz/en/r-9411-projects-and-partnerships/r-9880-projects/r-18897-beast-biodiversity-dynamics-across-a-continuum-of-space-time-and-their-scales>

Agency: European Research Council (ERC)

This ERC-funded project (2023-2027) will estimate how has biodiversity changed across continents and over the last decades. There are concerns that humanity has triggered the sixth mass extinction. However, some studies show that change at the local level is much more nuanced. In other words, species are disappearing from the planet, but it seems that not much has been happening on an average patch behind your house. Furthermore, we know very little about how these small and large-scale processes are connected, and where exactly on Earth are they happening. At the same time, estimates of biodiversity change are needed and explicitly required (see e.g. Aichi targets) for informed decisions and conservation policy. Despite this, we still lack reliable estimates of how fast, where, and in which environments biodiversity changes. BEAST will assess these changes and the contrast between the local, regional, and global scale.

2) COCOS – effects of Climatic extremes On eCOsystem Stability

Agency: Horizon Europe – Marie Skłodowska-Curie Actions (MSCA)

<https://zenodo.org/records/13736340>

This project aims at addressing these limitations and improving our fragmented knowledge on the relationship between extremes and stability. Combining cutting-edge analytical tools with extensive, and novel, global databases of time-series of in-situ vegetation and climatic extremes data, the project will analyse the relationship between stability and climatic anomalies, and how it varies in different ecosystems. Results will provide worldwide predictions of ecosystem-specific resistance and recovery to climatic extremes, and new approaches for anticipating critical transitions of ecosystem functions.

3) DRIFT FOOD - Advanced technologies for high quality, safe and sustainable regional food production

Agency: Horizon Europe (Era Chair)

<https://driftfood.eu/>

<https://cordis.europa.eu/project/id/952594>

The aim of the project is to establish a state-of-the-art research centre of advanced technologies for high quality, safe and sustainable regional food production. This centre will connect the fields of primary agricultural food production, and food quality and safety determination via food processing and technology experts, namely the ERA-Chair holder and his/her research team.

4.10.1 Total budget of the HEI

Name of the HEI unit	Total budget in thous. CZK/EUR	Percentage of public funding in the Czech Republic	Share of public funding from abroad in %	Percentage of funding from other sources
Czech University of Life Sciences Prague (CZU)	4 523 631/178 447	84 % Note: The percentage includes grants from European funds that were administered by Czech providers (e.g., NPO, INTER-EXCELLENCE, and others).	16 %	2 %

4.10.2 Share [%] of total costs/outputs by type of R&D&I paid from public and non-public sources

	2020	2021	2022	2023	2024	Total
Basic research	5	6	7	12	10	8
Applied Research	86	86	85	81	83	84
Experimental development and innovation	9	9	7	6	7	8
Total	100	100	100	100	100	100

Note: For definitions see Definition of Terms in Methodology HEI2025+.

4.10.3 Projects supported by a foreign provider. Amounts in thousands EUR

In the role of beneficiary							
Provider / Investor	Programme/Grant Scheme	Project name	Support (in thousands CZK/EUR)				
			2020	2021	2022	2023	2024
European Commission (EC)	Programme COST - 2016	IPEMA - Innovative approaches in pork production with entire males	0	-			
EC	Erasmus+ - 2017 - EAC/A03/2016	FORHEAL - Forestry Higher Education Advancement in Laos	34/1,36	-			
EC	Horizont 2020 (CALL: SUSTAINABLE FOOD SECURITY – RESILIENT AND RESOURCE-EFFICIENT VALUE CHAINS)	VALUMICS - Understanding food value chains and network dynamics	25	31			
EC	Horizont 2020 - H2020-SC1-2016-RTD	HBM4EU - European Human Biomonitoring Initiative	4	4			
EC	Programme INTERREG V-A Free State Saxony – Czech Republic	Objective acceptance of wolf by people in partially changed borderline nature	87	-			
EC	Horizont 2020 - SUSTAINABLE FOOD SECURITY - H2020-SFS-2018-1	LEAP4FNSSA - Support to the implementation of the Long-term EU-AU Research and Innovation Partnership for Food	15	15			

EC	Erasmus+ - 2019 - KA 2 Strategic partnership	Innovative support network for students in the field of online marketing	17	17	-	-	-
EC	Horizont 2020 - RURAL RENAISSANCE - H2020-RUR-2018-2020	PoliRural - Future Oriented Collaborative Policy Development for Rural Areas and People	73	73	73	-	-
International Visegrad funds	Visegrad Grants	V4 communication platform for use of Earth Observation methods in biotic forest disturbances	5	-	-	-	-
International Visegrad funds	Visegrad Grants	Smart plants in the workplace and their impact on work efficiency and stress reduction	12	-	-	-	-
EC	Erasmus+ - 2019 - KA 2 Strategic partnership	Rural Facilitator Training in Agricultural Short Food Supply Chains	22	22	-	-	-
EC	INTERREG V-A: Cooperation between the Czech Republic and Free State of Saxony 2014-2020	Czech-Saxony information platform for collection, sharing and analysis of wolf population in Lužice area (OWADIS)	66	66	66	-	-
Financial mechanisms EHP/Norway	Trolltunga	Vegetation health monitoring under ongoing climate change using remote sensing	6	6	-	-	-
EC	Erasmus+ Mobility between program and partner countries Call 2020 (KA103, KA107)	Erasmus KA103 mobility between program countries	272	272	272	-	-
Financial mechanisms EHP/Norway	EEA Grants - Mobility projects	RESUME: Responsibility, Sustainability and Mobility in Education	4	4	4	-	-
EC	Erasmus+ Mobility between program and partner countries Call 2020 (KA103, KA107)	Erasmus KA107 mobility between program and partner countries	158	158	158	158	-
EC	Erasmus+ Strategic Partnerships for Vocational Education and Training (KA202)	Enterprises Growing Through Business Simulations	12	12	12	-	-
EC	Erasmus+ Strategic Partnerships for Higher Education (KA203)	Development of education in relation to the influence of ongoing climate change to hunting tourism	26	26	26	26	-
EC	Erasmus+ Strategic Partnerships for Vocational Education and Training (KA202)	Sustainable Agripreneurship	11	11	11	-	-
EC	Horizont 2020 - ERA Chairs -	ADVANCED TECHNOLOGIES FOR HIGH QUALITY, SAFE AND SUSTAINABLE REGIONAL FOOD PRODUCTION (DRIFT-FOOD)	355	355	355	355	355

	WIDESPREAD-06-2020						
EC	Erasmus+ Strategic Partnerships for Higher Education (KA203)	Viability of small farms managed by young farmers under new "farm-to-fork" strategy	16	16	16	16	-
EC	Erasmus+ Partnership for digital education readiness (KA226)	COVID-19 pandemic as an "opportunity window" for the transition towards new and more inclusive internationalisation through virtual mobility	-	14	14	14	-
ICA Regional Network for Central and South Eastern Europe (CASEE)	Fund for Incentives 2021	Biogas prospects in CASEE countries – researching the potential from Czechia, Poland and Hungary	-	1	-	-	-
Financial mechanisms EHP/Norway	Rondane – Call for application submission for support on biodiversity protection measures implementation (č.SGS-1)	Targeted support of endangered species of butterflies using the combination of flexible biotope management and detailed evaluation of biological datasets	-	49	49	49	49
EC	Erasmus - Learning Mobility of Individuals (KA1)	Erasmus KA1031, výzva 2021	-	140	140	140	-
EC	Horizont 2020 - Biodiversity in action: across farmland and the value chain - SFS-01-2018-2019-2020	CROPDIVA - Climate Resilient Orphan croPs for increased Diversity in Agriculture	-	35	35	35	35
EC	Program COST - 2020	Three-dimensional forest ecosystems monitoring by terrestrial-based technologies - 3DForEcoTech	-	133	133	133	133
Food and Agriculture Organization (FAO)	Opportunities for youth agricultural community - YPARD	YPARD Europe and Global Coordination Units	-	-	39	-	-
International	Merck Schistosomiasis Research Grant	Characterization of key molecules secreted by the Schistosoma mansoni eggs	-	-	15	15	-
EC	Erasmus - Cooperation partnerships/Kooperativní partnerství (KA220) 2021	Weed out Occupational Violence from HORECA !	-	-	20	20	-
EC	Erasmus - Cooperation partnerships/Kooperativní partnerství (KA220) 2021	Integrated plant protection as an answer for climate change	-	-	35	35	-
EC	Erasmus - Cooperation partnerships/Kooperativní partnerství (KA220) 2021	IT for interconnection of social, economic and environmental aspects in agribusiness (ITFARM)	-	-	12	12	12

	rativní partnerství (KA220) 2021						
Financial mechanisms EHP/Norway	Call No. SGS-4 „Reine“	Local air quality- public interest	-	-	17	17	-
Financial mechanisms EHP/Norway	Call No. 1 „Rago“	The use of floating green islands for improvement of nesting conditions for waterfowl and for the support of pond ecosystem biodiversity	-	-	76	76	76
Financial mechanisms EHP/Norway	Call No. 1 „Rago“	Grow safely-do not support invasive species	-	-	69	69	69
Mezinárodní - nerozlišeno	Opportunities for youth agricultural community - YPARD 2022	YPARD Europe and Global Coordination Units	-	-	130	130	130
Financial mechanisms EHP/Norway	Call No. 1 „Rago“	Experimental farm Amálie – application of the Wise Nature concept	-	-	212	212	212
International Visegrad funds	Visegrad+ Grants	Network establishment for protection of V4 wetland forests (NERVE4 Action)	-	-	20	20	-
Financial mechanisms EHP/Norway	4. Open Call from the Billateral relationship Funds	Arctic Festival 2022	-	-	10	10	-
EC	Erasmus - Learning Mobility of Individuals (KA1) 2022	Educational mobility of individuals	-	-	515	515	515
International	International Development Research Centre (IDRC) - Call for Concept Notes: Climate Adaptation and Resilience (CLARE)	Bio-Pellets for a Sustainable Danube Region	-	-	2	2	-
EC	Horizon Europe - Agroforestry to meet climate, biodiversity and farming sustainability goals (HORIZON-CL6-2021-CLIMATE-01-08)	REFOREST - Agroforestry at the forefront of farming sustainability in multifunctional landscapes in Europe	-	-	96	96	96
Financial mechanisms EHP/Norway	Call No. 1 „Rago“	Killing of invasion species in practise	-	-	70	70	70
EC	Erasmus - Learning Mobility of Individuals (KA1) 2022	Educational mobility of individuals	-	-	192	192	192
Financial mechanisms EHP/Norway	4. Open Call from the Billateral relationship Funds	Start-up and Business Experience of NO-CZE Cooperation	-	-	9	9	-

EC	Horizon Europe - Capacity building to strengthen networks of higher education institutions and cooperation with surrounding ecosystems (HORIZON-WIDERA-2021-ACCESS-05-01)	BETTER Life - Bringing Excellence to Transformative Socially Engaged Research in Life Sciences through Integrated Digital Centers	-	-	69	69	69
EC	MSCA Postdoctoral Fellowships 2022 (HORIZON-MSCA-2022-PF-01-01)	COCOS - effects of Climatic extremes On eCOsystem Stability	-	-	50	50	50
EC	Horizon Europe - Fostering the resilience of agricultural production: from observation of changes to the development of resilience strategies (HORIZON-CL6-2022-CLIMATE-01-04)	Achieving Ecological Resilient Dynamism for the European food system through consumer-driven policies, socio-ecological challenges, biodiversity, data-driven policy, sustainable futures (ECO-READY)	-	-	1 119	1 119	1 119
International	ALLEA - European Fund for Displaced Scientists - Funding line 1	EUROPEAN FUND FOR DISPLACED SCIENTISTS - Yelizaveta Chernysh	-	-	-	25	-
International	Project call – international proposals	Workshop on Sustainable Forest Management and Application of Remote Sensing (FAO Workshop)	-	-	-	964	-
Ec	Horizon Europe - Twinning (HORIZON-WIDERA-2021-ACCESS-03-01)	EarthBridge - Building Bridges between Earth observation and Environmental Sciences	-	-	-	190	190
EC	ERC Consolidator Grants	Biodiversity dynamics across a continuum of space, time, and their scales (BEAST)	-	-	-	400	400
International	Project call – international proposals	Digitalization of Life Sciences - CASEE	-	-	-	5	-
International	Project call – international proposals	One Planet Fellowship Programme	-	-	-	16	16
EC	MSCA4Ukraine	Evaluation of “bioavailable” pool of Cd in soil by determination of Cd concentration and its stable isotope composition coupled with a single extraction procedure to decipher cadmium biogeochemical cycling in the soil-plant continuum	-	-	-	73	73
EC	MSCA4Ukraine	MSCA4UKRAINE - Yelizaveta Chernysh	-	-	-	50	50
EC	Erasmus - Learning Mobility of	Educational mobility of individuals 2023 - 2025	-	-	-	531	531

	Individuals (KA1) 2023						
EC	Erasmus - Learning Mobility of Individuals (KA1) 2023	Erasmus KA171 international credit mobility	-	-	-	160	160
International	Project call – international proposals	Support of the Agenda 2030 abroad	-	-	-	2	-
EC	COST Action 2022	Integrated DSS for delivery of ecosystem services based on EU forest policies (DSS4ES)	-	-	-	54	54
International	Project call – international proposals	Case study competition: Networking through student cooperation on case study challenges (NET-COOP)	-	-	-	-	10
International	USD - Project call – international proposals	Multi Country Zoonotic Disease Surveillance at the Human Livestock Interface	-	-	-	-	100
International	Project call – international proposals	Digitalisation of Life Sciences 2024	-	-	-	-	1
International	Project call – international proposals	Detection of symptoms of yaws disease in gorillas in Messok-Dja, Republic of Congo	-	-	-	-	2
EC	Horizon Europe - Biodiversity, economics and finance: unlocking financial flows towards reversing of biodiversity loss (HORIZON-CL6-2023-BIODIV-01-9)	BIO-CAPITAL - Mobilising investments for protecting and restoring biodiversity by harnessing innovative financial solutions and advanced geospatial analytics	-	-	-	-	74
German Society for Mammalian Biology	Special call: DGS project funding 2024	Orientation Abilities of Hunting Dogs: An Analysis of Factors Causing Failure of Spatial Orientation during Homing	-	-	-	-	2
International	Call for International Proposals	Educational mobility of individuals KA171, Projekt: 2024-1-CZ01-KA171-HED-000227581	-	-	-	-	288
EC	Erasmus - Cooperation partnerships (KA2) 2024 - KA220HED	Strengthening Hunting Tourism Students Competences Through Connecting With Stakeholders via Digitisation of Educational Materials	-	-	-	-	32
EC	DRG4Food - Open Call #2 - HORIZON-CL6-2022-GOVERNANCE-01-10	Transforming the Cacao Value Chain in Latin America: Enhancing Transparency and Quality with NIR Technology and Whole Pod Automated Processing - Cacao-Tech	-	-	-	-	60
EC	Erasmus - Cooperation partnerships (KA2) 2024 - KA220VET+ADU+SC H+YOU	Developing Resilience Innovation and Vision for ADHD Entrepreneurs - DRIVE	-	-	-	-	15

EC	Program COST - 2020	Three-dimensional forest ecosystem monitoring and better understanding by terrestrial-based technologies	-	-	-	-	109
EC	COST Action 2022	Integrated DSS for delivery of ecosystem services based on EU forest policies	-	-	-	-	88
Total			1 230	1 461	4 144	6 137	5 440
In the role of another participant							
Provider / Investor	Programme/Grant Scheme	Project name	Support (in thousands EUR)				
			2020	2021	2022	2023	2024
EC	Erasmus+ - 2017 - EAC/A03/2016	PISAI - Participatory and Integrative Support for Agricultural Initiative	9	-	-	-	-
EC	The European Union Emergency Trust Fund for stability and addressing root causes of irregular migration and displaced persons in Africa (EUTF for Africa) 2017	Enhancement of livelihoods in the Kenyan Coastal Region by supporting Organic and Fair Trade certification of smallholders	4	4	4	-	-
EC	Erasmus+ - 2018 - EAC/A05/2017	dCompFra - Digital competence framework for Ukrainian teachers and other citizens	7	7	-	-	-
EC	Program INTERREG V-A Czech Republic-Poland	Biomass of grass meadows as sustainable source of energy	27	27	-	-	-
EC	Erasmus+ - 2017 - KA 2 Strategická partnerství	ESCAPaE - Erasmus Curricula in Applied Plant Sciences	10	10	-	-	-
EC	Erasmus+: 2019 - EAC/A03/2018	Future Environmentalists	8	8	-	-	-
EC	Erasmus+ - 2018 - EAC/A05/2017	CUPAGIS - New Curricula in Precision Agriculture using GIS technologies and sensing data	12	12	-	-	-
EC	Erasmus+ - 2018 - EAC/A05/2017	New and Innovative Courses for Precision Agriculture - NICOPA	250	250	-	-	-
EC	Erasmus+ - 2018 - EAC/A05/2017	STEPS - MSc in Sustainable Food Production Systems	23	23	-	-	-
EC	Horizont 2020 - SUSTAINABLE FOOD SECURITY - H2020-SFS-2018-2020	EJP SOIL - Towards climate-smart sustainable management of agricultural soils	251	251	251	251	251
EC	Horizont 2020 LC-SC3-CC-6-2018 Smart strategies for the transition in coal intensive regions	TRACER - Smart strategies for the transition in coal intensive regions	23	23	23	-	-
EC	Program Interreg Central Europe, výzva 2019 (4. výzva)	Board for Detection and Assessment of Pharmaceutical Drug Residues in Drinking Water (boDEREC-CE)	60	60	60	-	-
EC	Horizont 2020 - SC3 - H2020-MG-2018-TwoStages	CARES - City Air Remote Emission Sensing	9	9	9	-	-
EC	Erasmus+ - 2019 - KA 2 Strategic partnership	Managers As Coaches	6	6	-	-	-

EC	Erasmus+ - 2019 - KA 2 Strategic partnership	Nowadays Digital Media Literacy, Artificial Intelligence and Youth Career Development	10	10	-	-	-
EC	Erasmus+ - 2019 - KA 2 Strategic partnership	21st Skills: Changing the Approach to Teaching in Higher Education (CATCH)	11	11	-	-	-
Polish National Agency for Academic Exchange (NAWA)	International Academic Partnerships	Central European Network for Sustainable and Innovative Economy - CENETSIE	7	7	-	-	-
EC	Erasmus+ - 2019 - KA 2 Strategic partnership	Share Your Soils	8	8	8	-	-
EC	Program Horizont 2020 - Preparatory Phase of new ESFRI projects and early phase support to ESFRI high strategic potential areas - INFRADEV-02-2019-2020	METROFOOD-RI Preparatory Phase Project	39	39	39	-	-
EC	Program Horizont 2020 - SC1-BHC-28-2019	HEDIMED - Human Exposomic Determinants of Immune Mediated Diseases	50	50	50	50	50
International Visegrad Fund	Visegrad Grants	V4 Green Universities	3	3	-	-	-
EC	Program Interreg Central Europe, Call 2019 (4 th Call)	TEACHER-CE	19	19	19	-	-
EC	Program Interreg Danube Transnational Programme, 3. výzva (2019)	Forests in Women's Hands (Fem4Forest)	47	47	47	-	-
EC	Horizont H2020 - Building modern rural policies on long-term visions and societal engagement - RUR-01-2018-2019	MOVING - Mountain Valorization through Interconnectedness and Green Growth	62	62	62	62	62
EC	LIFE - Climate action 2019	CLIMAFORCEELIFE	29	29	29	29	29
EC	H2020 - Biodiversity in action: across farmland and the value chain - SFS-01-2018-2019-2020	FRAMEwork - Farmer clusters for Realising Agrobiodiversity Management across Ecosystems	63	63	63	63	63
EC	Erasmus+ Capacity Building in the field of higher education 2020 - EAC/A02/2019	Forests, Climate Change Mitigation and Adaptation: Higher Education Cooperation in Mekong Region (FRAME)	41	41	41	41	-

EC	Erasmus+ Strategic Partnerships for Adult Education (KA204)	Take the challenge and start the 3R's: Reduce, Reuse, Recycle. Promoting zero-waste lifestyle among Adults	15	15	15	-	-
EC	Erasmus+ Strategic Partnerships for Adult Education (KA204)	Activating agricultural and tourism specializations through Center of Taste (AGATA)	19	19	19	-	-
EC	Erasmus+ Strategic Partnerships for Vocational Education and Training (KA202)	Improving agricultural water use efficiency by using satellite and un-manned air vehicle systems	7	7	7	-	-
EC	Erasmus+ Strategic Partnerships for Higher Education (KA203)	Teaching Sustainability in Higher Education in the Field of Economics and Management	7	7	7	7	-
EC	LIFE 2020 - Environment	LIFE PROGNOSSES - LIFE PROtection of Old Growth Forests in Europe: Natural heritage, Outline, Synthesis and Ecosystem Services	-	6	6	6	6
EC	Horizont 2020 - Sustainable wood value chains - LC-RUR-11-2019-2020	RESONATE - Resilient forest value chains – enhancing resilience through natural and socio-economic responses	-	55	55	55	55
EC	Erasmus+ Partnership digital education preparedness (KA226)	SAGRE - Tools for digital and sustainable agriculture - Smart AGri Expert	-	6	6	6	-
EC	The European Centre for Disease Prevention and Control (ECDC) - Grant/2021/PHF/23 776	Enhancing Whole Genome Sequencing (WGS) and/or Reverse Transcription Polymerase Chain Reaction (RT-PCR) national infrastructures and capacities to respond to the Covid-19 pandemic in the Czech Republic.	-	36	36	-	-
EC	Horizont 2020 - Climate-resilient Innovation Packages for EU regions - LC-GD-1-3-2020	Accelerating and upscaling transformational adaptation in Europe: demonstration of water-related innovation packages (TransformAr)	-	97	97	97	97
EC	Erasmus Cooperation partnerships (KA220) 2021	NETFOOT: Network for transdisciplinary and transregional approaches on food technologies	-	13	13	13	13
EC	Horizont 2020 - Restoring biodiversity and ecosystem services - LC-GD-7-1-2020	SUPERB - Systemic solutions for upscaling of urgent ecosystem restoration for forest related biodiversity and ecosystem services	-	165	165	165	165
EC	Erasmus Cooperation partnerships/Kooperativní partnerství (KA220) 2021	Development of Green Skills for Better Employability	-	15	15	15	15

EC	Erasmus Cooperation partnerships (KA220) 2021	-	DEMETRA: Developing Entrepreneurial skills & tools for woMEn in agriculTure in Rural Areas	-	-	18	18	-
EC	Erasmus Mundus Design Measures (ERASMUS-EDU-2021-EMJM-DESIGN)	-	Sustainability in Agriculture, Food Production and Food Technology in the Danube Region - Danube AgriFood Master (DAFM)	-	-	20	20	20
EC	EIT Climate Leadership Journey 2022-2024	-	Czech Sustainable Industry Journey	-	-	30	-	-
EC	Erasmus Cooperation partnerships (KA220) 2021	-	Innovation of content and structure of study programmes in the area of animal genetic and food sources by means of digitalization	-	-	12	12	12
EC	Erasmus Cooperation partnerships (KA220) 2021	-	Structural Capacities for Tackling Wicked Problems (SCORE)	-	-	8	8	8
EC	Erasmus - Partnership for Excellence - Erasmus+ Teacher Academies	-	Academy for Sustainable Future Educators (EduSTA)	-	-	44	44	44
EC	ELLS Fund for Incentives 2022	-	Euroleague for Life Sciences (ELLS) support project for Ukrainian citizens through the organization of an intensive English language course	-	-	1	-	-
EC	Erasmus - Alliances for Education and Enterprises (ERASMUS-EDU-2021-PI-ALL-INNO-EDU-ENTERP)	-	Granting Access to Employment & Entrepreneurship in Agriculture for women	-	-	22	22	22
EC	EIT HEI Initiative Innovation Capacity Building for Higher Education - HEI Call 2	-	HIVE - HEI innovation for knowledge Intensive Entrepreneurship	-	-	56	56	56
EC	Horizon Europe - Agroforestry to meet climate, biodiversity and farming sustainability goals (HORIZON-CL6-2021-CLIMATE-01-08)	-	DIGITAF - DIGital Tools to help AgroForestry meet climate, biodiversity and farming sustainability goals: linking field and cloud	-	-	20	20	20
EC	Horizon Europe - Raising awareness of circular and sustainable bioeconomy in support of Member States to develop bioeconomy	-	CEE2ACT - Empowering the Central and Eastern European Countries to Develop Circular Bioeconomy Strategies and Action Plans	-	-	46	46	46

	strategies and/or action plans - HORIZON-CL6-2021-GOVERNANCE-01-10						
EC	Horizon Europe - Assessment of noise and particle emissions of L category vehicles from real driving conditions - HORIZON-CL5-2021-D5-01-16	LENS - L-vehicles Emissions and Noise mitigation Solutions	-	-	97	97	97
EC	Horizon Europe - Research infrastructures services for a sustainable and resilient agriculture and agro-ecological transitions (HORIZON-INFRA-2021-SERV-01-02)	AgroServ - Integrated SERVICES supporting a sustainable AGROecological transition	-	-	42	42	42
EC	Erasmus - Cooperation partnerships (KA220) 2022	Blockchain for Agri-Food Educators	-	-	13	13	13
EC	Erasmus - Cooperation partnerships (KA220) 2022	Electronic Pan-European Learning System for Sustainable Agribusiness MBA Education	-	-	13	13	13
EC	Horizon Europe - Enhancing science-based knowledge on EU forests', including old-growth forests, capacities to mitigate climate change - HORIZON-CL6-2021-CLIMATE-01-09	CLIMB-FOREST - CLimate Mitigation and Bioeconomy pathways for sustainable FORESTry	-	-	18	18	18
EC	Horizon Europe - Developing EU advisory networks on consumer-producer chains (HORIZON-CL6-2021-GOVERNANCE-01-27)	EU4Advice - Multi-actor collaboration dynamics and capacity building network inside and between AKIS to foster the upscaling of SFSCs across Europe	-	-	12	12	12
EC	Horizon Europe - Grasping rural diversity and	GRANULAR - Giving Rural Actors Novel data and re-Useable tools to Lead public Action in Rural areas	-	-	27	27	27

	strengthening evidence for tailored policies enhancing the contribution of rural communities to ecological, digital and social transitions (HORIZON-CL6-2021-COMMUNITIES-01-01)						
EC	Horizon Europe - Assessing the impacts of digital technologies in agriculture – cost, benefits and potential for sustainability gains (HORIZON-CL6-2021-GOVERNANCE-01-22)	CODECS - Maximising the CO-benefits of agricultural Digitalisation through conducive digital ECoSystems	-	-	42	42	42
EC	Erasmus - Cooperation partnerships (KA220) 2022	GLOFOR - EMJM in Global Forestry	-	-	71	71	71
International Visegrad Fund	Visegrad+ Grants	Visegrad Living Labs Network 4 Youth of Universities (VSLLN4YOU)	-	-	3	3	3
EC	Horizon Europe - Protection and sustainable management of forest genetic resources of high interest for biodiversity, climate change adaptation, and forest reproductive materials (HORIZON-CL6-2022-BIODIV-01-07)	OptFORESTS - Harnessing forest genetic resources for increasing options in the face of environmental and societal challenges	-	-	39	39	39
EC	Horizon Europe - Tools to support the uptake and accessibility/exploitability of environmental observation information at European and global level - (HORIZON-CL6-2021-	BrightSpace: Designing a Roadmap for Effective and Sustainable Strategies for Assessing and Addressing the Challenges of EU Agriculture to Navigate within a Safe and Just Operating Space	-	-	54	54	54

	GOVERNANCE-01-16)						
EC	Erasmus - Alliances for Education and Enterprises (ERASMUS-EDU-2022-PI-ALL-INNO-EDU-ENTERP)	Entrepreneurial teaching partnerships for fostering innovation and green startup development in higher education” (Green Hexagon)	-	-	29	29	29
EC	Erasmus - Cooperation partnerships (KA220) 2022	Multicultural Classrooms: Inclusive Learning and Teaching in Higher Education (MultiClass)	-	-	9	9	9
EC	Horizon Europe - Let nature help do the job: Rewilding landscapes for carbon sequestration, climate adaptation and biodiversity support (HORIZON-CLS-2022-D1-02-05)	wildE - Climate-smart rewilding: ecological restoration for climate change mitigation, adaptation and biodiversity support in Europe	-	-	-	46	46
EC	LIFE: Climate Change Adaptation (LIFE-2021-SAP-CLIMA-CCA)	LIFE Adapt Brdy - Climate Change Adaptation of Forests in the Brdy Highland	-	-	-	93	93
EC	Horizon Europe - Increasing the reproducibility of scientific results (HORIZON-WIDERA-2022-ERA-01-41)	OSIRIS - Open Science to Increase Reproducibility in Science	-	-	-	56	56
EC	Horizon Europe - Support to the implementation of inclusive gender equality plans (HORIZON-WIDERA-2022-ERA-01-81)	AGRIGEP - Assessment and implementation of Agriculture and Life Science Universities’ first Gender Equality Plans in widening countries	-	-	-	63	63
EC	HORIZON-MISS-2021-OCEAN-02 (Protect and restore marine and fresh water ecosystems and biodiversity)	Danube Region Water Lighthouse Action (DALIA)	-	-	-	137	137
International Visegrad Fund	Visegrad Grants	Restoring recreative potential of damaged forests for human well-being in V4 and post-war Ukraine	-	-	-	2	2
International	Projektová výzva - mezinárodní návrhy	ELLS Fund 2023-15 - Student photo shoot at CZU for marketing purposes	-	-	-	1	-
EC	Capacity Building in the field of Higher Education: Strand 3 - Structural reform projects (ERASMUS-EDU-2022-CBHE-STRAND-3)	UNICOM - Universities-Communities: strengthening cooperation	-	-	-	8	8

International Visegrad Fund	Mobility - Visegrad Scholarship Program 2022	VISEGRAD mobility	-	-	-	1	-
EC	Erasmus - Cooperation partnerships/Koope rativní partnerství (KA220) 2022	Future Work 4's	-	-	-	19	19
EC	1.výzva Interreg CENTRAL EUROPE 2021-2027	Circular BioEconomy Market Uptake and Policy Support in Central Europe	-	-	-	42	42
EC	1.výzva Interreg CENTRAL EUROPE 2021-2027	HEALTHY FOREST REGIONS: Supporting HEALTHY FOREST ecosystems for human well-being in forest REGIONS	-	-	-	25	25
EC	Horizon Europe - Monitoring, reporting and verification of soil carbon and greenhouse gases balance (HORIZON- MISS-2022-SOIL-01- 05)	MARVIC - Developing and testing a framework for the design of harmonized, context- specific Monitoring, Reporting and Verification systems for soil Carbon and greenhouse gas balances by Agricultural activities	-	-	-	36	36
EC	Horizon Europe - Agro-ecological approaches in African agriculture systems (HORIZON- CL6-2022- FARM2FORK-01-12)	SMART SOLUTIONS TO EMPOWER SMALL- AND MEDIUM-SIZED FARMS AS GUARDIANS OF THE TERRITORY (Guardians)	-	-	-	39	39
EC	Horizon Europe - Monitoring, reporting and verification of soil carbon and greenhouse gases balance (HORIZON- MISS-2022-SOIL-01- 05)	Monitoring, Reporting and Verification of Soil Organic Carbon and Greenhouse Gas Balance (MRV4SOC)	-	-	-	48	48
International	Projektová výzva - mezinárodní návrhy	Support to the implementation of the FAO regional workshop on Precision Agriculture	-	-	-	14	-
EC	COST - OPEN CALL 2023	Využití sledování pohybu očí pro systém podpory rozhodování	-	-	-	1	1
EC	Interreg Danube - Danube Region Programme: 1st call for proposals 2022	Fem2Forest: Innovative pathways for efficient involvement of girls and young women in the forestry sector	-	-	-	27	27
International Visegrad Fund	Visegrad Grants	Consumer of Organic Food in the Visegrad Group Countries	-	-	-	1	1
EC	Horizon Europe - Mission Ocean and Waters and Mission A Soil Deal for Europe – Joint demonstration of approaches and	Digital agriculture for sustainable development - AGRITECH EU	-	-	-	-	97

	solutions to address nutrient pollution in the landscape-river-sea system in the Mediterranean sea basin (HORIZON-MISS-2023-OCEAN-SOIL-01-						
EC	Socio-economic risks of climate change in Europe (HORIZON-CL5-2022-D1-01-02-two-stage)	CROSSEU - Cross-sectoral Framework for Socio-Economic Resilience to Climate Change and Extreme Events in Europe	-	-	-	-	66
EC	Horizon Europe - Mission Ocean and Waters and Mission A Soil Deal for Europe – Joint demonstration of approaches and solutions to address nutrient pollution in the landscape-river-sea system in the Mediterranean sea basin (HORIZON-MISS-2023-OCEAN-SOIL-01-	RURBANIVE - RUrban-uRBAN synergies emerged in an immersIVE innovation ecosystem	-	-	-	-	81
EC	Horizon Europe - Mobilising BIOEAST networks for the development of national bioeconomy action programmes in support of the European Green Deal (HORIZON-CL6-2023-GOVERNANCE-01-8)	BOOST4BIOEAST - BOOSTing the bioeconomy transformation FOR (4) the BIOEAST region	-	-	-	-	19
EC	Horizon Europe - Early phase implementation of ESFRI Projects which entered the ESFRI Roadmap in 2018 (HORIZON-INFRA-2023-DEV-01-02)	METROFOOD-RI Early Phase Implementation	-	-	-	-	101
EC	Erasmus - Capacity building in the field of higher education Strand 2 (ERASMUS-EDU-2023-CBHE-STRAND-2)	ADVALUE - Advancing Sustainable Agricultural Value Chains through Strengthening Transdisciplinary Skills and Cooperation in East African Doctoral Education	-	-	-	-	20

EC	Horizon Europe - Integrative forest management for multiple ecosystem services and enhanced biodiversity (HORIZON-CL6-2023-BIODIV-01-15)	TRANSFORMIT: Transforming forest management for multiple ecosystem services and nature conservation via the integrative approach	-	-	-	-	75
EC	Erasmus - Alliances for Education and Enterprises (ERASMUS-EDU-2023-PI-ALL-INNO-EDU-ENTERP)	ECOLUTION: mastErs COurse on smart sustainability soLUTIONs	-	-	-	-	63
EC	Horizon Europe - Designing space-based downstream applications with international partners (HORIZON-EUSPA-2022-SPACE-02-56)	Combined Use of EGNSS and Copernicus Data to Develop Innovative Downstream Services for the Users from Chile and Colombia	-	-	-	-	68
EC	Erasmus - Cooperation partnerships (KA2) 2023 - Round 2/2. kolo	Boosting transfer of knowledge and skills for smart and sustainable agriculture - SmartSkills	-	-	-	-	19
EC	COST Action 2022	European Network In CHEmical Ecology: translating the language of life into sustainability (E-NICHE)	-	-	-	-	4
EC	2.výzva Interreg CENTRAL EUROPE 2021-2027	Transnational Cooperation on nature-based solutions for restoring degraded forests of Central Europe / RE-ENFORCE	-	-	-	-	59
EC	Erasmus - Learning Mobility of Individuals/Mobilita jednotlivců (KA1) 2024	Erasmus KA131, výzva 2024	-	-	-	-	363
EC	Horizon Europe - MSCA COFUND 2023 (HORIZON-MSCA-2023-COFUND-01-01)	MERIT - MSCA Juan Molina	-	-	-	-	50
EC	Horizon Europe - Open source solutions for edge, cloud and mixed model applications to strengthen production and administrative capacities in agriculture (HORIZON-CL6-2023-	Data Cube and Copernicus data for Food Security and European Independence - NOSTRADAMUS	-	-	-	-	56

	GOVERNANCE-01-13)						
EC	Interreg Slovensko – Česko 2021 – 2027 - Call_INTERREG SK-CZ/2023/1_ Klíma	LESYpreKLÍMU: Príroda blízke riešenia pre adaptáciu lesov na zmenu klímy (Forests for Climate: Nature based solutions for forest adaptation to climate change)	-	-	-	-	67
EC	Interreg Danube - Danube Transnational Region Programme: 2nd call for proposals 2023	H2SCALE - Paving the way for setting up scalable, green hydrogen-based economic models for local communities in the Danube Region project	-	-	-	-	13
EC	Horizon Europe - Enhancing social inclusion in rural areas: focus on people in a vulnerable situation and social economy (HORIZON-CL6-2023-COMMUNITIES-01-1)	Supporting the inclusion, wellbeing, and growth of rural areas through multi-actor Smart Villages labs for enhanced governance frameworks - INSPIRE	-	-	-	-	56
EC	Horizon Europe - Onsite digital technologies to monitor nutrients and chemical or biological stressors in soil and plants with relevance for food safety and nutrition (HORIZON-MISS-2023-SOIL-01-03)	Safe Wheat Agriculture Towards Sustainable Health: Innovative Sensing Techniques, and Holistic Spectroscopy Traceability for Improved Soil, plant Health and safe wheat grain (WHEATWATCHER)	-	-	-	-	63
International	Project Call: International proposals	Logging Residue Torrefaction and Pressure Agglomeration as a Method to Conserve Renewable Fuels	-	-	-	-	2
Total			1 136	1 521	1 894	2 236	3 488

Note: For co-sponsorship projects, please only indicate the amount of funding for the evaluated HEI.

4.10.4 Projects supported by the Czech provider. The amounts are in CZK, final amounts are recalculated to EUR in the ratio CZK:EUR = 1:25.35

In the role of beneficiary							
Provider / Investor	Programme/Grant Scheme	Project name	Support (in thousands CZK)				
			2020	2021	2022	2023	2024
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2017	Orthologous glutamate carboxypeptidase 2 in model organisms - searching for the physiological roles and therapeutic potential of an enigmatic enzyme	1 479	1 479	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard,	Mechanisms of conversion of soil organic matter in the Congo Basin on a gradient of agricultural intensity	3 222	-	-	-	-

	junior and international projects 2017						
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2017	Selective effect of fishpond management on freshwater communities	1 147	1 147	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2017	Non-production islands within fields: foci of local biodiversity and sources of valuable ecosystem services?	1 620	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2017	Isotope fractionation as a tool for identifying sorption mechanisms of cadmium and zinc in soils	1 980	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2017	What is the biogeographical origin of Central European dry grasslands? A synthesis of comparative phylogeography and paleodistributional modeling	2 453	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2017	The impact of urbanization on different aspects of bird diversity: the relationship of bird community composition to pollution levels, vegetation and built-up densit	1 726	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2017	Evaluation of soil contamination with the use of hyperspectral satellite data	1 037	1 037	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2017	Inovativní využití biocharu modifikovaného nanoželezem: pokročilé geochemické testování pro stabilizaci kovů a metaloidů v půdě	1 357	-	-	-	-
Ministry of Education, Youth and Sports (MŠMT)	Program INTER-EXCELLENCE, Part INTER - INFORM, LT117	Office for the support of international projects focused on Life Sciences within the framework of the European Research Area I	2 551	-	-	-	-
MŠMT	OP VVV: ESF Call for universities II	Increasing the quality of studies at ČZU	19 037	14 625	9 383	-	-

MŠMT	OP VVV: ESF Call for universities II	Increasing the quality of the environment at ČZU	27 260	27 260	27 260	-	-
MŠMT	OP VVV: ESF call for universities	Modernization of studies and study programs, quality and consultancy at the ČZU in Prague (MOST)	26 364	21 540	19 959	-	-
Technological Agency of the Czech Republic (TA ČR)	TAČR Program EPSILON 2nd call	ULTRA - Equipment for the regeneration of water supply wells based on the principle of ultrasound	2 088	-	-	-	-
TA ČR	TAČR Program EPSILON 3rd call	Methods of artificial reproduction of the father's birch and procedures aimed at preserving its population in the territory of the Czech Republic	897	836	-	-	-
TA ČR	TAČR Program ÉTA 1st call	Creating a risk analysis for the purpose of implementing the VAT self-assessment regime in the Czech Republic	1 787	-	-	-	-
TA ČR	TAČR Program ÉTA 1st call	Agroforestry - a chance for regional development and sustainability of the rural landscape	3 955	-	-	-	-
TA ČR	TAČR Program ÉTA 1st call	Price transparency model for pork in the food vertical	1 639	103	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2016	Safe use of sewage sludge on agricultural land using torrefaction technology	2 435	1 771	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2016	Two-stage treatment of the liquid fraction of the fermentation residue enabling the rational use of nutrients from the water	1 856	1 416	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Long-term test of the application of biochar produced from waste biomass to agricultural land in order to solve the problem of drought in intensively agricultural areas of the Czech Republic	3 330	3 350	3 193	2 273	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2016	Economic support of strategic and decision-making processes at the national and regional level leading to the optimal use of renewable energy sources, especially biomass while respecting food self-sufficiency and soil protection	2 434	-	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2016	Optimizing the management of forest regeneration in habitats affected by surface mining	2 900	2 648	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2017	Fragmentation of forest ownership and its impact on forestry policy	3 667	-	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	The use of vermicomposting to eliminate micropollutants for the safe application of sewage sludge to agricultural land	4 153	4 145	3 896	3 345	-
Ministry of Agriculture	NAZV Program ZEMĚ 2018	Sustainable management of natural resources with an emphasis on non-production and production capabilities of the soil	3 292	3 292	3 142	2 693	-
Ministry of Agriculture	NAZV Program ZEMĚ 2018	Research and development of the production of medicinal mushrooms in the Czech Republic and their innovative application in functional foods	4 141	4 147	4 147	3 395	-
Ministry of Agriculture	NAZV Program ZEMĚ 2018	Minimization of the risks of residues of active substances of selected herbicides contained in straw and in the soil on cultivated mushroom, strawberry and tomato cultures	2 752	2 752	2 613	2 252	-
Ministry of Agriculture	NAZV Program ZEMĚ 2018	Innovation of integrated protection of potatoes against potato blight based on new knowledge of genetic and biological characteristics	3 499	3 499	3 321	2 868	-

Ministry of Agriculture	NAZV Program ZEMĚ 2018	Design of operational adaptation measures using hydrophilic polymers mitigating the withering of the main economic tree species due to drought	3 124	3 124	2 981	2 556	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Quality and safety of chicken meat production when fed insect meal, limited feeding and grazing	4 136	4 134	3 990	3 462	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Behavioral responses of feral pigs to measures against the spread of African swine fever	4 979	4 526	4 134	3 087	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Development of integrated modern and innovative methods of diagnosis and protection of spruce stands using semiochemicals and molecular biology methods.	3 625	3 677	3 798	3 270	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	New reliable methods for detection of adulteration of goat and sheep milk and milk products	3 003	2 886	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Communication as a tool for harmonizing the needs of society and the forestry sector	3 985	3 968	-	-	-
Ministry of Interior	Security Research Czech Republic 2015 - 2020 – 2nd public call	The use of advanced technology and the olfactory abilities of dogs to increase the effectiveness of searching for missing persons in the field	1 407	-	-	-	-
Ministerstvo zemědělství	NAZV Program ZEMĚ (Earth) 2016	Characterization of the compatibility of relationships between the agents of foamy blackening of stems and varieties of winter rape as a basis for increasing the profitability of growing this crop in the Czech Republic	2 313	1 685	-	-	-
MŠMT	OP VVV: Support of excellent research teams	Building an excellent scientific team at the FLD ČZU in Prague and its instrumental and technical background aimed at mitigating the consequences of climate change in forests - from the level of genes to the level of the landscape	83 357	28 367	19 777	-	-
Ministry of culture	NAKI II 2nd public call Program Support of applied and experimental research 2016-2022	Identification and protection of preserved remains of historical plows	4 897	4 877	4 682	-	-
Ministry of culture	NAKI II 2nd public call Program Support of applied and experimental research 2016-2022	The cultural tradition of Czech fishing in the light of its use in tourism and landscape design	3 599	3 223	-	-	-
MŠMT	Program INTER-EXCELLENCE, part INTER - COST, LTC19	Absorption and metabolism of drugs from the plant phenylpropanoid group in the gastrointestinal tract	1 617	1 606	-	-	-
MŠMT	Program INTER-EXCELLENCE, part INTER - COST, LTC19	The contribution of geochemistry to non-destructive archaeological research	1 232	1 232	1 018	-	-
MŠMT	INTER ACTION – public call LTAUSA18 for international joint research projects between the Czech Republic and USA	Discovering the Unknown Fungal Diversity of the Chihuahuan Desert and Its Relationship to the Mycobiota of the Mojave Desert in a Time of Rapid Climate and Environmental Change	2 329	2 262	2 140	-	-

MŠMT	INTER ACTION – public call LTAUSA18 for international joint research projects between the Czech Republic and USA	Evoluce repeatomu rostlinných allopolyploidů: analýza diploidně-polyploidního komplexu <i>Chenopodium album</i> agg. ce severoamerických a euroasijských druhů?	2 421	2 563	2 022	-	-
Municipality of Capital city Prague	Projects supporting better environmental conditions in the Capital city of Prague	Survey of diurnal butterfly fauna in restored and abandoned traditional orchards	300	-	-	-	-
Municipality of Capital city Prague	Projects supporting better environmental conditions in the Capital city of Prague	How many of us are here? (Status of European beaver population in Prague)	217	-	-	-	-
Municipality of Capital city Prague	Projects supporting better environmental conditions in the Capital city of Prague	Satellite images serve Prague: The temperature in the city and the quality of the Vltava water	240	-	-	-	-
Municipality of Capital city Prague	OP PPR: Call No. 32 – Support for transfer of technologies and knowledge from Research institutions to practice III	Realization of proof-of-concept activities of CZU to support the transfer of technology and knowledge into practice	12 335	4 711	-	-	-
TA ČR	TAČR Program ÉTA 2nd call	Identification of the significance of the corporate income tax gap from the point of view of the Czech Republic with subsequent creation of a new risk analysis model	1 533	1 848	-	-	-
TA ČR	TAČR Program ÉTA 2nd call	Countryside 3.0 – Social and technical conditions for realizing the development potentials of the 21st century in rural areas	1 605	-	-	-	-
TA ČR	TAČR Program ÉTA 2nd call	Study of the perception of selected types of crossings for pedestrians by motor vehicle drivers	702	34	-	-	-
TA ČR	TAČR Program ÉTA 2nd call	Economic potential of recreational use of the Vltava Cascade water management system in conditions of climate change	1 580	1 506	1 271	-	-
TA ČR	TAČR Program ÉTA 2nd call	Integration of information support for territorial and strategic planning	1 642	-	-	-	-
TA ČR	TAČR Program ÉTA 2nd call	Design and implementation of the concept and methodology of "career learning" in vocational education	287	287	287	-	-
TA ČR	TAČR Program ÉTA 2nd call	Territorial management of urban shrinkage	1 378	922	-	-	-
TA ČR	TAČR Program EPSILON 4th call	Identification of nationally important waterfowl wintering grounds with an emphasis on the occurrence of potentially conflicting species and in the context of territorial protection of wetland sites, habitat characteristics and climate change	2 350	2 264	1 689	-	-
TA ČR	TAČR Program EPSILON 4th call	INV-FLOW: Device for zonal measurement of vertical groundwater flow and direct quantification of inflows into receiving wells based on the principle of electromagnetic induction	1 089	-	-	-	-
TA ČR	TAČR Program ZÉTA 2nd call	Development of innovative fermentation technologies for the production of growing media	1 802	1 056	-	-	-

		for the cultivation of edible mushrooms and medicinal, aromatic and spice plants						
TA ČR	TAČR Program ZÉTA 2nd call	The development of alternative preparations for the protection and support of the defense capacity of hops	2 864	487	-	-	-	-
TA ČR	TAČR Program ZÉTA 2nd call	Modular system for comprehensive monitoring of nesting behavior and nesting success of birds	2 963	449	-	-	-	-
TA ČR	TAČR Program ZÉTA 2nd call	Knowledge-structured texts: an effective tool for knowledge transfer in the field of human resource management	803	191	-	-	-	-
TA ČR	TAČR Program ZÉTA 2nd call	Safety mapping of vegetation along the transport infrastructure	2 537	235	-	-	-	-
TA ČR	TAČR Program ZÉTA 2nd call	Development of methods and devices for accurate year-round vapor balance	3 299	1 480	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2018	Biochar: valorization of solid waste and improvement of soil properties	2 602	2 602	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2018	Individual variability and resilience of interspecific relationships in freshwater environments: insight through bivalve-fish interactions	2 693	2 456	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2018	The global isotopic signal of Cd and Pb in the Arctic: influence of local and remote sources	2 027	1 871	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2018	XEROS: Extreme European drought - A multi-model synthesis of past, present and future events	1 488	1 500	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2018	Interactions of organic xenobiotics with manganese oxides in transition zones: implications for natural-based remedial agents	2 045	1 823	-	-	-	-
MŠMT	OP VVV: ERDF výzva pro vysoké školy	Tropical Agriculture Pavilion	90 973	-	-	-	-	-
MŠMT	OP VVV: ERDF výzva pro vysoké školy	Agricultural Products Processing Training Center (APPTC)	163 339	230 436	1 697	-	-	-
MŠMT	OP VVV: Research infrastructures for educational purpose –	Building the background and research support for the research-oriented educational program Fire protection of the forest, wood materials and wood-based materials	255	-	-	-	-	-

	building or modernization						
MŠMT	OP VVV: Research infrastructures for educational purpose – building or modernization	Research and educational infrastructure to support the national Industry 4.0 initiative	7 030	-	-	-	-
MŠMT	OP VVV: Research infrastructures for educational purpose – building or modernization	Building facilities and research support for research-oriented educational programs Global Change Forestry and Applied Geoinformatics and DPZ in forestry	3 160	-	-	-	-
MŠMT	OP VVV: Development of Research-oriented study programmes	Development of research-oriented study programs at CZU in Prague	497	506	380	-	-
MŠMT	OP VVV: Development of Research-oriented study programmes	Creation of Vznik nových výzkumných studijních programů na FLD	219	284	232	-	-
MŠMT	NAZV Program ZEMĚ (Earth) 2018	Diversification of the impact of biomanagement on strategic documents in wood-forestry business as a basis for the government and the proposal of strategic goals until 2030	1 895	1 896	-	-	-
MŠMT	NAZV Program ZEMĚ (Earth) 2018	Dualism in the Czech agriculture: advantage or disadvantage for the agriculture of new generation?	3 238	3 132	-	-	-
MŠMT	NAZV Program ZEMĚ (Earth) 2018	Streamlining communication, monitoring and management when dealing with catastrophic situations in forests as a basis for optimizing state administration decision-making	3 600	3 600	-	-	-
MŠMT	Public order: Monitoring of forest ecosystems in National Nature Reserve Praděd in the period 2016-2023	Monitoring of forest ecosystems in National Natural Reservation Praděd during 2016-2023	124	62	62	62	-
MŠMT	Mobility - Společné česko-rakouské výzkumné projekty s dobou řešení 2019 – 2020	Characterization of bifidobacterial strains from different hosts and environments with an emphasis on their antibiotic resistance	63	-	-	-	-
TA ČR	TAČR Program GAMA 2: 1st call	Proof-of-concept 2 activities at ČZU in Prague	7 738	6 500	2 786	-	-
TA ČR	TAČR Program EPSILON 2nd call	Technology of assessment of surface contamination of the hydrographic network from agricultural land using high-resolution multispectral and thermal imaging	1 560	-	-	-	-
MŠMT	OP VVV: International mobility of researchers, Call: 17_050	The role of prolyl oligopeptidase in parasitic flukes	1 097	-	-	-	-
MŠMT	OP VVV: International mobility of	Support for the development of international mobility of CZU researchers in Prague	13 945	-	-	-	-

	researchers, Call: 16_027						
MŠMT	Program INTER-EXCELLENCE, section INTER - COST, LTC17	Disturbances in forest ecosystems and their effect on ecosystem services in the context of global climate change	803	-	-	-	-
MŠMT	OP VVV: Long-term cross-sectoral cooperation for ITI	Responsible water management in the inner village of the village in relation to the surrounding landscape	24 044	22 000	17 270	-	-
Czech Science Foundation (GAČR)	GAČR Standard projects 2019	Repeatome evolution of plant allopolyploids analysis of the diploid-polyploid complex <i>Chenopodium album</i> agg	3 648	3 396	2 731	-	-
MŠMT	OP VVV: Excellent research	NutRisk Center for the study of the formation and transformation of nutritionally important substances in the food chain in interaction with potentially hazardous substances of anthropogenic origin: a comprehensive assessment of the risk of soil contamination for the quality of agricultural production	38 226	38 226	38 226	19 113	-
MŠMT	OP VVV: Excellent research	Excellent research in support of Forestry and wood industry adaptation to global change and the 4th industrial revolution (EVA 4.0)	79 993	68 318	50 000	-	-
Municipality of Capital city Prague	OP PPR: Call No. 26 - Increasing the quality and efficiency of the functioning of science and technology parks, including incubators	Expansion and improvement of the services provided by the ČZU Point One business incubator	10 147	720	-	-	-
Municipality of Capital city Prague	OP PPR: Call No. 24 Support of transfer of technologies and knowledge from Research institutions to practice	Commercialization of FŽP/Outputs of science and research for environmental practice	2 475	-	-	-	-
Municipality of Capital city Prague	OP PPR: Call No. 24 Support of transfer of technologies and knowledge from Research institutions to practice	Transfer of technologies from the Faculty of Forestry and Woodwork of CZU to the commercial sphere	3 600	-	-	-	-
Municipality of Capital city Prague	OP PPR: Call No. 24 Support of transfer of technologies and knowledge from Research institutions to practice	Commercialization products: dangerous natural products, hippo monuments and monuments, service horses	4 358	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2016	Mechanisms and strategies of generational transmission of family memory of selected social groups	189	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public call for junior projects 2019	Multi-parameter annual reconstruction of Carpathian temperatures	2 062	2 638	2 296	-	-

MŠMT	Program INTER-EXCELLENCE, section INTER - COST, LTC18	Research on the sustainability of ecosystem services provided by European floodplain forests	732	858	-	-	-
MŠMT	Inter Action - veřejná soutěž LTAUSA18 pro podávání projektů mezinárodní spolupráce ve výzkumu a vývoji se zaměřením na česko-americkou spolupráci	The emergence of specific adaptations and parasite epidemiology in relation to changes in host behavior: the return of the house bug	2 309	2 234	1 502	-	-
MŠMT	Program INTER-EXCELLENCE, section INTER-ACTION Czech Republic-USA (VES19USA)	Validation of genomic procedures in small populations	3 196	3 247	2 798	-	-
MŠMT	Program INTER-EXCELLENCE, section INTER-ACTION Czech Republic-USA (VES19USA)	Use of genetic variability of hyperspectral reflectance of Scots pine ecotypes for the selection of drought-resistant individuals	3 204	3 512	3 113	-	-
MŠMT	Program INTER-EXCELLENCE, section INTER-ACTION Czech Republic-USA (VES19USA)	M28 family proteases in nematodes: their physiological roles and potential in new therapeutic strategies	2 722	2 722	2 722	-	-
MŠMT	Program INTER-EXCELLENCE, section INTER-ACTION Czech Republic-USA (VES19USA)	Distribution of Polysphincta genus-group spider parasitoids across ecological gradients in the Holarctic and the importance of host manipulation for parasitoid survival	795	950	875	-	-
TA ČR	TAČR Program BETA	Landscaping system for adapting the agricultural (forestry) landscape to climate change in the period 2030+	4 331	4 980	-	-	-
Czech Science Foundation (GAČR)	GAČR Public call for junior projects 2019	SYNTHETIC AND COMPARATIVE HYDROLOGY OF EARTH, MARS AND TITAN (SCHEMATICS)	1 095	1 358	1 578	-	-
Czech Science Foundation (GAČR)	GAČR Public call for junior projects 2019	Polar dust and its role in climate change	1 430	971	989	-	-
Grantová služba LESY ČR Grant service FORESTS Czech Republic)	Competition. Spring term 2018	Economics and the cultivation of birch stands as an alternative to the restoration of withering spruce stands in the Czech Republic	823	-	-	-	-
MŠMT	OP VVV: International mobility of researchers– MSCA-IF III	Drivers and mechanisms of habitat selection and movement characteristics in indigenous ungulate communities in relation to resource distribution and livestock grazing in West African protected areas (SAVANNALIFE)	228	2 735	2 279	228	-

MŠMT	Mobility: Joint Czech-Polish Research projects 2020-2021.	Analysis of work purity of harvester technology in forest ecosystems depending on work performance	87	87	-	-	-
MŠMT	Mobility: Joint Czech-French Research projects 2020-2021.	Geochemistry, mineralogy and isotopic systematics of thallium in soils, Allchar (North Macedonia)	162	162	-	-	-
MŠMT	Program INTER-EXCELLENCE, section ACTION - Indie	Development of a prototype engine for alcohol fuels	937	1 025	1 025	-	-
TA ČR	TAČR Program Environment for life 1st call	Protection of amphibian biodiversity in relation to invasions of new infectious diseases	1 798	2 378	2 001	-	-
TA ČR	TAČR Program Environment for life 1st call	Packaging of planting material of forest trees with the PostCont technological system	3 281	2 787	2 635	2 339	-
TA ČR	TAČR Program Environment for life 1st call	Possibilities for updating NATURA 2000 biotope mapping with advanced remote sensing methods	1 493	1 792	1 865	390	-
TA ČR	TAČR Program Environment for life 1st call	The use of multisensory datalogging in the assessment of the impact of environmental changes on the activity of wild animals	1 674	3 227	3 205	393	-
TA ČR	TAČR Program Environment for life 1st call	Quantification of the effects of drought on forestry-important tree species in the climatic gradient of the Czech Republic	3 624	2 511	2 461	362	-
MŠMT	OP VVV: Capacity development for research and development II	Strategic setting of human resources development at CZU	26 206	25 714	14 018	-	-
TA ČR	TAČR Program Environment for life 1st call	Small regeneration set MARS	521	1 361	1 361	1 385	-
Ministry of Foreign Affairs	Strengthening the capacities of public universities in developing countries	Science and Research Development at the University of Battambang	612	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Standard projects 2019	CHEMISTRY AND ISOTOPIC SYSTEMATICS OF THALLIUM IN PEATS	3 089	3 089	3 088	-	-
Czech Science Foundation (GAČR)	GAČR Standard projects 2019	Analysis of the kinematic and social aspect of play in mammals on a phylogenetic, neuroanatomical, ontogenetic and functional level	3 723	3 724	3 398	-	-
Czech Science Foundation (GAČR)	GAČR Standard projects 2019	Functional evolution of the termite gut microbiome	2 929	2 948	1 804	-	-
TA ČR	TAČR Program Environment for Life 1st call	Optimizing the management of pond sites aimed at preserving biodiversity in conditions of climate change	2 142	2 454	3 058	359	-
Ministry of Foreign Affairs	Strengthening the capacities of public universities in developing countries	Publication and Research Activities Development for Education in Life Sciences at Hawassa University	1 345	-	-	-	-

Ministry of Foreign Affairs	Strengthening the capacities of public universities in developing countries	Increasing scientific research capacities and supporting education at the University of Mostar and the University of Džemal Bijedić in Mostar	900	-	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Objectification of the method of determining the dynamics of the occurrence of harmful agents by modern means of the DPZ as a basis for decision-making by the state forest administration	3 991	3 999	-	-	-
MŠMT	OP VVV: Improving the quality of internal grant schemes at universities - Call č. 02_19_073	Improving the quality of the internal grant scheme at CZU	2 309	10 651	18 250	9 099	-
Czech Development Agency	ČRA Support for cooperation between Czech and Ukrainian universities and university workplaces	Inter-university cooperation as a tool to increase the quality of selected Ukrainian universities	1 483	-	-	-	-
Ministry of Foreign Affairs	Strengthening the capacities of public universities in developing countries	Strengthening of scientific capacities and cooperation of Ukrainian universities in agricultural sciences (AgriSciences Platform for Scientific Enhancement of HEIs in Ukraine)	1 440	-	-	-	-
Municipality of Capital city Prague	Tourism support program for 2020	XVI. European Association of Agricultural Economists (EAAE) Congress 2020	6 829	-	-	-	-
Municipality of Capital city Prague	Program to support projects to improve the state of the environment in capital city of Prague for 2020	Monitoring and optimization of nectar-bearing biobelts on arable land in the cadastre of the capital city of Prague	175	175	-	-	-
Municipality of Capital city Prague	Program to support projects to improve the state of the environment in capital city of Prague for 2020	Girl's castles: caring for the site of the reintroduced Chapman's blue	125	125	-	-	-
Municipality of Capital city Prague	Program to support projects to improve the state of the environment in capital city of Prague for 2020	Reproductive ability of white acacia derived from its seed bank	125	125	-	-	-
TA ČR	TAČR Program ÉTA 3rd call	Rolling Waste: An Environmental and Behavioral Investigation of Music Festival Attendees behavior	336	2 493	2 413	2 246	-
TA ČR	TAČR Program THÉTA 3rd call	Climate and nature. Water-Energy Nexus	804	3 005	2 945	2 613	-
MŠMT	Program INTER-INFORM	Office for the support of international projects focused on Life Sciences within the European Research Area III	-	4 406	4 381	4 381	-
Ministry of Environment	OPŽP: 129th call of the Ministry of Environment	Support of the natural species composition resistant to climate change in the Voděradské bučiny Nature Reserve	475	475	475	475	-
Ministry of Environment	SFŽP: call No.. 3/2018 Ecoinnovation	A multifunctional system of autonomously adjustable small water reservoirs and wetland	4 000	4 000	4 000	4 000	-

		systems enabling also in situ diffuse pollution treatment					
Ministry of Interior	Security Research in the Czech republic 2015 - 2022 – 3rd public call	Use of larval stages of Silphidae beetles in forensic practice	2 197	2 243	2 205	-	-
MŠMT	OP VVV: International mobility of research, technical and administrative staff of research organizations - Call No. 02_18_053	Support for the development of international mobility of research, technical and administrative staff of CZU in Prague - phase II (PROMO II)	5 500	5 500	5 500	5 500	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Comprehensive assessment of the application of treated sewage sludge in agriculture with regard to micropollutants	-	4 031	4 053	3 915	-
TA ČR	TA ČR - 1. public call KAPPA	Nanoremediation of Contaminated Soils: Technology Implementation Considering Ecotoxicological Aspects	-	12 439	12 407	9 960	3 410
MŠMT	INTER-EXCELLENCE, Section INTER-TRANSFER	Participation of the Czech Republic in the TreeDivNet	2 789	1 796	1 796	1 796	1 808
MŠMT	INTER-EXCELLENCE, section INTER-TRANSFER	Participation of the Czech Republic in the TreeDivNet network of experiments Incorporation of Czech scientists into the global research platform The Global Forest Biodiversity Initiative within the framework of research on tree mortality and biomass dynamics of temperate forests of the Northern Hemisphere	1 991	2 013	2 035	2 035	1 903
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Soil organic matter - evaluation of selected quality indicators	-	2 485	2 485	2 485	2 485
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Development of a means to support bee immunity based on probiotics, together with the technology of its production and the food use of the by-product	-	3 419	3 419	3 551	3 551
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Fate of selected micropollutants found in treated water and sewage sludge in soil	-	3 997	4 230	4 028	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	The use of biologically active substances of plant origin in the storage of agricultural products	-	3 347	3 347	3 347	3 347
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Alternative additives to boar ejaculate diluents as a substitute for antibiotics.	-	2 375	2 375	2 375	2 375
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Diversification and strengthening the competitiveness of aquaculture by promoting aquaponics as an innovative agricultural technology for food production	-	3 351	3 340	3 325	3 340
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Progressive methods of economic-management planning to support sustainable forest management	-	2 858	2 897	2 831	2 660
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Monitoring the condition and development of drylands after the bark beetle disaster	-	3 128	3 128	3 128	-
TA ČR	TA ČR – 1st public call KAPPA	Management of genetic resources of forest trees under climate change	-	6 405	7 029	6 420	3 827
TA ČR	TACR Program Environment for Life 3rd call	Military training grounds in time variables: Streamlining the care of former military areas based on the evaluation of long-term monitoring of the development of biodiversity and land use	-	2 985	2 354	2 282	-

TA ČR	TAČR Program Environment for Life 3rd call	Possibilities of reducing the negative impact of intensive agriculture on pollinators	-	3 450	3 330	3 390	-
Czech Science Foundation (GAČR)	GAČR Mezinárodní projekty 2020	Comparison of the efficiency of innovative nanosorbents for metals and metalloids in soils contaminated by metallurgical activity: A geochemical and ecotoxicological approach	-	5 576	5 576	5 576	-
Czech Science Foundation (GAČR)	GAČR Standard projects 2020	Pedogenesis of colluvial soils: a multidisciplinary approach in modeling the dynamics of development in the soil - landscape environment	-	1 970	1 807	1 234	-
TA ČR	TA ČR – 1st Public call KAPPA	Using Traditional Knowledge to Halt Biodiversity Loss in Forests (ROTATE)	-	7 773	8 326	9 722	2 805
Ministry of Culture	NAKI II 3rd public competition of the Program to support applied research and experimental development for the period 2016 - 2022	Landscape for the breeding and training of ceremonial carriage horses in Kladruby nad Labem	3 626	4 217	5 078	-	-
Ministry of Environment	OP ŽP: 4.3 Strengthen the natural functions of the landscape, a challenge, call No. 140	Addition of vegetation elements to the landscape in the territory of Amálie	1 133	284	121	121	-
TA ČR	TAČR Program ÉTA 5th call	Planning the capacities of social services and related civic amenities	-	924	1 185	969	-
Ministry of Foreign Affairs	Strengthening the capacities of public universities in developing countries for 2021	Strengthening of scientific capacities and cooperation of Ukrainian universities in agrarian sciences	-	1 440	-	-	-
Ministry of Foreign Affairs	Strengthening the capacities of public universities in developing countries for 2021	Support of teaching innovation, research development and inter-university cooperation of SAUM and TSU (Moldova)	-	1 153	-	-	-
Ministry of Agriculture	NNO MZe Call for support of projects of non-governmental non-profit organizations for 2020	Competitions for the best diploma and dissertation theses with a contribution to practice in the field of agriculture, forestry, water management and landscape and natural resource protection	-	210	-	-	-
Czech Science Foundation (GAČR)	GAČR Standard projects 2020	Defined minimal microbiota in protection against the foodborne pathogen Salmonella enterica	-	2 586	3 538	3 538	868
Czech Science Foundation (GAČR)	GAČR Standard projects 2020	Dynamics of primary forests: analysis of factors affecting biomass and indicators of biodiversity	-	488	2 680	2 610	2 192
Czech Science Foundation (GAČR)	GAČR Lead Agency CEUS - Poland 2020	Sardines and sprats as a potential source of nutrients needed to support the proper function of the immune system in in vitro and in vivo models	-	441	2 416	2 366	1 106
Czech Science Foundation (GAČR)	GAČR JUNIOR STAR 2022	Evaluation of the intensification of the terrestrial hydrological cycle	-	-	4 745	4 745	4 745
TA ČR	TAČR Program THETA 4th public call	Determination of the hydropower potential of the "Pico-Hydropower" application in the current and predicted climatic conditions of the Czech Republic	-	-	2 874	2 772	2 730

Municipality of Capital city Prague	Grants to support projects to improve the state of the environment in the capital city of Prague	Monitoring of the critically endangered sedge (<i>Hipparchia semele</i> L.) in the system of protected areas of Prokopské údolí and the surrounding area	-	100	100	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Autonomous systems as tools of integrated vegetable production.	-	-	1 968	1 968	1 968
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	axonomy - a classification system for assessing the sustainability of agriculture	-	-	2 619	3 035	3 407
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Technical recommendations for water management within the forest transport network	-	-	7 757	3 928	2 971
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Freely available satellite images in the microwave part of the spectrum as a source of information for optimizing crop production	-	-	3 167	3 167	3 167
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Integrated protection against virus disease vectors in seed potatoes and other crops	-	-	800	800	800
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Optimizing the management of individual reproductive performance of dairy cattle	-	-	1 201	1 201	1 201
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Implementation of agronomic selenization procedures in the production of milk and milk products as functional foods	-	-	2 500	2 500	2 500
Czech Science Foundation (GAČR)	GAČR Standard projects 2022	Long-term disturbance dynamics as a driver of taxonomic, functional and phylogenetic diversity of forest communities	-	-	2 321	2 321	2 321
Czech Science Foundation (GAČR)	GAČR POSTDOC INDIVIDUAL FELLOWSHIP - OUTGOING 2022	Co-evolution of lice and lice with their hosts and symbionts	-	-	928	928	928
Czech Science Foundation (GAČR)	GAČR Standard projects 2022	Relationships between weather, epidemics and seasonality of mortality	-	-	1 079	1 079	1 079
Czech Science Foundation (GAČR)	GAČR Standard projects 2022	Mechanism of pesticide mobility and transformation at the root/soil interface in the rhizosphere of wetlands	-	-	2 118	2 118	2 118
Czech Science Foundation (GAČR)	GAČR Standard projects 2022	Decoding the specific biogeochemical cycle of Cd at the plant-soil interface using stable isotopes	-	-	2 267	2 267	2 267
TA ČR	TAČR Program Environment for Life 5th call	Soil biodiversity: protecting communities at the species level	-	-	3 225	3 225	3 225
TA ČR	TAČR Program Environment for Life 5th call	Long-lived biobelts for effective support of biodiversity in agricultural landscapes	-	-	2 538	2 413	2 392
TA ČR	TAČR BETA 2 Public contracts	The influence of light pollution on sensitive animal species, ecosystems and landscape features	-	1 375	1 375	1 375	1 375
Ministry of Foreign Affairs	Strengthening the capacities of public universities in developing countries for 2022	Support for education and scientific-research activities in the field of organic agriculture	-	-	1 000	-	-
Ministry of Foreign Affairs	Strengthening the capacities of public	Enhancement of The PhD Students Potential for Qualitative Research in Ukraine	-	-	1 171	-	-

	universities in developing countries for 2022						
Ministry of Environment	NP ŽP Call OPST PP-1/2021 Pre-project and subsequent project preparation of strategic projects	Smart landscape 2030+ - pre-project preparation	-	-	4 454	-	-
Municipality of Capital city Prague	Program to support projects to improve the state of the environment m. of Prague for 2022	Biological survey of the occurrence of the lesser firefly (<i>Lamprohiza splendida</i>) in the territory of the capital. city of Prague	-	-	-	150	-
Municipality of Capital city Prague	Program to support projects to improve the state of the environment m. of Prague for 2022	Maintenance of the natural vegetation of the non-forest biotope using horse grazing	-	-	-	300	-
Municipality of Capital city Prague	Program to support projects to improve the state of the environment m. of Prague for 2022	Monitoring and research on the behavior of the common woodpecker in the Prokop valley and its surroundings II	-	-	-	250	-
Municipality of Capital city Prague	TOURISM SUPPORT PROGRAM FOR 2022	6th European Congress of Conservation Biology	-	-	400	-	-
MŠMT	Mobility between the Czech republic and Austria - Rakousko 2022-2023	Opportunities and Challenges for Biogas in the Global South - GasTrade	-	-	96	84	-
Ministry of Interior	Zvýšení mediální gramotnosti široké veřejnosti	Media literacy interactively and for everyone	-	-	1 733	2 301	-
Ministry of Agriculture	NNO MZe Call for support of projects of non-governmental non-profit organizations for 2022	Competitions for the best diploma and dissertation theses with a contribution to practice in the field of agriculture, forestry, water management and landscape and natural resource protection	-	-	1 083	-	-
Prague Innovation Institute	Assistance vouchers of the capital city of Prague	HIVE - HEI Innovation for knowledge Intensive Entrepreneurship - PIC	-	-	24 791	-	-
Czech Science Foundation (GAČR)	GAČR JUNIOR STAR 2023	The trajectory of genome evolution in convergent organisms	-	-	-	662	-
Ministry of Interior	MV Otevřené výzvy v bezpečnostním výzkumu 2023-2029 (OPSEC)	Methodology of identification and other forensic analyzes of biological material and pathogens from wild and exotic animals.	-	-	-	9 229	9 532
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Response of Middle Paleozoic faunal communities to significant environmental changes: a study of the Mulde, Lau and Chotečský events in the Prague Basin	-	-	-	1 488	1 638
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	Payments for forest ecosystem services and forest management	-	-	-	4 128	4 228

Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	Research into new methods of growing fruit species in the combined use of agricultural land with the production and local use of electrical energy from renewable sources	-	-	-	3 976	3 999
MŠMT	INTER-ACTION – Czech Republic-USA	Stabilization and diversification of allopolyploid species with the same genomic composition	-	-	-	2 225	4 260
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Secreted proteins of <i>Schistosoma mansoni</i> eggs: a comparative approach to the identification of bioactive molecules of the human parasite	-	-	-	3 764	3 661
MŠMT	INTER-ACTION – Czech Republic-USA	Evolution, diversity, and hybridization of Acarosporaceae in southwestern North America: An integrative study using classical taxonomy, phylogenetics, and genomics	-	-	-	3 137	2 790
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	Development of an application for automated registration of caught ungulates based on the individuality of the structure of the skin tissue of the external nose	-	-	-	2 170	5 089
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Stable composites of biochar with manganese oxides as a smart solution for complex soil remediation	-	-	-	2 460	2 700
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Worldwide phylogeography and history of the globally invasive weed species <i>Chenopodium album</i>	-	-	-	3 673	3 860
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Use of the concept of trade-off and functional traits in the modern theory of species coexistence	-	-	-	2 983	2 869
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Interaction of parasites and metals (metalloids) in small terrestrial mammals	-	-	-	2 396	2 476
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Identification and RNAi silencing of aggregation pheromone production genes of the aggressive spruce bark beetle (<i>Ips typographus</i>)	-	-	-	1 779	2 101
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	SYSTEMATICS OF STABLE ISOTOPES OF SILVER IN THE AREAS OF MINING AND METALLURGY: DYNAMICS OF THE METAL IN SOILS	-	-	-	3 137	3 137
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Lumci as a model for the study of coevolution of parasitoids with hosts - an integrative approach	-	-	-	3 764	4 077
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	Precision agriculture and digitization in the Czech Republic	-	-	-	3 777	3 752
TA ČR	TAČR Transportation 2020+ 4th public call	Development of a wood-concrete bridge with remote control	-	-	-	5 860	6 227
Ministry of Interior	MV Open challenges in security research 2023-2029 (OPSEC)	Evaluating and increasing the level of preparedness of search teams used in the search for missing persons in the field	-	-	-	8 067	6 856
Ministry of Interior	MV Open challenges in security research 2023-2029 (OPSEC)	Detection of odor markers by methods of analytical chemistry and their use in the training of service dogs	-	-	-	4 689	4 689
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	Forecasts of bark beetle development and innovative approaches to its management at the level of the state and forest owners	-	-	-	4 332	4 214

TA ČR	TAČR THETA 5th public call	Solar potential of the Ústí Region: data bases for the creation of future methodologies and frameworks in the energy sector	-	-	-	6 275	1 828
TA ČR	TAČR THETA 5th public call	Development of an autonomous unit with a pump in turbine operation for low-potential hydropower sources	-	-	-	1 205	936
MŠMT	Call for proposals for projects within the framework of the National Renewal Plan for the area of higher education institutions for years 2022-2024	Transformation of ČZU with the aim of adaptation to new forms of learning and the changing needs of the labor market	-	-	36 806	36 806	36 806
MŠMT	Call for proposals for projects within the framework of the National Renewal Plan for the area of higher education institutions for years 2022-2024	Accreditation of the Master's study program Precision Agriculture	-	-	8 299	8 299	8 299
TA ČR	TAČR Environment for Life 6th public call	Limiting the effect of light pollution on invertebrates	-	-	-	1 294	1 785
TA ČR	TAČR Environment for Life 6th public call	Evaluation of the importance of old forests outside the most strictly protected areas from the point of view of carbon fixation and support of species diversity	-	-	-	2 576	3 362
TA ČR	TAČR Environment for Life 6th public call	Elimination of micropollutants in drinking water using sorption followed by UV photocatalysis	-	-	-	2 880	4 520
Ministry of Foreign Affairs	Strengthening the capacities of public universities in developing countries for the year 2023	Development of study programs and research activities in the field of sustainable agriculture, fisheries and aquaculture production in Cambodia	-	-	-	1 115	-
TA ČR	TAČR Environment for Life 6th public call	Development of a system of efficient use of wood from low-growth forests into final products with high added value	-	-	-	2 044	2 925
Ministry of Foreign Affairs	Strengthening the capacities of public universities in developing countries for the year 2023	Publication and Research Development for Education in Life Sciences at Hawassa University, Etiopie	-	-	-	1 155	-
Ministry of Foreign Affairs	Strengthening the capacities of public universities in developing countries for the year 2023	Support of education and scientific-research activities in the field of ethnobotany and utilization of by-products of food processing, Bosnia and Herzegovina	-	-	-	939	-
State Agricultural Intervention Fund	Program Rural Development Measures 8, Submeasures 8.4, Operace 8.4.1 Restoration of forest stands after calamities (round 15)	Restoration of forest stands affected by the consequences of climate change	-	-	-	206	-

Ministry of Agriculture	NNO MZe Call for support of projects of non-state non-profit organizations for 2023	Competitions for the best diploma and dissertation theses with a contribution to practice in the field of agriculture, forestry, water management and landscape and natural resource protection	-	-	-	210	-
Ministry for Regional Development	INTERREG Bavaria – Czech Republic 2021–2027	Ecological impacts of the return of wolves to the Šumava/Bavarian Forest ecosystem	-	-	-	956	956
MŠMT	Large Important Infrastructures	Infrastructure for the promotion of metrology in the food industry and nutrition in the Czech Republic	-	-	-	10	10
Ministry of Foreign Affairs	Strengthening the capacities of public universities in Ukraine and Moldova in 2023	Empowering the Future of AgriSciences in Ukraine: AgriSci-UA	-	-	-	1 440	-
Municipality of Capital city Prague	Program to support projects to improve the state of the environment m. of Prague for 2023	Maintenance of natural vegetation of non-forest biotope using horse grazing - 2nd part	-	-	-	-	150
Municipality of Capital city Prague	Program to support projects to improve the state of the environment m. of Prague for 2023	Reconstruction of acacia stands and evaluation of the prosperity of acacia rootstocks.	-	-	-	-	250
Municipality of Capital city Prague	Program to support projects to improve the state of the environment m. of Prague for 2023	Planting of selected tree species (bush cherry and black poplar) growing on the territory of Hl. m. of Prague to ensure support for occurrence in selected localities Hl. m. of Prague	-	-	-	-	250
TA ČR	TAČR SIGMA Support of the innovative potential of social sciences, humanities and arts (DC3)	Establishment and operation of a re-use center/re-use point in the social, legal and economic conditions of the Czech Republic	-	-	-	951	2 711
MŠMT	OP JAK: Call No.. 02_22_012 Development of the infrastructural background of doctoral study programs	Development of the infrastructural background of doctoral study programs at CZU	-	-	-	34 996	34 996
MŠMT	Program for financing projects of multilateral scientific and technical cooperation in the Danube region- MSTC DANUBE - Výzva 8X23	Green manuring as a tool for improving soil microbiome and vegetable quality under sustainable agriculture conditions	-	-	-	-	247
TA ČR	TAČR SIGMA DC2 Beginning researchers	Implementation of biochar in composting and vermicomposting mixtures	-	-	-	-	1 910
TA ČR	TAČR SIGMA DC2 Beginning researchers	Development of phytotherapeutic preparations on a natural basis against skin diseases of animals in hobby farms	-	-	-	-	2 291

TA ČR	TAČR: Water4All	Management of stormwater runoff in urban areas during extreme hydroclimatic events	-	-	-	-	1 880
Ministry for Regional Development	Interreg Czech Republic-Saxony 2021–2027	REDEMA - Increasing the effectiveness of deer management using transboundary approaches	-	-	-	-	4 467
Czech Science Foundation (GAČR)	GAČR Standard projects 2024	Essential oils as new plant biocides in the construction industry	-	-	-	-	3 726
MŠMT	OP JAK: Call No. 02_23_015 Research Infrastructures	METROFOOD-CZ - Modernization of research infrastructure	-	-	-	-	20 017
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Optimizing feed mixtures for farm-raised rabbits based on circular economy principles	-	-	-	-	2 494
Ministry of Environment	Call No. 2/2023: Environmental education and awareness about climate change	Adaptation to climate change: A project to educate the professional public, secondary school teachers and students	-	-	-	-	2 936
Czech Science Foundation (GAČR)	GAČR Lead Agency 2024	Reactive interfaces for the degradation of emergent contaminants and pathogenic viruses in artificial wetlands	-	-	-	-	2 358
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Optimizing the representation of broad-leaved trees in mixed forest stands leading to a reduction in the attractiveness of Scots spruce for weevils (Curculionidae: Scolytinae)	-	-	-	-	3 325
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Impacts of territorial nature protection on the management of forest owners and the wood processing sector	-	-	-	-	3 080
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Implementation of elements of field autonomy in fruit production and nursery farming	-	-	-	-	3 008
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Researching new mechanisms of resistance to herbicides and insecticides and designing effective anti-resistance strategies while reducing pesticide consumption	-	-	-	-	3 466
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Rationalization of the agricultural landscape in order to combine production functions and effectively support biodiversity	-	-	-	-	3 857
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Medium-term trend in the behavior of micropollutants originating from wastewater or sewage sludge in the soil environment	-	-	-	-	4 356
Czech Science Foundation (GAČR)	GAČR Lead Agency 2024	THERMO-CLIM: Thermophilic forests as climate analogues for future temperate forests in Europe	-	-	-	-	2 522
Ministry for Regional Development	INTERREG Bavaria – Czech Republic 2021–2027	Protection of the common owl (Athene noctua) in the Czech-Bavarian border area	-	-	-	-	21
MŠMT	Call for applications for grants to support joint Czech-Austrian projects as part of the mobility activity with a solution period 2024-2025 (call 8J24AT)	Fishes of the genus Carassius as a unique evolutionary model in relation to biological invasion and interaction with native endangered species	-	-	-	-	60

MŠMT	INTER-ACTION – Czech Republic-USA	Phylogeography of North American desert species of the genus <i>Chenopodium</i>	-	-	-	-	1 952
MŠMT	MŠMT: NPO Support for green skills and sustainability in higher education institutions 2023-2025	Support of green skills and sustainability at ČZU	-	-	-	-	26 001
Ministry of Industry and Trade	Support for entrepreneurship, entrepreneurship and innovative companies	PIPPA - Project Innovation and Support of Business Activities Point One -	-	-	-	-	5 174
TA ČR	TAČR - Environment for life 7th public competition	Biodiversity in general: the application of modern procedures to support biodiversity in cities and their surroundings	-	-	-	-	3 020
TA ČR	TAČR - Environment for life 7th public competition	Genetic diversity and population structure of the rock shrike (<i>Chazara briseis</i>): implications for its conservation and repatriation	-	-	-	-	3 025
TA ČR	TAČR - Environment for life 7th public competition	Measurement of radon in soil air as an indicator of the occurrence of oil contamination	-	-	-	-	2 003
TA ČR	TAČR - Environment for life 7th public competition	Rationalization of the use of nectar-bearing biobelts to support biodiversity on arable land	-	-	-	-	3 004
TA ČR	TAČR - Environment for life 7th public competition	Biodiverse green roofs to support insect and plant communities	-	-	-	-	3 382
TA ČR	TAČR - Environment for life 7th public competition	Optimizing biodiversity support of solar parks implemented in open countryside	-	-	-	-	2 534
TA ČR	TAČR - Environment for life 7th public competition	Use of modern biologging tools, sharing and user-friendly data analysis in optimizing the incubation of eggs of endangered bird species in human care	-	-	-	-	4 299
TA ČR	TAČR - Environment for life 7th public competition	Realization of the aeroponic system design and technical-economic feasibility study of a typical project	-	-	-	-	3 513
TA ČR	TAČR - Environment for life 7th public competition	Use of biologging tools and freely available data sources for assessment of habitat quality, existential risks and effective protection planning for birds threatened by water loss in the landscape	-	-	-	-	4 635
TA ČR	TAČR - Environment for life 7th public competition	Artificial floating islands as alternative nesting sites for protected and declining waterbird species	-	-	-	-	6 289
Ministry of Foreign Affairs	MZV: Strengthening the capacities of public universities in developing countries in 2024	Innovative education and support of scientific-pedagogical work in agro-food fields	-	-	-	-	953
Ministry of Foreign Affairs	MZV: Strengthening the capacities of public universities in developing countries in 2024	Modernization and increasing the prestige of higher agricultural education in Moldova	-	-	-	-	1 584

Ministry of Foreign Affairs	MZV: Strengthening the capacities of public universities in developing countries in 2024	Increasing the abilities and skills of NUBB educators to use and transmit information in the field of smart agriculture	-	-	-	-	1 026
Olomouc Region	Program to support education at universities in the Olomouc Region in 2024	Development of activities of the Czech University of Life Sciences in the Olomouc region in 2024	-	-	-	-	500
Ministry of Foreign Affairs	MZV: Strengthening the capacities of public universities in developing countries in 2024	Transforming agri-food systems in Cambodia through strengthening research capacity	-	-	-	-	1 000
Ministry of Foreign Affairs	MZV: Strengthening the capacities of public universities in developing countries in 2024	Strengthening AgriSciences in Ukraine: AgriSci-UA	-	-	-	-	1 670
MŠMT	OP JAK – Call No. 02_22_010 MSCA Fellowships CZ	MSCA_CZ_2024 Mobility CZU	-	-	-	-	1 484
Municipality of Capital city Prague	Program to support projects to improve the state of the environment m. of Prague for 2024	The secret of life in Prague's waters	-	-	-	-	150
Municipality of Capital city Prague	Program to support projects to improve the state of the environment m. of Prague for 2024	"Supporting the biodiversity of butterflies in the vicinity of the Prokop Valley through active care of non-forest habitats"	-	-	-	-	150
MŠMT	OP JAK: Výzva č. 02_23_019 Support for undergraduate training of future teachers	Support for the training of teachers in vocational education at the ČZU in Prague	-	-	-	-	1 867
Ministry of Foreign Affairs	Supporting the implementation of the 2030 Agenda for Sustainable Development and its goals in Brazil	The 2030 Agenda for Sustainable Development and its Goals in Brazil	-	-	-	-	50
State Environmental Fund	1st call - Strategic projects of the Karlovy Vary region - Operational program fair transformation	Smart landscape 2030+	-	-	-	-	75 852
Municipality of Capital city Prague	MHMP: Tourism support program for 2024	IENE 2024	-	-	-	-	90
TA ČR	TAČR - SIGMA - 4. VS - DC1 Support of "Proof of Concept"	SIGMA proof-of-concept activities at ČZU in Prague	-	-	-	-	1 344

	activities in research organizations						
MŠMT	Program INTER-EXCELLENCE II, section INTER-COST – LUC24	The untapped potential of biochar for carbon mitigation	-	-	-	-	2 933
MŠMT	ERC CZ - 8. public competition	CLARA_CZ - Impact of climate change on seasonal variability of mortality in Europe	-	-	-	-	1 263
Total			895460 35324 EUR	771247 30424 EUR	548692 21645 EUR	387125 15271 EUR	483576 19076 EUR

In the role of another participant. **The amounts are in CZK, final amounts are recalculated to EUR in the ratio CZK:EUR = 1:25.35**

Provider / Investor	Programme/Grant Scheme	Project name	Support (in thousands CZK)				
			2020	2021	2022	2023	2024
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2017	Methods of monitoring the resistance of economically important pests and weeds to plant protection products and anti-resistance strategies	747	-	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2017	The role of sperm phenotypic plasticity in speciation	641	641	-	-	-
TA ČR	TAČR Program EPSILON 2nd competition	New procedures for ascertaining the status of protected areas in the applied livestock grazing	352	-	-	-	-
TA ČR	TAČR Program EPSILON 2nd competition	Development and innovation of machines for effective technologies of subsurface application of slurry and digestate to the soil	412	-	-	-	-
TA ČR	TAČR Program EPSILON 2nd competition	World-new application technology of Etandinitrile EDN for the treatment of soil and soil substrates as an ecological alternative to methyl bromide	750	-	-	-	-
TA ČR	TAČR Program EPSILON 2nd competition	Development of a technical measure to prevent the migration of undesirable fish species over the Lipno ÚN in order to support the restoration of the population of brown trout and pearl brook trout	1 018	-	-	-	-
TA ČR	TAČR Program EPSILON 2nd competition	Artificially constructed wetlands on agricultural drainage to increase water retention in the landscape and improve its quality	1 031	-	-	-	-
TA ČR	TAČR Program EPSILON 2nd competition	An early flash flood prediction system based on direct infiltration measurement	450	-	-	-	-
TA ČR	TAČR Program EPSILON 2nd competition	The effect of the application of biologically transformed organic matter and biochar on the stability of the productive properties of soils and the reduction of environmental risks	713	-	-	-	-
TA ČR	TAČR Program EPSILON 3rd competition	Research and development of machines for precise zonal systems of cultivation of field crops	666	-	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2017	Increasing the reliability of the national genomic evaluation of dairy cattle by including cows with domestic performance in the genotyped reference population	600	600	600	-	-

Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2017	Development of promising oat genotypes with low celiac reactivity and high nutritional quality	600	600	600	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Establishment and cultivation of mixtures of preparatory and target tree species fulfilling production and non-production functions of the forest in the area of large-scale dying spruce stands	600	600	600	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Creation of detailed current maps of soil properties of the Czech Republic based on the use of data from the Comprehensive Soil Survey and digital soil mapping methods	715	-	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Optimization of the subsidy title for afforestation of agricultural land	820	820	820	820	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Reducing the load on surface water by sources of surface agricultural pollution when applying drainage outflow regulation on existing agricultural drainage structures	444	444	444	444	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Procedures for the support of white fir in the forest management of the Czech Republic	468	468	468	468	-
Ministry of Industry and Trade	TRIO 2. public competition in research, development and innovation	Maintenance management information system with benchmarking superstructure and taking into account the Industry 4.0 challenge	1 130	-	-	-	-
MŠMT	Program INTER-EXCELLENCE, section INTER - COST, LTC19	Pilot strategic plan to combat resistant strains of parasitic worms in Czech ruminant farms	412	412	-	-	-
TA ČR	TAČR Program ÉTA 2nd competition	The role of mileposts in terms of cultural heritage and landscape protection	1 350	1 350	-	-	-
TA ČR	TAČR Program ÉTA 2nd competition	Availability of drinking water for residents of small villages as an indicator of socio-economic development of society	557	557	-	-	-
TA ČR	TAČR Program EPSILON 4th competition	Agroforestry systems for the protection and restoration of landscape functions threatened by the effects of climate change and human activity	11	11	11	-	-
TA ČR	TAČR Program EPSILON 4th competition	Plant protection innovation in sugar beet production and storage	11	11	11	-	-
TA ČR	TAČR Program EPSILON 4th competition	Systems of application of liquid organic fertilizers as a means of improving the soil environment, increasing the utilization of nutrients by plants and as a means of minimizing the impact on the environment	832	832	832	832	-
Ministry of Interior	Security research of the Czech Republic 2015 - 2020 - 2nd public competition	Disposal of radioactively contaminated biomass after a nuclear power plant accident - distribution in the countryside, harvesting logistics, use of biogas technology	1 514	-	-	-	-
TA ČR	TAČR Program ÉTA 2nd competition	Direct election of mayors	282	282	-	-	-
Ministry of Interior	Security research of the Czech Republic 2015 - 2022 - 3rd public competition	Optimization of procedures for the implementation of plant production in the area affected by a nuclear accident	11	11	11	-	-
TA ČR	TAČR Program ÉTA 2nd competition	Innovative tools for diagnosing and improving the fertilizing ability of sperm	935	935	-	-	-
Czech Science Foundation	GAČR Public competition to	Effects of methylxanthine-based biocides on the properties of wood for structural purposes	581	581	-	-	-

(GAČR)	support standard, junior and international projects 2018						
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2018	Does increasing CO2 concentration reduce the sensitivity of European temperate conifers to drought?	815	815	-	-	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2018	An interdisciplinary study of element cycling in mountain lakes and their forest catchments rejuvenating after tree canopy dieback	656	656	-	-	-
TA ČR	TAČR Program EPSILON 3rd competition	Autonomous guidance of sowing machines and automatic detection of excessively compacted subsoil	786	786	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Cultivation of wheat sown in a mixed crop to optimize soil nutrient status, protect against erosion, stabilize yield and produce quality	742	742	742	742	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	New procedures for saving endangered livestock populations	820	820	820	820	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Ensuring the long-term competitiveness of Czech hop farming based on the implementation of the principles of precision agriculture and smart farming technologies	802	802	802	802	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Creation of a reference population and development of procedures for estimating the genomic breeding values of the traits of pigs included in the Czech National Breeding Program.	921	921	921	921	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Elimination of risk factors for the health and reproduction of dairy cows using automated measurement and data collection systems	1 200	1 200	1 200	1 200	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Adaptation potential of wheat resistance to drought, heat and frost	652	652	652	652	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Development and application of molecular genetic methods for the rationalization of cherry (<i>Prunus avium</i> L.) breeding procedures	198	198	198	198	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	New traits of wheat to increase adaptation possibilities in the environment of global climate change	1 183	1 183	1 183	1 183	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Fattening of weasels as an economically and ethically acceptable solution to the ban and restriction of surgical castration	933	933	933	933	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Development and verification of spatial models of forest soil properties in the Czech Republic	812	812	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Innovation of potato cultivation systems in water resource protection zones with limited inputs of pesticides and fertilizers leading to reduction of water pollution and maintaining the competitiveness of potato growers	590	590	-	-	-

Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	The spread of ticks and tick-borne diseases: new and neglected risks for pets and livestock and humans	850	850	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	Innovation of the agricultural land credit system (BPEJ) for the needs of the state administration	795	795	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	A comprehensive solution for forest restoration and cultivation in areas with rapid large-scale forest loss	600	600	-	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2018	The effect of defensive measures on the populations of gorse-eaters depending on the population densities	1 302	1 302	-	-	-
TA ČR	TAČR Program of the National Competence Center 1st competition	Biorefining as a circular technology	1 557	1 557	1 557	-	-
TA ČR	TAČR EPSILON program 2nd competition	R&D technological lines for the processing of coconuts	928	-	-	-	-
Ministry of Industry and Trade	OP PIK: Call IV of the Knowledge Transfer Partnership support program	Development of dry biological preparation HIRUNDO and FIX-N for gardeners and seed dressing	746	746	-	-	-
TA ČR	TAČR EPSILON program 2nd competition	Load of selected components of the environment with perchlorethylene and its degradation products	407	-	-	-	-
MŠMT	Program INTER-EXCELLENCE, section INTER - COST, LTC18	Cultivation system suitable for long-term cultivation of human follicular cells	393	-	-	-	-
Ministry of Industry and Trade	TRIO 2. public competition in research, development and innovation	Advanced sorbents for the separation of microplastics and micropollutants from water	578	578	578	-	-
TA ČR	TAČR Program TREND 1st competition	Development of oak hardwood bonding systems for structural and non-structural exterior applications	2 355	2 355	2 355	-	-
Municipality of Capital city Prague	OP PPR: Call no. 32 – Support for technology and knowledge transfer from research organizations to practice III	PowerHUB - technology transfer	1 467	-	-	-	-
Municipality of Capital city Prague	OP PPR: Call no. 32 – Support for technology and knowledge transfer from research organizations to practice III	Tools for effective and safe rainwater management in the territory of Prague - RainPRAGUE	3 251	3 251	-	-	-
Ministry of Industry and Trade	TRIO: 4. public competition	Modularity of agricultural machinery with the support of advanced production technologies	755	755	755	-	-
MŠMT	Program INTER-EXCELLENCE, section INTER-ACTION Czech Republic – USA	New strategies for the development of antiparasitic molecules as human and veterinary drugs	816	816	816	-	-

TA ČR	TAČR Environment for life program 1st competition	The potential and risks of irrigation in the Czech Republic in a changing climate	-	-	-	-	-
TA ČR	TAČR Environment for life program 1st competition	Effective forest biodiversity inventory procedures and practical measures for its protection	327	327	327	-	-
TA ČR	TAČR Environment for life program 1st competition	Sustainable ways of recycling sewage sludge - Ústí Region (SS01020167)	1 789	1 789	1 789	1 789	-
TA ČR	TAČR Program TREND 1st competition	Modular automated treatment of industrial waters for their subsequent recycling	1 150	1 150	1 150	1 150	-
Ministry of Industry and Trade	TRIO: 4. public competition	Reducing the energy demand of transport by innovating the telematics system and introducing the evaluation of drivers' driving style	770	770	-	-	-
TA ČR	TAČR Program TREND 1st competition	Research and development of innovative school furniture using sensor technology	2 450	2 450	2 450	-	-
Czech Science Foundation (GAČR)	GAČR Standard projects 2019	Evolution of termite chemical communication	898	898	898	-	-
TA ČR	TAČR Program DELTA 2: 1st competition	VIBES - Embedded Intelligence Based on Advanced Methods of Machine Learning for Edge-Computing Systems with an Application in Livestock Management	897	897	897	897	-
TA ČR	TAČR Program EPSILON 4th competition	Research and development of smart farming technologies for small and medium-sized agricultural enterprises	512	512	512	-	-
TA ČR	TAČR Environment for life program 1st competition	Development of a tool for identifying the main risks of managing water resources in the Dyje basin and a methodology for their systemic solution in conditions of a changing climate	475	475	475	475	-
Czech Science Foundation (GAČR)	GAČR Public competition to support standard, junior and international projects 2017	Function spaces and approximations	178	178	-	-	-
TA ČR	TAČR Program DELTA 6th competition	Advanced hot water boiler system with low-emission automatic burners for standardized residual biomass fuel solids	871	871	-	-	-
MŠMT	CRP Centralized Development Program 2020	Partnership network for strengthening the social responsibility of universities in cooperation with partners in the regions	8 580	-	-	-	-
Municipality of Capital city Prague	OP PPR: Prague vouchers program 3rd challenge	Analysis of the effectiveness of shot silencers when using different calibers and ammunition	499	4 408	-	-	-
Municipality of Capital city Prague	OP PPR: Prague vouchers program 3rd challenge	Proposal for the development of an online map system to support the implementation of agro-environmental measures	498	4 408	-	-	-
Ministry of Industry and Trade	TRIO: 4. public competition	Design and production of a device prototype for local repairs of the functionality of inorganic surfaces	149	149	149	-	-
TA ČR	TAČR Environment for life program 2nd competition	Water systems and water management in the Czech Republic under conditions of climate change	893	893	893	893	893

Municipality of Capital city Prague	OP PPR: Prague vouchers program 3rd challenge	Development of a mobile application of the iOS platform to support movement in nature with a focus on hunters and hobby rescuers.	498	-	-	-	-
Municipality of Capital city Prague	OP PPR: Prague vouchers program 3rd challenge	Assessment of the properties of composite bullets in hunting cartridges	496	-	-	-	-
Czech Development Agency	Humanitarian Response II to the COVID-19 Pandemic (Ethiopia, Zambia)	Preventing the spread of Covid-19 and increasing the resilience of local communities to the effects of the pandemic in the Shabelle zone of Ethiopia	1 783	-	-	-	-
Czech Development Agency	Humanitarian Response II to the COVID-19 Pandemic (Ethiopia, Zambia)	Preventing the spread of Covid-19 in exposed locations and increasing the resilience of local communities in Zambia	4 522	-	-	-	-
TA ČR	TAČR Environment for life program 2nd competition	Center for Landscape and Biodiversity	-	8 889	8 889	8 889	8 889
Ministry of Industry and Trade	OP PIK - Application	Research and development of a control unit for vertical transport systems in intelligent buildings	346	346	346	-	-
TA ČR	TAČR Program ÉTA 4. competition COVID-19	Development of selected technologies in the conditions of the COVID 19 crisis and after it	564	564	564	-	-
Czech Science Foundation (GAČR)	GAČR Standard projects 2020	"Living" water - the complex response of aquatic animals to the presence of psychoactive substances from municipal pollution	564	564	564	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Sustainable management in smallholder forests	-	1 573	1 573	1 573	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Rational area of crops on soil blocks within the framework of DZES conditions setting to support sustainable farming in the Czech Republic.	-	1 500	1 500	1 500	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Obtaining vegetable oils using modern methods	-	793	793	793	793
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	A new set concept with the advent of 4.0 technology	-	1 155	1 155	1 155	1 155
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Adaptation of forestry for sustainable use of natural resources.	-	1 155	1 155	1 155	1 155
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	SMART FARMING - Variable profile application of fertilizers to the root growth zone of conventional crops	-	960	960	960	960
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Effective intercropping systems using the principles of biotic intensification	-	781	781	781	781
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Breeding of fruit species for resistance to abiotic influences in combination with a high content of antioxidant substances in fruits	-	745	745	745	745
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Innovation of integrated vegetable production while changing the spectrum of means of protection, improved monitoring of harmful organisms and reduction of pesticide risks in products	-	800	800	800	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Development of methods for controlling the handling of the quality of milk intended for further technological processing and ensuring its authenticity	-	1 114	1 114	1 114	1 114
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Development of methods to reduce the penetration of antibiotics into the environment in dairy farming	-	1 115	1 115	1 115	1 115

		as a support for the prevention of the emergence of antibiotic resistance of microorganisms					
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2020	Implementation of ecosystem services with a focus on water balance in viticultural practice	-	1 090	1 090	1 090	1 090
TA ČR	TAČR Environment for life program 3rd competition	Interdisciplinary approaches to effective stormwater management on development areas of urbanized areas in an economic, social and environmental context	-	773	773	773	-
TA ČR	TAČR Environment for life program 3rd competition	Optimization of the management of the lower section of the Elbe with regard to the presence of biotope 3270 and the improvement of the hydromorphological state based on an interdisciplinary study	-	1 366	1 366	1 366	-
Czech Science Foundation (GAČR)	GAČR Standard projects 2020	The influence of the environment on the rise and fall of the oldest plant communities that populated the Silurian volcanic islands of the Prague Basin (Czech Republic)	-	998	998	998	-
TA ČR	TAČR Program TRANSPORTATION 2020+ 2.competition	Monitoring and evaluation of risk phenomena in the vicinity of transport infrastructure using DPZ	-	945	945	945	945
TA ČR	TAČR Program TRANSPORTATION 2020+ 2.competition	Research into measures to prevent collisions between motor vehicles and large mammals on low grade roads	-	1 040	1 040	1 040	-
TA ČR	TAČR Program TRANSPORTATION 2020+ 2.competition	Prediction of tree fall to ensure the safety of railway traffic	-	331	331	331	-
Municipality of Capital city Prague	OP PPR: Prague vouchers program 3rd challenge	Analyzes of the nutritional composition of cricket flour	408	-	-	-	-
TA ČR	TAČR Program DELTA 2: 2. competition	Development of healthy products based on fresh cheese adapted for the market in Vietnam and the Czech Republic	-	-	1 031	1 031	1 031
Czech Science Foundation (GAČR)	GAČR Standard projects 2020	Eneolithic long barrows in Bohemia and the reconstruction of the ritual landscape below Říp	-	490	490	490	-
TA ČR	TAČR Program Environment for life 4th competition	Center for Socio-Economic Research on the Impact of Environmental Policies - SEEPIA	-	523	523	523	523
TA ČR	TAČR Program TREND 3rd Technological Leaders competition	RESEARCH AND DEVELOPMENT OF THE CLEANING AND RECYCLING TECHNOLOGY OF USED COOKING OILS, INCLUDING THEIR COLLECTION SYSTEM	-	1 250	1 250	1 250	1 250
TA ČR	TAČR Program TREND 3rd Technological Leaders competition	A system for streamlining plant production and microbiological processes	-	450	450	450	-
TA ČR	TA ČR CHIST-ERA - Call 2019	Mapping the health status of forests, tree species and forest risks using innovative ICT data and approaches	-	912	912	912	912
MŠMT	Program INTER-EXCELLENCE, section INTER-EUREKA - 7. National call	AgriClima – Development of innovative climate systems	250	250	250	-	-
Municipality of Capital city Prague	OP PPR: Prague vouchers program 3rd challenge	Digi school - educational platform	412	4 408	-	-	-

Municipality of Capital city Prague	OP PPR: Prague vouchers program 3rd challenge	QUESTIONING AND FEEDBACK IN VIRTUAL REALITY	357	-	-	-	-
Ministry of Industry and Trade	OP PIK: Application – Call VIII	Advanced design methods for the functional design of agricultural machinery using state-of-the-art numerical methods	-	2 203	2 203	2 203	-
MŠMT	Společné česko-rakouské výzkumné projekty s dobou řešení 2021 – 2022	Long-term trials as a valuable resource for grassland research	-	-	28	-	-
Ministry of Industry and Trade	OP PIK: Application – Call VIII	MAXSTO application project	-	778	778	778	-
State Agricultural Intervention Fund	PRV 16.2.1. Support for the development of new products, procedures and technologies in agricultural primary production	Implementation of autonomous systems in agricultural production	321	321	-	-	-
MŠMT	Cultural Heritage, Identities & Perspectives: Responding to Changing Societies	CULTIVATE (Co-creating cultural narratives for sustainable rural development)	-	1 514	1 514	1 514	1 514
Ministry of Industry and Trade	OP PIK: Application – Call VIII	Extension and innovation of the IterSoft forestry system	-	1 012	1 012	1 012	-
Czech Science Foundation (GAČR)	GAČR Lead Agency CEUS - Slovenia 2021	INPROFF: Quality, safety and authenticity of food and feed based on insect protein	-	1 834	1 834	1 834	1 834
Ministry of Industry and Trade	OP PIK: Infrastructure services - Challenge VII	A universal collaborative drone system	-	2 038	2 038	2 038	2 038
TA ČR	TAČR Program THÉTA 4. public competition	Study of the availability of UCO waste material for its efficient processing into an energy source	-	-	1 641	1 641	1 641
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Changes in forest soils after catastrophic logging - the effect of deforestation on carbon sequestration, nutrient balance and mobility of risk elements	-	-	1 200	1 200	1 200
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Conditions for growing maize sown on soil at high risk of erosion	-	-	1 192	1 192	1 192
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	The potential of geographically non-indigenous species of trees in the forest management of the Czech Republic	-	-	1 000	1 000	1 000
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Analysis and adjustments of compost application schemes aimed at strengthening the soil protection system within the framework of stabilizing production capacity	-	-	812	812	812
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	New methods of classifying the JUT of pigs	-	-	1 663	1 663	1 663
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Alternative procedures for the protection of potatoes against diseases and pests, minimizing the negative impact on	-	-	800	800	800

Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Identification of surviving individuals of forest trees on disaster areas, their rescue and research on their resistance	-	-	249	249	249
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Comprehensive evaluation of the fulfillment of production and non-production functions of the forest in stands of preparatory tree species	-	-	800	800	800
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Implementation of BPEJ innovations into the state administration system	-	-	1 501	1 501	1 501
Czech Science Foundation (GAČR)	GAČR Standard projects 2022	Effect of nitrogen availability and forest condition on soil microbiome, element cycling and biological recovery of acidified waters in hot ecosystems.	-	-	814	814	814
TA ČR	TAČR Program TREND 4th competition Novices	Increasing the profitability of sugar beet cultivation in the context of an increased incidence of viral yellows and a sustainable reduction of the share of pesticides in the EU	-	-	900	900	900
Czech Science Foundation (GAČR)	GAČR Standard projects 2022	River cultural landscape of the Jizera from the Mesolithic to the Early Middle Ages in the light of archaeological sources and hydrological data	-	-	821	821	821
Czech Science Foundation (GAČR)	GAČR Standard projects 2022	Cow excrement and manure as a reservoir of acinetobacter posing a risk to human health	-	-	1 171	1 171	1 171
Czech Science Foundation (GAČR)	GAČR Standard projects 2022	The ongoing global invasion of the zoonotic nematode <i>Angiostrongylus cantonensis</i> : analysis of the risks of spread in Europe	-	-	1 471	1 471	1 471
TA ČR	TAČR Program DELTA 2: 3. competition	Integrated organic agriculture and green infrastructure towards intelligent and responsible resource management: the Hydrosphere-Pedosphere nexus	-	-	1 178	1 178	1 178
Czech Science Foundation (GAČR)	GAČR International projects for 2022	The role of microbiota in influencing intestinal immunity and vector competence of ticks	-	-	1 608	1 608	1 608
TA ČR	TAČR Environment for Life Program 5th competition	The spread of invasive parasite species and the devastating impacts on the biodiversity of native ruminant species	-	-	931	931	931
TA ČR	TAČR Environment for Life Program 5th competition	Introduction of new methodological procedures in soil protection against erosion	-	-	500	500	-
TA ČR	TAČR Environment for Life Program 5th competition	Identification of risky changes in the structure and diversity of wetland alders and alder lichens due to the invasion of alder fungus (<i>Phytophthora alni</i>) and determining the perspective of community development	-	-	1 008	1 008	1 008
TA ČR	TAČR Environment for Life Program 5th competition	Research on the combination of biobelts with vertical agrivoltaic systems as part of agro-environmental-climatic measures leading to the promotion of biodiversity	-	-	167	167	167
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2021	Intensification of ecological production of legumes through biological means with the aim of improving their health status	-	-	1 125	1 125	1 125
TA ČR	ERA-MIN - Call 2021	Phosphogypsum Processing to EU Critical Raw Materials (PG2CRM)	-	-	956	956	956
Ministry of Industry and Trade	OP PIK: Application-Call VIII	AIDIGI - Use of artificial intelligence tools to increase the efficiency of e-commerce activities, especially for e-shops and gastro chains	-	1 320	1 320	1 320	-

Czech Science Foundation (GAČR)	GAČR Lead Agency Poland 2023	Effect of silicon on the spectral and physiological properties of buckwheat cultivars under water stress conditions	-	-	2 967	2 967	2 967
Ministry of Health	Program to support applied medical research for the years 2020 – 2026	The effect of a low-carbohydrate diet on the control of type 1 diabetes and the development of islet autoimmunity	-	464	464	464	464
Czech Development Agency	Development of an integrated approach to farming in the Western Province of Zambia, III. phase	Integrated farming III.	-	-	31 614	-	-
Czech Development Agency	More productive and resilient farmers in the Western Province of Zambia	BIO GAS TECHNOLOGY FOR HIGHER RESILIENCE OF COMMUNITIES IN THE WESTERN PROVINCE OF ZAMBIA	-	829	829	829	829
MŠMT	CRP Centralized Development Program 2022	Social security at Czech universities in the context of academic ethics	-	-	1 504	-	-
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	Setting of DZES 5 measures to protect agricultural land from wind erosion and drying of the landscape.	-	-	-	501	501
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	Development of strategies for reducing greenhouse gas and ammonia emissions from livestock farming in the Czech Republic	-	-	-	400	400
MŠMT	CRP Centralized Development Program 2022	Opportunities and challenges of implementing the European Commission's Erasmus Without Paper initiative and activities in the context of the European Student Card Initiative	-	-	700	-	-
MŠMT	CRP Centralized Development Program 2022	Development of tools for identity verification, electronicization of agendas, documents and meetings aimed at the administration of universities	-	-	420	-	-
MŠMT	CRP Centralized Development Program 2022	Implementation of standards for quality assurance of educational activities for various forms of study into the accreditation process and quality assurance system at individual universities	-	-	475	-	-
MŠMT	CRP Centralized Development Program 2022	Support for the introduction of an information security management system in the VVŠ environment	-	-	152	-	-
MŠMT	CRP Centralized Development Program 2022	Streamlining the study and psychological counseling system incl. provision of online services for students and employees of VVŠ	-	-	666	-	-
MŠMT	CRP Centralized Development Program 2022	Communication of the priorities and topics of the Czech presidency to the Council of the EU with a focus on issues of higher education, science and research in the Czech Republic and abroad	-	-	142	-	-
MŠMT	CRP Centralized Development Program 2022	SUSTAINABILITY AND FURTHER DEVELOPMENT OF VIRTUAL MOBILITIES IN UNIVERSITIES	-	-	3 400	-	-
MŠMT	CRP Centralized Development Program 2022	Increasing the availability of VVS economic information	-	-	3 225	-	-
MŠMT	CRP Centralized Development Program 2022	Analyzes of DEPO's impact on the higher education sector	-	-	6 000	-	-

MŠMT	INTER-ACTION - Česká republika – Spojené státy americké (LUAUS23)	Development of new chemotherapeutics against human and veterinary parasitic infections	-	-	-	680	680
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	Sustainability of growing practices in horticulture using targeted applications and robotic platforms	-	-	-	2 000	2 000
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	New directions in piglet production with an emphasis on welfare, environmental protection and production economics	-	-	-	1 231	1 231
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	What We Don't Know About Organic Pollution of Drinking and Irrigation Water Sources: Identifying Emergent Compounds Using Non-Targeted Screening	-	-	-	1 185	1 185
MŠMT	INTER-ACTION – Czech Republic-USA	Primary microbiota and its importance for the health status of premature infants: A study on an experimental gnotobiotic piglet model	-	-	-	732	732
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Monitoring the dynamics of the development of dry episodes and their classification on a global scale - DynamicDrought	-	-	-	1 131	1 131
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Towards an understanding of the processes responsible for the loss of agricultural landscape biodiversity: lessons from the birds of Central Europe	-	-	-	1 413	1 413
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	The role of prenylation and glycosylation in the anti-inflammatory activity and metabolism of natural phenolics	-	-	-	1 188	1 188
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Metals and their isotopes in the environment of active and abandoned mining areas of sub-Saharan Africa - understanding their geochemistry and environmental impacts	-	-	-	960	960
TA ČR	TAČR Program of the National Center of Competence (NCK) 2nd public competition	Biorefining and circular economy for sustainability	-	-	-	4 200	4 200
TA ČR	TAČR TREND 5G 7. public competition	5G Platform for precision agriculture	-	-	-	2 072	2 072
TA ČR	TAČR TREND Technological leaders 6th public competition	Precise zonal application of liquid fertilizers	-	-	-	754	754
TA ČR	TAČR TREND Technological leaders 6th public competition	Predictive maintenance of machinery using statistical and operational data within Industry 4.0	-	-	-	1 080	1 080
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	Complex laboratory strategy for the identification of insect species intended for human consumption and the production of processed animal protein, authentication of foods based on it	-	-	-	1 000	1 000
Czech Science Foundation (GAČR)	GAČR Standard projects 2019	Temperate montane forest dynamics: its long-term drivers and diversity on a continentality gradient	1 599	1 599	1 599	1 599	-
MŠMT	CRP Centralized Development Program 2022	University leaders in SDG (UNILEAD)	-	-	9 062	-	-

MŠMT	CRP Centralized Development Program 2022	Development and strengthening of the position of the NIGHT OF SCIENTISTS as a platform for systematic year-round presentation and popularization of science, research and creative activities of universities in the Czech Republic.	-	-	2 219	-	-
Czech Science Foundation (GAČR)	GAČR Standard projects 2023	Heat waves as three-dimensional phenomena	-	-	-	1 003	1 003
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) 2022	Creation and verification of model systems of long-term carbon sequestration in the Czech Republic	-	-	-	1 100	1 100
MŠMT	Call for submission of project proposals within the framework of the National Renewal Plan for the Higher Education Area for 2022-2024	Improving access to education at the university level using microcredentials	-	-	358	358	358
MŠMT	Call for submission of project proposals within the framework of the National Renewal Plan for the Higher Education Area for 2022-2024	Safety of distance education	-	-	1 857	1 857	1 857
MŠMT	Call for submission of project proposals within the framework of the National Renewal Plan for the Higher Education Area for 2022-2024	Digitization of activities directly related to the provision of educational activities and administrative tasks associated with the study agenda	-	-	2 948	2 948	2 948
TA ČR	TAČR Environment for life 6th public competition	Biological diversity of the overgrown edges of ponds in the Třeboňsko Protected Area: status assessment and proposed solution	-	-	-	875	875
TA ČR	TAČR Environment for life 6th public competition	Adaptation of urbanized areas to flash floods and drought	-	-	-	450	450
TA ČR	TAČR Environment for life 6th public competition	Quantification of carbon stocks in forest soils of the Czech Republic and the possibility of its influence by forest management	-	-	-	684	684
Ministry of Interior	MV SDG Call no. 32: Digital services for end users	Implementation of the SDG Regulation - Introduction of the Higher Education Service	-	-	-	2 026	2 026
MŠMT	CRP Centralized Development Program 2023	Development and maintenance of the important position of the NIGHT OF SCIENTISTS as a platform for systematic year-round presentation and popularization of science, research and creative activities of universities in the Czech Republic.	-	-	-	470	-
MŠMT	CRP Centralized Development Program 2023	Building situational awareness in VVŠ cyberspace and effective response to crisis situations	-	-	-	500	-
MŠMT	CRP Centralized Development Program 2023	Prevention of unethical behavior on campus and promotion of victim care competencies	-	-	-	498	-

MŠMT	CRP Centralized Development Program 2023	Teaching quality standards at Czech universities	-	-	-	745	-
MŠMT	CRP Centralized Development Program 2023	Engagement for sustainability - University leaders in SDGs II (UNILEAD II)	-	-	-	750	-
Ministry of Health	MZ Program to support applied medical research for the years 2020–2026	Bartonellosis in the Czech Republic as an overlooked disease: sources and risks of infections	-	-	-	1 238	1 238
MŠMT	Operational program Jan Amos Komenský (OP JAK): Top research	AdAgriF - Advanced methods of greenhouse gas emission reduction and sequestration in agricultural and forest landscapes for climate change mitigation	-	-	-	3 992	3 992
MŠMT	CRP Centralized Development Program 2023	Coordinated development of economic applications of universities	-	-	-	698	-
Czech Science Foundation (GAČR)	GAČR Lead Agency 2024	GRACE: Grassland communities during 300 years of a large-scale natural experiment	-	-	-	1 624	1 624
MŠMT	Program INTER-EXCELLENCE II, section INTER-COST – LUC23	Safe, sensorially attractive heat-processed cereal foods with a low asparagine content	-	-	-	657	657
MŠMT	OP TAK: Application - call I.	Robotic systems for precision agriculture	-	-	-	4 700	4 700
MŠMT	Program for financing projects of multilateral scientific and technical cooperation in the Danube region - MSTC DANUBE - Call 8X23	Indicators of genetic diversity of local breeds of sheep and goats from the Slovak Republic, Austria, the Czech Republic, Serbia and Montenegro	-	-	-	-	322
Czech Science Foundation (GAČR)	GAČR Lead Agency 2024	Decontaminated biochar from sewage sludge, an effective fertilizer and agent for improving soil properties	-	-	-	1 809	1 809
Czech Science Foundation (GAČR)	GAČR Lead Agency 2023 - Slovenia	Genetic background of baroque and working horse breeds	-	-	-	1 103	1 103
Czech Science Foundation (GAČR)	GAČR Standard projects 2024	Triatominae and Cimicidae: ecological, evolutionary and genomic contrast between "open" and "closed" symbioses.	-	-	-	-	634
State Environmental Fund	nd call - Strategic projects of the Ústí Region - Operational program fair transformation	RUR – University of the Region, University of the Region	-	-	-	27 000	27 000
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Sustainable antiparasitic programs in small ruminant farms	-	-	-	-	1 332
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Smart tools for managing irrigation systems and improving the water balance of agricultural land	-	-	-	-	980
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Methods of integrated plant protection in the area of vegetable cultivation with a focus on the changing spectrum of active substances	-	-	-	-	1 180

Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Economically and operationally suitable alternative housing for replacing cage technologies in farrowing sows while maintaining the viability of piglets	-	-	-	-	1 107
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Agrovoltaics dual use of land for agricultural production and electricity generation	-	-	-	-	1 153
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Impact of climate change on evapotranspiration and water balance in the landscape in the context of security and sustainability of water resources	-	-	-	-	1 000
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Assessment of the impact of the occurrence of invasive species and proposals for effective solutions for their eradication	-	-	-	-	1 447
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Update of the Forestry-typological classification system with evaluation of the influence of meso and microclimate with regard to ongoing climate changes	-	-	-	-	131
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Colored wheat and barley - a challenge for the future	-	-	-	-	1 171
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	Innovative use of matolin, grain husks and residual bran for the creation of products with high added value	-	-	-	-	875
Ministry of Industry and Trade	OP TAK: Application – call I.	Electric motor with reactive torque sensing for advanced monitoring and diagnostics	-	-	-	-	1 614
MŠMT	Operational program Jan Amos Komenský (OP JAK): Top research	Natural and anthropogenic geohazards	-	-	-	-	1 053
Ministry of Agriculture	NAZV Program ZEMĚ (Earth) II 2023	System of environmental-technical optimization of spatial parameters of agricultural land in the context of permanent efficient management	-	-	-	-	688
Ministry for Regional Development	Interreg Czech Republic-Saxony 2021–2027	Causes of the decline in the diversity of grasslands in the protected border areas of the Czech Republic and Saxony.	-	-	-	-	1 632
TA ČR	TAČR - Environment for life 7th public competition	Genetic monitoring of the wolf	-	-	-	-	2 191
TA ČR	TAČR - Environment for life 7th public competition	Updating the numbers of runoff curves as prevention of floods and droughts in the Czech Republic	-	-	-	-	1 933
TA ČR	TAČR - Environment for life 7th public competition	Recycling of phosphorus from sludge water in a form suitable for agricultural use	-	-	-	-	869
TA ČR	TAČR - Environment for life 7th public competition	Northern raccoon as a threat to native ecosystems in the Czech Republic: food requirements, habitat preferences, population potential and eradication options	-	-	-	-	1 278
MŠMT	Eurogia CALL22 - Low-carbon Energy Technologies	EURAgrCFP - Decarbonising the carbon footprint of agricultural production in Europe	-	-	-	-	2 276
Ministry of Industry and Trade	OP TAK: Application – call I.	Forest commodities portal and forestry geoportal	-	-	-	-	1 165

Ministry of Industry and Trade	OP TAK: Application – call I.	Research and development of large-format vertical gardens for industrial buildings	-	-	-	1 373	1 373
Total			71 034 2802 EUR	104831 4135 EUR	137814 5436 EUR	162383 6406 EUR	157358 6207 EUR

Note: Please summary list GA CR, TA CR and other departmental projects. For co-sponsor projects, please indicate the financial volumes for the HEI. Projects financed from EU structural funds and focused exclusively on R&D&I (e.g. OP JAK, OP TAK, NPO) and projects financed from regional sources focused exclusively on R&D&I list individually. For co-sponsoring projects, please indicate the financial volumes for the evaluated HEI only.

4.10.5 Projects supported from non-public sources

In the role of beneficiary . The amounts are in CZK, final amounts are recalculated to EUR in the ratio CZK:EUR = 1:25.35						
Provider / Investor	Project name	Support (in thousands CZK)				
		2020	2021	2022	2023	2024
United Nations Development Programme	Přeměna vinného odpadu v zisk: možnosti moldavského vinařského průmyslu	252	252	-	-	-
International - undifferentiated	Evaluation of Geographical Indications and Traditional Specialities Guaranteed protected in the EU	141	-	-	-	-
International - undifferentiated	Bacterial strein rights	-	2 264	-	-	-
International - undifferentiated	Case study Espon EGTC "COMPASS spin-off	-	58	58	-	-
International - undifferentiated	Agrinatura VCA4D - Aquaculture value chain study in Georgia	-	287	-	-	-
International - undifferentiated	Strengthening country capacities for NDC implementation in the Agriculture and LULUCF Sectors and supporting the identification of potential Direct Access Entities from different sectors relevant for the implementation of the Country Work Programme in Aze	-	831	-	-	-
International - undifferentiated	ELLS Bioeconomy for PhD education and research	-	-	30	-	-
International - undifferentiated	Ikombayev - International internship - 2022/2023	-	-	157	157	-
International - undifferentiated	VCA4D Georgia Aquaculture Worskhop	-	-	33	33	-
International - undifferentiated	Series of climate risk analysis to fulfill the risk assessment need and eventually provide recommendations on the adaptations strategies that could be implemented to mitigate the risk by climate and socio-economic changes in Pakistan	-	-	878	878	-
International - undifferentiated	Supporting the recovery of bird species of Annex II of the Birds Directive in non-secure conservation status	-	-	1 174	1 174	1 174
International - undifferentiated	UniMob	-	-	-	25	-
United Nations Development Programme	Nutritional Rich Powders for Fortified Diet, Cambodia	-	-	-	125	125
International - undifferentiated	Analysis of the Cashmere Value Chain in Mongolia	-	-	-	500	500
International - undifferentiated	WORLD ECOSYSTEM EXTENT DYNAMICS	-	-	-	-	435

United Nations Development Programme	Vermiculture based Sustainable Organic Innovative Livelihoods	-	-	-	-	5 079
International - undifferentiated	AFA Workshop	-	-	-	-	63
Ministry of Environment	Monitoring of forest ecosystems in the Praděd NPR in the period 2016-2023	124	62	62	62	-
Czech Republic-undifferentiated	Application of gasification technologies in the energy use of conifers from bark and calamite mining	1 885	-	-	-	-
Czech Republic-undifferentiated	SEA – environmental impact assessment of the implementation of the Transport Operational Program for the 2021-2027 program period"	567	-	-	-	-
Czech Republic-undifferentiated	Ensuring the assessment of the effects of the Partnership Agreement for the 2021 - 2027 program period on the environment (SEA process)	502	-	-	-	-
Czech Republic-undifferentiated	Management of the kneecap (Pinus mugo Turra) in NPR Praděd and PR Břidličná and support of management planning and species diversity of forest ecosystems in NPR Králický Sněžník	274	807	54	-	-
Czech Republic-undifferentiated	Study of climatic characteristics for the purposes of dimensioning PSZ elements and assessment of project documentation for the implementation of water management structures	1 850	-	-	-	-
Czech Republic-undifferentiated	UX design of FS CR forms	1 994	-	-	-	-
Czech Republic-undifferentiated	Methods of adaptation of existing forest soil drainage structures to changing climatic conditions	-	667	667	667	-
Czech Republic-undifferentiated	Advice and monitoring of diseases and abiotic damage of field and greenhouse vegetables and objective assessment of pollinator behavior using modern methods RFID chips	975	-	-	-	-
Czech Republic-undifferentiated	VZMR - Úhlava, km 83,708, Bystrice dam, reconstruction of the dam and construction of a fish crossing - biological monitoring	-	-	275	275	-
Czech Republic-undifferentiated	Digi school - expansion of educational platform modules	-	4 408	-	-	-
Czech Republic-undifferentiated	The LES data platform and its community-wide functions	-	4 408	-	-	-
Czech Republic-undifferentiated	Monitoring of potato growth on research plots	-	78	-	-	-
Czech Republic-undifferentiated	Analysis of management conditions and economic results of state forest organizations in the Central European region and proposal of benchmarking methodology	541	-	-	-	-
Czech Republic-undifferentiated	Order for the production of components	75	-	-	-	-
Czech Republic-undifferentiated	Verification of the application procedure of mycorrhizal fungi on biochar for industrial use	130	-	-	-	-
Czech Republic-undifferentiated	Analysis of genetic samples of large carnivores for the needs of the "Coexistence with large carnivores" project, implemented as part of the Environmental Operational Program	-	1 380	230	-	-

Czech Republic-undifferentiated	Cognitive Medical Network s.r.o.-AI diagnosis of chronic eye diseases	-	496	-	-	-
Czech Republic-undifferentiated	Vision of the management and development of the Central Park in the 2050 horizon	-	20	-	-	-
Czech Republic-undifferentiated	Drought and water shortage management plan for Hl. m. Prague	-	-	600	-	-
Czech Republic-undifferentiated	Consulting and revision activities - Evaluation of the impact of the revitalization of the Sandberg sand pit	-	-	-	20	-
Czech Republic-undifferentiated	Framework contract on contractual research PO 223/2022	-	-	-	100	-
Czech Republic-undifferentiated	Analyzes of the development of the hydrological balance and extremes	-	-	-	1 150	-
Czech Republic-undifferentiated	Plants for tree construction Prague 6 - 2 pcs	-	-	100	-	-
Czech Republic-undifferentiated	Consulting services in the field of garden architecture - implementation of the hotel "Pták Ohnivák" in the village of Mnichovice	-	-	100	-	-
Czech Republic-undifferentiated	Territorial study of the Metropolitan area of České Budějovice, part LANDSCAPE - Natural and recreational potential of the area	-	-	-	650	-
Czech Republic-undifferentiated	Contracted research - field trial investigation on Cannabis	-	-	160	-	-
Czech Republic-undifferentiated	DZ Černolice	-	-	120	-	-
Czech Republic-undifferentiated	Development of tools and algorithms for automated stand assessment	-	-	190	-	-
Czech Republic-undifferentiated	Traffic load research at Pavlov and Dobrovíz sites - panattoni.cz	-	-	157	-	-
Czech Republic-undifferentiated	Amendment TP 53 – Anti-erosion measures on road slopes	-	-	-	315	-
Czech Republic-undifferentiated	Monitoring of aquatic macrophytes	-	-	-	-	252
Czech Republic-undifferentiated	Inventory of mother-of-pearl populations and detailed site monitoring	-	-	-	-	1 035
Total		9 310	12 577	2 715	3 239	1 286
		367	496	107	127	11.3
		EUR	EUR	EUR	EUR	EUR
In the role of another participant . The amounts are in CZK, final amounts are recalculated to EUR in the ratio CZK:EUR = 1:25.35						
Provider / Investor	Project name	Support (in thousands CZK)				
		2020	2021	2022	2023	2024
Czech Republic-undifferentiated	Risk assessment and proposal of measures to prevent the occurrence and spread of natural fires in the immediate vicinity of surface sources of drinking water, including consideration of the consequences of climate change	867	867	-	-	-
Czech Republic-undifferentiated	Research and Education in Fruit Production, Processing and Consumption in Southern Ethiopia	-	647	647	647	-
European Space Agency	WOrld SOils MOonitoring System (WOSMOS)	881	881	-	-	-
European Commission	Developing tool to support farmland bird conservation in the EU	271	271	271	-	-
International - undifferentiated	Bacterial strein rights	-	2 264	-	-	-
International - undifferentiated	Case study Espon EGTC "COMPASS spin-off	-	58	58	-	-

International - undifferentiated	Agrinatura VCA4D - Aquaculture value chain study in Georgia	-	287	-	-	-
International - undifferentiated	Strengthening country capacities for NDC implementation in the Agriculture and LULUCF Sectors and supporting the identification of potential Direct Access Entities from different sectors relevant for the implementation of the Country Work Programme in Aze	-	831	-	-	-
International - undifferentiated	ELLS Bioeconomy for PhD education and research	-	-	30	-	-
International - undifferentiated	Ikombayev - International internship - 2022/2023	-	-	157	157	-
International - undifferentiated	VCA4D Georgia Aquaculture Worskhop	-	-	33	33	-
International - undifferentiated	Series of climate risk analysis to fulfill the risk assessment need and eventually provide recommendations on the adaptations strategies that could be implemented to mitigate the risk by climate and socio-economic changes in Pakistan	-	-	878	878	-
International - undifferentiated	Supporting the recovery of bird species of Annex II of the Birds Directive in non-secure conservation status	-	-	1 174	1 174	1 174
International - undifferentiated	UniMob	-	-	-	25	-
United Nations Development Programme	Nutritional Rich Powders for Fortified Diet, Cambodia	-	-	-	125	125
International - undifferentiated	Analysis of the Cashmere Value Chain in Mongolia	-	-	-	500	500
International - undifferentiated	WORLD ECOSYSTEM EXTENT DYNAMICS	-	-	-	-	435
United Nations Development Programme	Vermiculture based Sustainable Organic Innovative Livelihoods	-	-	-	-	5 079
International - undifferentiated	AFA Workshop	-	-	-	-	63
Czech Republic-undifferentiated	Dresville s.r.o.	489	-	-	-	-
Czech Republic-undifferentiated	Dresville, s.r.o. - Dressville	-	4 408	-	-	-
Czech Republic-undifferentiated	The use of process control elements and the introduction of standards for the execution of priority agendas of public administration	245	-	-	-	-
Czech Republic-undifferentiated	Analysis and optimization of possible approaches to the deployment of automated mechanization in forestry.	-	1 000	1 000	-	-
Czech Republic-undifferentiated	Product/technology development to suppress cadmium uptake and accumulation in poppy plants	210	-	-	-	-
Czech Republic-undifferentiated	Modification of the study - landscaping - inner block of Halasova	-	65	-	-	-
Czech Republic-undifferentiated	Evaluation of the possibilities of revitalization of public space at ul. Hvězdova on plot 2910/98 c.ú. Nusle	-	-	70	-	-
Czech Republic-undifferentiated	Elaboration of the vision for the management and development of the Pankrác Central Park in the 2050 horizon	-	-	164	-	-
Czech Republic-undifferentiated	Urban studies of the village of Všenory	-	35	-	-	-
Czech Republic-undifferentiated	Survey of small terrestrial mammals of mining areas in the Sokolovsk region	-	-	12	-	-

Czech Republic-undifferentiated	Testing selected sources of industrial water from the chemical industry at the semi-operational unit UVC-AOP	-	-	380	-	-
Czech Republic-undifferentiated	Determination of species affiliation and exclusion of hybridization in individuals morphologically determined as critically endangered common crucian carp (<i>Carassius carassius</i>) using molecular genetic analysis	-	-	300	-	-
Czech Republic-undifferentiated	Development of a plan for managing drought and water shortages for the territory of the Central Bohemian Region	-	-	210	-	-
Czech Republic-undifferentiated	Plan for managing drought and water scarcity for the territory of the Liberec region	-	-	320	-	-
Czech Republic-undifferentiated	Technology of machines for the processing and recycling of secondary raw materials and their applications	-	-	-	600	-
Czech Republic-undifferentiated	Public contract: Outsourcing services - special analyzes at another workplace - 2022/0083	-	-	3 315	-	-
Czech Republic-undifferentiated	Analysis of the electronic reception of firewood at the removal point and selection of the optimal available technology for the needs of LČR, s.p.	-	-	-	1 719	-
Czech Republic-undifferentiated	Metropolitan plan	-	-	20	-	-
Czech Republic-undifferentiated	Framework Agreement on Contractual Research	-	-	44	-	-
Czech Republic-undifferentiated	Food analysis of common wolf (<i>Canis lupus</i>) dung	-	-	-	100	-
Czech Republic-undifferentiated	SWAT training, SWAT pedology	-	-	-	44	-
Czech Republic-undifferentiated	The activity of a strategic expert for the assessment of actions for inclusion in the program 129,380 "Support for water retention in the landscape - ponds and water reservoirs - 2nd stage"	-	-	-	560	560
Czech Republic-undifferentiated	Supporting the capacities and competences of Czech municipalities and cities for sustainable development	-	-	17	-	-
Czech Republic-undifferentiated	Monitoring of large carnivores in the territory of the Czech Republic in 2022–2027	-	-	-	312	-
Czech Republic-undifferentiated	Risk analysis of the Vraný farm	-	-	-	17	-
Czech Republic-undifferentiated	iAgro Cambodia	-	-	-	18	-
Czech Republic-undifferentiated	Traffic survey in the parking lot of the Lidl store in Beroun	-	99	-	-	-
Czech Republic-undifferentiated	Analysis of selected sources of industrial water from the chemical industry	-	-	25	-	-
Czech Republic-undifferentiated	Traffic survey in the parking lot of the Lidl store in Rosice	-	139	-	-	-
Czech Republic-undifferentiated	Study of a new solution for the space around the municipal office and primary school in the village of Černolice	-	25	-	-	-
Czech Republic-undifferentiated	Study of the revitalization of the area around Botič in Prague 4 - Phase I	-	-	78	-	-

Czech Republic-undifferentiated	Revitalization of the area around Botič in Prague 4 - II. phase	-	-	25	-	-
Czech Republic-undifferentiated	Pilot project of JPÚ Ruda near Nové Strašecí	-	300	-	-	-
Czech Republic-undifferentiated	Analytical evaluation of waste biomass samples	-	-	327	-	-
Czech Republic-undifferentiated	Strategic alternatives for the transformation of the territory of "Nové Elektra"	-	-	185	-	-
Czech Republic-undifferentiated	Contract for work	-	-	-	327	-
Czech Republic-undifferentiated	Processing of input background materials of the Vršany location for accurate identification of areas with natural potential	-	-	315	-	-
Czech Republic-undifferentiated	Analysis of the potential of natural succession as an effective tool for the ecological restoration of the Vršany quarry	-	-	125	-	-
Czech Republic-undifferentiated	Design of water treatment technology	-	-	2 291	-	-
Czech Republic-undifferentiated	Analysis and evaluation of the suitability of the Vršana quarry for the use of natural succession as a reclamation tool	-	-	3 010	-	-
Czech Republic-undifferentiated	Spatial activity of red deer in areas of common wolf return	-	-	-	458	458
Czech Republic-undifferentiated	load tests of agricultural tires	-	-	-	75	-
Czech Republic-undifferentiated	Agro calls	-	-	-	50	-
Czech Republic-undifferentiated	Support for the processing of initial data in the form of thematic maps of selected landscape areas in Zambia	-	-	-	-	498
Czech Republic-undifferentiated	Origin of iron minerals in highly permeable soils and determination of soil diagnostic layers using magnetic parameters	-	-	-	-	472
Total		2 963 117 EUR	12 177 480 EUR	15 480 611 EUR	7 819 308 EUR	9 363 369 EUR

Note: Indicate, for example, sponsorship donations, resources generated from other own economic activities, foreign subsidy programmes of private entities.

4.11 Rules for the use of institutional support for the LCDRO

The HEI will describe the strategy and rules for the use of institutional support for the LCDRO in the management of institutionally supported research activities (e.g., prioritisation of research topics by the HEI according to individual needs, internal grant agencies, incentive tools, support for excellent science) and the method for distribution of institutional support to individual departments/research teams for the period of 2020–2024. The impact on the management of institutionally supported research activities will be described by the HEI using specific examples (e.g. distribution of institutional support in the period of 2020–2024 depending on the evaluation results, examples of supported excellent science projects, etc.).

Maximum 500 words plus 200 words for each example given (max. five examples).

Self-assessment:

LCDRO, i.e. Long-term Conceptual Development of Research Organization, is received from the Ministry of Education, Youth and Sports based on the category in the University was categorized

during the last evaluation. When Methodology 2017+ was introduced, the universities received the money based on the number papers published in Q1 and Q2 quartiles of Web of Science based on the AIS (Articles Impact Score) value (Module 2). For each such paper, certain amount was received by the University and the money was also divided among faculties according to this scheme. Later on, the Q1 papers were ranked higher than Q2 and also, for D1 papers extra bonus was given. Also, later on, non-bibliometric outcomes (Module 1) such as patents, books, softwears, methodologies etc. were added to the evaluation. At the end of the period covered by Methodology 2017+ five years ago, the Universities were ranked using the Modules 1 and 2 evaluated separately and Modules 3-5 evaluated by international panel to categories A, B, C and D. Each category receives certain percentage of the total LCDRO budget so individual numbers of papers D1, Q1 and Q2 are not used for dividing the total LCDRO budget. However, the University developed a fixed system in which more or less the original basis is kept, i.e., number of D1, Q1 and Q2 papers.

There is no universal directive valid for all Faculties and the Institute and the use of LCDRO is as follows:

Faculty of Forestry and Wood Sciences:

- provision of additional funds for salaries of academics and researchers, salaries for technical engineers and postdocs
- support for scientific publication activities
- promotion of the formation of international teams
- provision of additional funds (part-financing) of noteworthy Faculty projects funded from operational programmes
- in the form of projects, support for the creation of new outputs intended for practice and support for the commercialization of outputs
- rewards for employees who have worked intensively on the popularization of Faculty outputs
- scholarships to talented doctoral students and students of Master's programmes who are active in scientific activities.
- to cover the investment development of scientific infrastructure development and innovation

Faculty of Environmental Sciences

- long-term concept-based development of the Faculty
- publication and grant-related activities
- personnel costs and bursaries for development, research and innovation, use of salary funds in compliance with the Faculty's Statute, the internal salary regulation and rules of the Ministry of Education, Youth and Sports
- procurement of tangible and intangible assets for the purpose of activities in research, development and innovation
- motivation of excellent graduates from doctoral study programmes to work as postdoctoral fellows
- promotion of long-term internships of doctoral students at excellent research centres
- support to provision of funds to the Faculty's Leading Research Groups
- support to provision of funds to the Faculty's Research Excellence in Environmental Sciences projects

- support to provision of funds to the Faculty's Senior Research position
- support to provision of funds to Visiting Scientist a Visiting Professor

Institute of Education and Communication

- support to scientific publication activities and conferences participation (38% of all expenses including travel expenses)
- provision of additional funds for salaries of academics (46% of all expenses) in a form of personal evaluation bonuses and rewards
- purchase of new research technical equipment to improve knowledge of academics (46% of all expenses)

Faculty of Engineering

The Faculty's long-term development aligns with its strategic vision for research and development (R&D). A key priority is the support of scientific publication activities, including incentive-based remuneration provided through the Faculty's motivation programme. This programme specifically rewards authors of publications in high-impact journals classified within the Q1 and Q2 quartiles.

Furthermore, financial resources have been allocated to personnel costs and bursaries aimed at fostering research, development, and innovation. The utilization of salary funds adheres to the Faculty's Statute, Internal salary regulations, and the guidelines established by the Ministry of Education, Youth, and Sports.

In addition to direct financial support, the allocated funds have also been employed for the partial co-financing of the Faculty's research and development projects. Investments have been directed towards research infrastructure, including the acquisition of advanced research equipment and the procurement of essential materials required for scientific activities.

Faculty of Tropical AgriSciences

Funds are divided among the four departments of FTA according to a known and agreed formula. The calculation method is agreed during a session of the Dean's College. The distribution algorithm includes the following parameters: a fixed amount to support science and research at the department, number of doctoral students, number of PhD graduates, number and quality of scientific publications.

Within departments, these funds are usually distributed among the research teams in a similar way and they are used to purchase consumables and services, and to cover bursaries and salaries.

Faculty of Agrobiolology, Food and Natural Resources

Institutional support aims to promote the faculty's scientific activities and support scientific teams within departments, especially through:

- financial bonuses for authors of articles published in high-ranking journals
- material support of research activities in association with diploma and doctoral theses
- investment-based development of the faculty's departments

Faculty of Economics and Management

- personnel costs - personal evaluation bonuses paid to employees for results achieved in R&D&I, including bonuses paid from the Faculty's motivation programme
- Promotion of the development of individual specialized departments, particularly in relation to R&D&I implementation, including procurement of specialized software, enhancement of infrastructure, etc.
- Support for the publication of results achieved in R&D&I, particularly in relation to participation in international scientific conferences and coverage of APC for Open Access articles.

NATIONAL AND INTERNATIONAL COOPERATION

4.12 Important collaborations in R&D&I

The HEI will describe specific cases of R&D&I collaboration at the national level (maximum five examples) and the international level (maximum five examples), including examples of concrete results and impacts in the field of R&D&I beneficial for the HEI during the period of 2020–2024.

Maximum 300 words per example.

Self-assessment:

During the period 2020-2024, the Czech University of Life Sciences Prague cooperated with research institutions from 40 countries (in alphabetic order):

Austria, Belgium, Bosnia and Herzegovina, Brazil, Cambodia, Canada, Estonia, France, Denmark, Finland, Germany, Greece, Hong Kong, India, Indonesia, Ireland, Israel, Italy, Japan, Korea, Mali, Mexico, Moldova, Norway, Pákistán, Poland, Portugal, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Tajikistan, Thailand, The Netherlands, United Kingdom, USA, Uzbekistan. The cooperation resulted in numerous publications in international journals, exchange of students as well as academics. The cooperation also yielded organization of international conferences including edited books from these conferences.

The cooperation with domestic institutions resulted in scientific publications in international journals, patents, utility models, proven technologies, certified methodologies, softwares, organization of seminars, workshops and conferences. The cooperation also resulted in implementation of new technologies or upgrage of existing technologies.

International cooperation

Faculty	Cooperating Institution(s)	Cooperatio n topics	Outcomes
Faculty of Tropical Agrisciences	Royal University of Agriculture, Cambodia	Research, mobility of students and teachers, summer schools for students	Development projects, Erasmus+ international credit mobility https://www.ftz.czu.cz/en/r-10739-news-projects-and-partnerships/15-years-of-collaboration-between-ftz-and-royal-university-o.html

Faculty of Environmental Sciences	National and Kapodistrian University of Athens, Faculty of Geology and Geoenvironment	Isotope analyses in various geochemical settings	<p>Publications:</p> <p>Menegaki, S., Kelepertzis, E., Kyritidou, Z., Lampropoulou, A., Chrastný, V., Aidona, E., Bourliva, A., Komárek, M., 2024. Characterization of the inhalable fraction (< 10 µm) of soil from highly urbanized and industrial environments: magnetic measurements, bioaccessibility, Pb isotopes and health risk assessment. <i>Environmental Geochemistry and Health</i> 46, 230.</p> <p>Kelepertzis, K., Matiatos, I., Botsou, F., Antonopoulou, C., Lappas, I., Dotsika, E., Chrastný, V., Boeckx, P., Karavoltsos, S., Komárek, M., 2023. Assessment of natural and anthropogenic contamination sources in a Mediterranean aquifer by combining hydrochemical and stable isotope techniques. <i>Science of the Total Environment</i> 858, 159763.</p> <p>Kelepertzis, E., Chrastný, V., Botsou, F., Sigala, E., Kyritidou, Z., Komárek, M., Skordas, K., Argyraki, A., 2021. Tracing the sources of bioaccessible metal(loid)s in urban environments: A multidisciplinary approach. <i>Science of the Total Environment</i> 771, 144827.</p> <p>Kelepertzis, E., Argyraki, A., Chrastný, V., Botsou, F., Skordas, K., Komárek, M., Fouskas, A., 2020. Metal(loid) and isotopic tracing of Pb in soils, road and house dusts from the industrial area of Volos (central Greece). <i>Science of the Total Environment</i>, 725, 138300</p> <p>https://doi.org/10.1007/s10653-024-02009-z</p> <p>https://doi.org/10.1016/j.scitotenv.2022.159763</p> <p>https://doi.org/10.1016/j.scitotenv.2020.144827</p> <p>https://doi.org/10.1016/j.scitotenv.2020.138300</p>
Faculty of Engineering	Indian Institute of Technology (IIT) Delhi	Coorganizing Indo-Japan Textile Research Conference in 2023	<p>Published a Springer Nature conference proceedings together as co-editor</p> <p>https://link.springer.com/book/10.1007/978-981-97-6968-1</p>
Faculty of Forestry and Wood Sciences	European Forest Institute	Joint research and creation of	<p>Scientific publications, strategic documents</p> <p>Living with bark beetles: impacts, outlook and management options European Forest</p>

		various strategies for forestry	Institute , or Policy-brief-Managing-bark-beetle-outbreaks-in-the-21st-century.pdf
Faculty of Agrobiological, Food and Natural Resources	Cooperation with Universities in Israel, Germany, USA, France, Brazil, Belgium among others	Mapping of soil carbon using Remote Sensing, Project WorldSoils from European Space Agency	Publications, reports, methodical recommendations https://doi.org/10.1016/j.catena.2023.107409 https://doi.org/10.1016/j.geoderma.2022.115873 https://doi.org/10.1016/j.still.2024.106125
Domestic cooperation			
Faculty of Engineering	Agrospol spol. s r.o. SKV spol. s r.o	Preparation and installation of innovative equipment for speed measurement of conveyor belts in hop drying room	Equipment installed Licence
Faculty of Economics and Management	Mironet.cz a.s.	Software development for automating e-commerce processes using AI.	Software for automatic content generation based on specified parameters using artificial intelligence, Software module for searching for expert and customer reviews using artificial intelligence and using the results to predict customer interest, Software for website personalization using artificial intelligence or using standard methods, Functional sample and utility model of a device using augmented reality ensuring more efficient work in the warehouse
Faculty of Economics and Management	Ústav teorie informace a automatizace AV ČR v.v.i. (Institute of Information Theory and Automation of the Academy of Sciences of the Czech republic)	Joint research in the field of decision-making under uncertainty, artificial intelligence and the development of mathematical	- Creation of a joint laboratory (TALISMAN - AdapTive SociAL DecISion MAKiNg), - A new method Adaptive Bayesian Point-Mass Estimation for prescriptive dynamic decision making under uncertainty

		l methods for data processing and evaluation.	
Faculty of Forestry and Wood Sciences	MATRIX a.s.	Development of a hardwood oak bonding system for exterior structural and non-structural applications.	Development of an oak wood bonding system for non-structural and structural applications for timber buildings. Utility model, patent.
Faculty of Forestry and Wood Sciences	Státní zdravotní ústav (State Institute of Health)	African swine fever	Methodological recommendations for the eradication of this disease

STUDIES

4.13 Doctoral studies

The HEI will briefly describe the organisation of the doctoral studies (if there are any doctoral study programmes³⁷). HEI will comment on:

- Structure and organization of studies.
- A system of cooperation between PhD students and their supervisors.
- Basic statistics (including drop-out rate, student workload, etc.).
- Information on promotion and recruitment schemes.
- Cooperation within doctoral studies (e.g., Czech Academy of Sciences, application sphere, building open study programmes for foreign nationals and creating international networks of study programmes, "joint degree", "cotutelle", etc.).
- Student care system (e.g. counselling, wellbeing care, career guidance).
- A system for tracking the future careers of graduates³⁸.
- Other relevant data, such as the existence of a doctoral school, basic soft skills courses, etc. at the discretion of the HEI.

The HEI shall support this with appropriate examples (e.g. a model example of doctoral student cooperation with their supervisor, statistics on collaboration within doctoral studies, specific examples within doctoral studies, statistics on the use of student care systems, etc.).

Maximum 300 words per point.

Self-assessment:

The study is organized in two forms - full-time and combined types of study. In the currently accredited doctoral study programmes (DSP), the standard length of study is 4 years. The unified Study and Examination Code (SEC) applies to the study at DSP across the whole University. Information relating to the admission procedure is posted on the website of the individual Faculties (example: <https://www.fzp.czu.cz/en/r-9409-science-research/r-9533-doctoral-study/r-9800-admission-procedure>) and the administration procedure for Czech applicants takes place in two rounds. The first round (usually in the period May-June) is the main round, the second round (usually in September) can be called in case any vacant positions are still available. The application process for foreign students starts much earlier, usually as early as in December of the previous year. The reason is a very slow visa procedure at many embassies and complicated administration process including nostrification. Skype individual interviews are used in case of foreign applicants for doctoral study in the first round. The promising applicants proceed to further round which proceeds via online interview (Teams, Zoom). During the interviews, the applicants must describe the research project which they want to work on during their study. At the same time, it is necessary to have a written confirmation of supervisor's agreement. The applicants without written consent from the supervisor are not accepted.

Individual fields of study are accredited within the Faculties. Subject-area Boards are instituted for accredited DSPs provided by the Faculty; the Boards monitor and evaluate doctoral study and guarantee its quality. All doctoral students are evaluated by both their supervisors and the respective Subject-area Board on an annual basis. Requirements for publication activities set forth in the SEC constitute minimum requirements. By a Dean's Order, the Faculties may tighten the requirements for individual doctoral studies upon a proposal of the respective Subject-area Board.

³⁷ If the HEI does not organise any doctoral programme, it will explicitly state this information in the self-evaluation report.

³⁸ The HEI will list the top five highest ranked graduates in academia, the private sector, and public administration over the past five years.

The CZU has in place several general contracts concluded with certain institutions as to guidance of doctoral students; these institutions include e.g. the Czech Academy of Sciences, Crop Research Institute, Research Institute for Soil and Water Conservation, T.G.M. Masaryk Water Research Institute, Institute of Animal Science.

Faculties have their requirements for Ph.D. students set by the Dean. The requirements specify obligations which need to be fulfilled for each year of the study (e.g. number of exams, participation at the conference, completion of a manuscript and subsequent submission to the journal, stay abroad etc.). During regular annual meetings, the Subject-area Boards evaluate each student and provides recommendation concerning the further study (pass, reproach, termination). Example of a Dean's Regulation : <https://www.fzp.czu.cz/cs/r-6894-o-fakulte/r-7441-oficialni-dokumenty/r-19996-narizeni-a-pokyny-dekana> (Dean's Regulation No.3/2024-Specification of the Obligations of PhD Study Programme Students).

At the CZU, there are currently as many as 39 and 24 accredited DSPs provided in Czech and English, respectively. During the period of 2020-2024 a total of 471 students successfully finished their studies. As compared the number of students studying in the first year of the study during the period 2016-2020, it is about 37%. The number of graduates was significantly affected by COVID-19 pandemic situation in 2020, when only 42 students graduated. In 2024, as many as 161 students graduated.

The CZU Library (<https://lib.czu.cz/en/r-11108-teaching-and-consultation>) prepares regular courses in Czech or English for DSP students:

- Overview of our services at the library and available academic databases at CZU (including library tour)
- Information retrieval in academic databases: work with EBSCO Discovery Service
- Citing of information sources: citation ethics, requirements for citing at certain faculty, work with reference manager CitacePRO
- Reference manager Mendeley (you can also choose other; see Reference managers for list of supported ref. managers)
- Citation databases Web of Science and SCOPUS
- Basics for academic writing in English: academic style, paper structure, data representation (graphs, etc.)
- Critical evaluation of information: verifying of information from internet, methods of critical work with text etc.

Courses of Educational and rhetorical skills are organized for DSP students in cooperation with the Institute of Education and Communication.

Every academic year, the papers published in prestigious international journals with the first author being Ph.D. student of CZU, are awarded from the Rector's office. The award is organized as a competition and overall ranking is done according to the ranking of journals on Web of Science in individual WoS categories.

Until now, the Ph.D. students can apply for projects funded by a special budget from the Ministry of Education, Youth and Sports. This budget is specifically allocated to support research of Ph.D. students as not all of them can be incorporated into projects carried out by their supervisors (there are more students than project positions available). Unfortunately, the Ministry will most probably not provide this budget any more in the future.

List of Ph.D. study graduates working at important positions			
Name	Programme	Graduation year	Current position
Public administration			
Martin Hlaváček	Sector Economics and Economics of Enterprise	2024	Member of the European Parliament
Mario Augusto Caetano Joao	Sector Economics and Economics of Enterprise	2024	Minister of Economy and Planning, Angola
Tomáš Martínek	Information Management	2024	Member of the Parliament of the Czech Republic Vice-chair of Control Committee of the Parliament Vice-chair of the Election Committee of the Parliament Member of the Budget Committee of the Parliament
Hynek Roubík	Agriculture in Tropics and Subtropics	2018	Czech University of Life Sciences Prague, Dean of the Faculty of Tropical Agrisciences
Jiří Lehejček	Forest Management	2016	Ministry of the Environment, Vice-minister
Academia			
Julien Antih	Agriculture in Tropics and Subtropics	2024	University of Montpellier, Faculty of Pharmaceutical and Biological Sciences, Associate Professor
Anna Maňourová	Agriculture in Tropics and Subtropics	2023	Swedish University of Agricultural Sciences, PlantLink coordinator

Daniel Žížala	The Use and Protection of Natural Resources	2018	Research Institute for Soil and Water Conservation, Director of Remote Sensing and Pedometry Laboratory
Niguss Solomon Hailegnaw	Agricultural Specialization- Exploitation and Protection of Natural Resources	2021	Assistant Professor of Crop Nutrient Management (University of Florida)
Khuswant Sandhu Singh	Agriculture and Forest Phytopathology and Protection of Plants	2016	University of California Riverside, United States, Department of Agriculture (USDA)
Private sector			
Jan Sailer	Quality and Reliability of Products and Equipment	2021	ORLEN Unipetrol RPA Ltd. – Technical Director
Vojtěch Bočok	Sector Economics and Economics of Enterprise	2024	Lindab Sales CZ s.r.o., Financial Manager
Michal Husinec	Systems Engineering and Informatics	2024	Senior Manager DHL
Christopher Ash	The Use and Protection of Natural Resources	2016	Land and Water, UK, Environmental Manager
Martin Gürtler	Sector Economics and Economics of Enterprise	2018	Senior Economist – Komerční banka

IMPLEMENTATION OF RECOMMENDATIONS

4.14 Implementation of the recommendations in Module 4

The HEI will briefly describe how it has implemented the recommendations for Module 4 from the previous evaluation period, if applicable.

Maximum 1000 words

Self-assessment:

The Czech University of Life Sciences Prague has implemented several crucial documents which were not in place during the previous evaluation. Namely, these are:

- HR Award
- Gender Equality Plan
- Code of Ethics
- Career Regulation

The Evaluation Panel suggested in the previous evaluation report that more clear career plans should be implemented and suggested that tenure track system may be the solution. The new Career Regulations clearly sets the milestones that need to be met in order to be promoted. The preparation of the Career Regulations was heavily discussed at all levels in order to satisfy all the faculties. The Career Regulations were also heavily discussed in the Academic Senate and finally the document was approved at all levels.

Another recommendation of the Evaluation Panel was low overall research budget of the University. Indeed, the research budget is mostly affected by the success rate in grant calls and it is variable among years. However, the research budget during the period 2020-2024 increased by 80% as compared to the previously evaluated period 2014-2018. The increase was especially substantial (184%) in terms of money coming from foreign sources.

Also, the infrastructure spending in years 2020-2024 amounted to 123 775.16 thousand EUR while the total amount during the years 2014-2018 amounted to only 54 539.29 thousand EUR. The increase between these two periods is 127%. The Evaluation Panel suggested that it would be desirable to have a strategy for acquiring and renewing instruments and equipment. However, it is necessary to say that most projects, and especially the regular national ones, do not allow for purchasing expensive instruments and expensive high-tech instruments can be purchased from large operational projects which are called irregularly. Therefore, the University created a list of specific instruments which can be used immediately in case a potential for instrument purchase occurs within a new call.

The Evaluation Panel recommended to further cooperate with universities worldwide. His suggestion has been accomplished and during the period 2020-2024, CZU cooperated with 40 countries in Europe, North and South Americas, Asia and Africa. The outcomes of the cooperation were variable, among others, publications in international journals, edited books from the conferences, exchange of students and academics and joint proposals for international projects.

The Evaluation Panel also criticized that there is no management data plan in place. The CZU adheres to the principles of Open Science, as evidenced by strategic documents such as the Rector's Declaration on the Principles of Open Science dated November 15, 2022. The central Open Science Centre (OS Centre) under the CZU Library provides support in the areas of Open Science and Data Management. Through this centre, the university is part of numerous professional working groups both in the Czech Republic and abroad (Open Science working group, Association of Libraries of Czech Universities (AKVŠ); Core Services working group, European Open Science Cloud implementation in the Czech Republic (EOSC-CZ); Education working group, EOSC-CZ; Thematic Social Sciences working group EOSC-CZ; Datastowards Community in the Czech Republic; EOSC-Pillar Ambassadors Programme; Community of Practice OpenAIRE and Centre for Open Science)

The university is developing a Data Management Platform (DaMP), which currently provides essential data storage, backup, and archiving functions. The platform's further development and full completion are part of the project "Improving the Quality and Efficiency of the Educational Process and Strategic Management at CZU in Prague", with completion planned for 2028.

The share of women in full professorship has not changes too much between the years 2018 and 2024 (20,9% and 19,6%), however, the share of women associate professorships increased from 16.4% in 2018 to 25.8% in 2024. It provides the potential for further promotion to full professorships.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 4

Document name	No. criteria	Location (link in HTML)
Project team	4.1.	https://www.fzp.czu.cz/en/r-9411-projects-and-partnerships/r-9879-project-team
Office of the Support of the International Projects	4.1.	https://www.czu.cz/en/r-9186-about-university/r-9195-university-offices/r-9204-core-offices/r-9209-project-management-department#i-707d151938a001b172e8029cbeccf67b
Research teams	4.2.	https://www.fzp.czu.cz/en/r-9409-science-research/r-9674-leading-research-groups https://www.ftz.czu.cz/en/r-9419-departments/r-13921-fta-research-groups

Description of quality assurance and internal quality assessment system at CZU Prague	4.3.	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-13754-quality-of-educational-and-creative-activities
Sustainability Strategy and Sustainability Report	4.4.	https://csr.czu.cz/en/r-15346-sustainability-strategy-and-sustainability-reports
Technology Transfer Office	4.4.	https://ott.czu.cz/en
Media literacy	4.4.	https://medgram.cz/en/about-project
Code of Ethics	4.4.	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations
Protection of Intellectual Property at the CULS Prague (Rector's Directives)	4.4.	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations#widget-2832
Stop predatory practice	4.4.	https://www.stoppredatorypractice.com/
HR Award	4.6.	https://www.czu.cz/en/r-9191-projects-and-partnerships/r-16736-strategic-setting-of-human-resources-development-at-czu
Carrer Regulation	4.6.	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations
Rules of the Habilitation procedure or the Procedure for Appointment a Professor	4.6.	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations
Tender Regulation	4.6.	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations
Wage Regulation	4.6.	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations
Gender Equality Plan	4.7.	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-15702-strategic-plans-and-documents
Ethics code	4.7.	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations

Scientific publication	4.8	https://doi.org/10.1016/j.cl
Laboratories	4.9.	https://www.fld.czu.cz/en/r-9415-science-research https://www.pef.czu.cz/en/r-9397-science-research/r-21047-fem-scientific-laboratories/r-21050-iot-laboratory https://www.fzp.czu.cz/en/r-9406-about-faculty/r-9407-departments-labs
Important projects	4.10.	https://driftfood.eu/ https://cordis.europa.eu/project/id/952594
Important projects	4.10.	https://zenodo.org/records/13736340
Important projects	4.10.	https://petrkeil.github.io/funding/post/2023/01/01/BEAST.html https://www.fzp.czu.cz/en/r-9411-projects-and-partnerships/r-9880-projects/r-18897-beast-biodiversity-dynamics-across-a-continuum-of-space-time-and-their-scales
Laboratories	4.9.	https://www.fzp.czu.cz/en/r-9406-about-faculty/r-9407-departments-labs
Reference to a book	4.12.	https://link.springer.com/book/10.1007/978-981-97-6968-1
Cooperation with Cambodia	4.12.	https://www.ftz.czu.cz/en/r-10739-news-projects-and-partnerships/15-years-of-collaboration-between-ftz-and-royal-university-o.html
Publications from cooperation	4.12.	https://doi:10.1007/s10653-024-02009-z https://doi:10.1016/j.scitotenv.2022.159763 https://doi:10.1016/j.scitotenv.2020.144827 https://doi:10.1016/j.scitotenv.2020.138300
European Forest Institute, strategies	4.12.	Living with bark beetles: impacts, outlook and management options European Forest Institute , or Policy-brief-Managing-bark-beetle-outbreaks-in-the-21st-century.pdf
Publications, Organic carbon mapping	4.12.	https://doi.org/10.1016/j.catena.2023.107409 https://doi.org/10.1016/j.geoderma.2022.115873 https://doi.org/10.1016/j.still.2024.106125
Doctoral study admission procedure	4.13.	https://www.fzp.czu.cz/en/r-9409-science-research/r-9533-doctoral-study/r-9800-admission-procedure
Library-teaching and consultation	4.13.	https://lib.czu.cz/en/r-11108-teaching-and-consultation

PhD Study Obligations	4.13.	https://www.fzp.czu.cz/cs/r-6894-o-fakulte/r-7441-oficialni-dokumenty/r-19996-narizeni-a-pokyny-dekana (Dean's Regulation No.3/2024-Specification of the Obligations of PhD Study Programme Students).
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MODULE 5 - STRATEGY AND POLICIES

5.1 Mission and vision of the evaluated institution in R&D&I

The HEI will briefly describe its mission and vision with emphasis on R&D&I in general and its R&D&I capacities in the implemented R&D&I fields¹ (Tables 5.1.1 and 5.1.2). In particular, the HEI's vision covers the following five-year period and must relate to the strategic objectives of the Provider, the National Policy on Research, Development, and Innovation of the Czech Republic 2021+, the Gender Equality Strategy 2021-2030, and other higher national and supranational strategic documents in the field of R&D&I (Table 5.1.3). The HEI shall complement the description with active references to its Strategic plan for the teaching, scholarly, scientific, research, development, artistic, and other creative activities of the higher education institution (regarding the results and recommendations from the previous evaluation period, if the evaluated HEI participated in it). The HEI shall describe how the vision and mission were implemented during the period of 2020–2024.

Maximum 2000 words.

Self-assessment:

As part of its educational, research and creative portfolio and the impact of its activities on society, the Czech University of Life Sciences (CZU) is a living example (national, European and global) of a socially responsible university, reflecting, fully accepting and implementing the principles of sustainability (its environmental, social and economic pillar in a projection into viability, justice and resilience. In terms of R&D&I the vision of CZU is to be a university with a digital campus, which has managed the transition to a low-carbon university and fulfils, through its activities in economic contexts, the principles of bioeconomy, smart circular economy and clean energy production. In terms of the environment, through its activities CZU fulfils the principles of smart natural resource management ensuring the protection of the environment and humans, animal and plant health, and principles resulting in reducing the negative impacts of climate change and reasonable responses to major natural disturbances, consisting of extensive floods, droughts, pandemics and other natural disasters (<https://www.czu.cz/en/r-10651-visualni-blok-homepage-en/czu-is-once-again-the-most-environmentally-friendly-universi.html>). In terms of society, through its activities, CZU fulfils the principles of strengthening the resilient nature of rural areas and cities, resulting in increased quality of life.

The CZU mission is to be a leading representative of the academic world in education, science and research, as well as in its social activities, and an entity in promoting the sustainability principles defined in the CZU Strategic Plan 2021+ (<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-15702-strategic-plans-and-documents>). It is the mission of CZU to be as for R&D&I an excellent university in science and research, primarily in its profile areas such as agriculture, forestry, fisheries, biological sciences, earth and related environmental sciences, including environmental engineering, and to develop its activities in other areas that form an integral part of CZU, such as economics and business, informatics, engineering technology and materials, veterinary medicine, social aspects of human life or cyber security, as well as other challenges to which CZU can contribute through its research and innovation transfers. The fulfilment of the mission in R&D&I assumes developed strategic management supporting advanced forms of R&D&I activities, intensive cooperation with various types of industries supporting knowledge and innovations transfer (e.g. EU agricultural knowledge and innovations systems - AKIS) and generally extensive activities at the local, regional, national and international levels. For its mission, CZU uses excellent technical, technological and staffing aspects, which guarantee its leadership in the key domains of its activities, both in the European region (with emphasis on Central Europe) and in the countries of the subtropical and tropical regions. Based on innovative, diversified,

¹ For so-called R&D&I capacities, see Definition of Terms in Methodology HEI2025+.

flexible and accessible study programmes (in terms of R&D&I namely Ph.D. degree study programmes) and other educational components for degree seeking students and for the general public) offered by 21st century universities (e.g., lifelong learning, virtual courses, developed internationalization), highly developed forms of strategically managed research interconnected with high-quality and effective PhD studies, a unique campus, and with emphasis on its social responsibility and gender equality, which is described in CZU Gender Equality Plan (GEP) (<https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-15702-strategic-plans-and-documents>) and activities supporting well-being of research staff and all other employees.

The university's priority is to strengthen its position among important and reputable universities in European and global research and education area. This strategy in R&D&I is supported by strong faculties and consolidated Research teams composed of excellent researchers from the Czech Republic and abroad to prevent institutional inbreeding. Such scientists and the infrastructure they utilize create the landscape for excellent research reflecting top European and global standards. The strategy also supports talented students of masters and Ph.D. study programmes and the recruitment of excellent postdocs.

The actions implemented by CZU in the monitored period were in line with the National Research, Development and Innovation Policy of the Czech Republic 2021+ and they contributed to the NRDIP 2021+ key areas such as management and funding of the RDI system, quality and international excellence in RDI, cooperation between the research and application spheres using the CZU innovation potential. The distribution of CZU's research, development, and innovation (R&D&I) resources across various fields of research (FORDs), as shown in Table 5.1.1, is regarded as optimal in relation to CZU's mission and vision. Therefore, only minor adjustments in the allocation of these resources to the fields of research are anticipated in the future (Tab. 5.1.2). As it was recommended by the previous evaluation of CZU (Self-Evaluation report for evaluating research organizations in the universities segment in 2020), more focus was given to the internationalization and development of the research activities and PhD studies. The number of excellent and especially EU-funded research projects implemented by CZU researchers has increased in the monitored period. The total number of CZU international research project increased from 6 in 2019 to 53 in 2023. From the HORIZONT Europe program, CZU received a total of 15.53 million euros for the period 2021–2024, which represents 8.35 percent of the total amount distributed among universities in the Czech Republic. This ranks it in 5th place behind Masaryk University (29.2%), Charles University (15.4%), CTU (10.7%) and UPOL (10.3%). When converted to 1 FTE, CZU ranked 2nd (15.44 thousand euros), behind Masaryk University (22.48 thousand euros) and ahead of UPOL (11.02 thousand euros) (Source: <https://www.horizontevropa.cz/cs/mohlo-by-vas-zajimat/hodnoceni-ramcovych-programu/narodni-studie-monitoring/informace/yifnews/2616/muni-je-lidrem-v%C2%A0ziskavani-podpory>). In the coming 5 year period, CZU's strategic goal is to maintain its position among the five most successful universities in the Czech Republic in the HORIZON Europe program. Also, the CZU publication strategy was adjusted and, in recent years, has focused on publications in good quality journals that are ranked in D1, Q1 and Q2 on the Web of Science or in the Nature Index. The focus on excellent results in RDI in recent years has resulted in CZU's rise in international university rankings. In the Shanghai Ranking of universities (<https://www.shanghairanking.com/institution/czech-university-of-life-sciences-prague>), CZU moved from the 900 - 1000 category in 2019 to the 601–700 category in 2023. The above-mentioned progress in the ranking is also significant for the reason that in 2017 and earlier, CZU did not appear in the Shanghai University Ranking at all. In 2023 in the principal research field, Agricultural Sciences, CZU was ranked between 51st and 75th worldwide, which is the best subject ranking result among all universities in the Czech Republic. Meaning that there is no other university in Czechia ranked

higher in any other scientific category (academic subject) based on Academic Ranking of World Universities (ARWU) - Shanghai University Ranking.

5.1.1 R&D&I capacities of HEI in the year 2025

Field of Research	FORD	FORD share [%]	Predominant type of research	Total share of field of reaserch [%]
1. Natural Sciences	1.1 Mathematics	0.7	Basic research	35.1
	1.2 Computer and information sciences	-	Zvolte položku.	
	1.3 Physical sciences	0.1	Basic research	
	1.4 Chemical sciences	1.5	Balanced basic and applied research	
	1.5 Earth and related environmental sciences	17.4	Balanced basic and applied research	
	1.6 Biological sciences	14.7	Balanced basic and applied research	
	1.7 Other natural sciences	0.7	Balanced basic and applied research	
2. Engineering and Technology	2.1 Civil engineering	0.1	Balanced basic and applied research	21.7
	2.2 Electrical engineering, Electronic engineering, Information engineering	-	Zvolte položku.	
	2.3 Mechanical engineering	2.0	Balanced basic and applied research	
	2.4 Chemical engineering	-	Zvolte položku.	
	2.5 Materials engineering	3.3	Balanced basic and applied research	
	2.6 Medical engineering	-	Zvolte položku.	
	2.7 Environmental engineering	7.3	Balanced basic and applied research	
	2.8 Environmental biotechnology	0.3	Balanced basic and applied research	
	2.9 Industrial biotechnology	-	Zvolte položku.	
	2.10 Nanotechnology	-	Zvolte položku.	
	2.11 Other engineering and technologies	8.7	Balanced basic and applied research	
3. Medical and Health Sciences	3.1 Basic medicine	-	Zvolte položku.	1.7
	3.2 Clinical medicine	-	Zvolte položku.	
	3.3 Health sciences	1.7	Balanced basic and applied research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	16.6	Balanced basic and applied research	25.5

	4.2 Animal and Dairy science	2.7	Balanced basic and applied research	
	4.3 Veterinary science	2.1	Balanced basic and applied research	
	4.4 Other agricultural sciences	4.1	Balanced basic and applied research	
5. Social Sciences	5.1 Psychology and cognitive sciences	-	Zvolte položku.	15.9
	5.2 Economics and Business	8.8	Balanced basic and applied research	
	5.3 Education	2.8	Balanced basic and applied research	
	5.4 Sociology	-	Zvolte položku.	
	5.5 Law	-	Zvolte položku.	
	5.6 Political science	-	Zvolte položku.	
	5.7 Social and economic geography	4.1	Balanced basic and applied research	
	5.8 Media and communications	-	Zvolte položku.	
	5.9 Other social sciences	0.2	Balanced basic and applied research	
6. Humanities and the Arts	6.1 History and Archaeology	-	Zvolte položku.	0
	6.2 Languages and Literature	-	Zvolte položku.	
	6.3 Philosophy, Ethics and Religion	-	Zvolte položku.	
	6.4 Arts (arts, history of arts, performing arts, music)	-	Zvolte položku.	
	6.5 Other Humanities and the Arts	-	Zvolte položku.	
Total		100 %	-	100 %

5.1.2 Target R&D&I capacities of HEI for the next five-year period

Field of Research	FORD	FORD share [%]	Predominant type of research	Total share of field of reaserch [%]
1. Natural Sciences	1.1 Mathematics	-	Zvolte položku.	36
	1.2 Computer and information sciences		Zvolte položku.	
	1.3 Physical sciences	-	Zvolte položku.	
	1.4 Chemical sciences	1.5	Balanced basic and applied research	
	1.5 Earth and related environmental sciences	17.4	Balanced basic and applied research	
	1.6 Biological sciences	16.4	Balanced basic and applied research	
	1.7 Other natural sciences	0.7	Balanced basic and applied research	
2. Engineering and Technology	2.1 Civil engineering	-	Zvolte položku.	21.8
	2.2 Electrical engineering, Electronic engineering, Information engineering	-	Zvolte položku.	

	2.3 Mechanical engineering	2.0	Balanced basic and applied research	
	2.4 Chemical engineering	-	Zvolte položku.	
	2.5 Materials engineering	3.3	Balanced basic and applied research	
	2.6 Medical engineering	-	Zvolte položku.	
	2.7 Environmental engineering	8.2	Balanced basic and applied research	
	2.8 Environmental biotechnology	0.3	Balanced basic and applied research	
	2.9 Industrial biotechnology	-	Zvolte položku.	
	2.10 Nanotechnology	-	Zvolte položku.	
	2.11 Other engineering and technologies	8.0	Balanced basic and applied research	
3. Medical and Health Sciences	3.1 Basic medicine	-	Zvolte položku.	0
	3.2 Clinical medicine	-	Zvolte položku.	
	3.3 Health sciences	-	Zvolte položku.	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	19.4	Balanced basic and applied research	28.3
	4.2 Animal and Dairy science	2.7	Balanced basic and applied research	
	4.3 Veterinary science	2.1	Balanced basic and applied research	
	4.4 Other agricultural sciences	4.1	Balanced basic and applied research	
5. Social Sciences	5.1 Psychology and cognitive sciences	-	Zvolte položku.	13.9
	5.2 Economics and Business	6.0	Balanced basic and applied research	
	5.3 Education	2.8	Balanced basic and applied research	
	5.4 Sociology	-	Zvolte položku.	
	5.5 Law	-	Zvolte položku.	
	5.6 Political science	-	Zvolte položku.	
	5.7 Social and economic geography	5.1	Balanced basic and applied research	
	5.8 Media and communications	-	Zvolte položku.	
	5.9 Other social sciences	-	Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology	-	Zvolte položku.	0
	6.2 Languages and Literature	-	Zvolte položku.	
	6.3 Philosophy, Ethics and Religion	-	Zvolte položku.	
	6.4 Arts (arts, history of arts, performing arts, music)	-	Zvolte položku.	
	6.5 Other Humanities and the Arts	-	Zvolte položku.	

Total	100 %	-	100 %
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5.1.3 Relation to the strategic objectives of the provider and strategic documents in the field of R&D&I

Strategic document	Follow-up
Strategic Plan of Educational, Creative and Other Activities of the Czech University of Life Sciences Prague for the period from 2021 (CZU Strategic Plan 2021+)	Strategically managed research and development activities effectively using capacities leading to the fulfilment of the CZU vision in different sustainability dimensions
Strategic Plan of Educational, Creative and Other Activities of the Czech University of Life Sciences Prague for the period from 2021 (CZU Strategic Plan 2021+)	Create conditions for further improvement of scientific, research and development activities so that they effectively use the existing and new capacities enabling a flexible response to new sustainability challenges.
CZU Internationalisation Strategy	Strengthen cooperation with international partner universities and institutions in R&D&I as part of the internationalization strategy.
CZU Gender Equality Plan	Continue activities related to awareness of ethics including the gender policy in science, research and development as one of the manifestations of socially responsible CZU activities.
Rectors Directive on Intellectual Property Administration at CZU	Strengthen cooperation with the application sphere and accelerate the transfer of scientific findings into their practical use.
Procedure for ensuring and internal evaluation of the quality of study programmes at CZU	High-quality and competent graduates actively contributing to sustainability and experience for the 21st century
Strategic Plan of Educational, Creative and Other Activities of the Czech University of Life Sciences Prague for the period from 2021 (CZU Strategic Plan 2021+)	Effective, high-quality, international and responsible PhD studies as one of the forms of applying the CZU vision in R&D&I
Strategic Plan of Educational, Creative and Other Activities of the Czech University of Life Sciences Prague for the period from 2021 (CZU Strategic Plan 2021+)	Prepare new mechanisms of financial support for PhD students so that they can fully devote themselves to PhD studies
Strategic Plan of Educational, Creative and Other Activities of the Czech	Complete the formation of PhD studies as an example of advanced internationalization of CZU activities

University of Life Sciences Prague for the period from 2021 (CZU Strategic Plan 2021+)	
Strategic Plan of Educational, Creative and Other Activities of the Czech University of Life Sciences Prague for the period from 2021 (CZU Strategic Plan 2021+)	Strengthen incentive mechanisms for high-quality work with PhD students by their supervisors and create a high-quality environment for this work.
Strategic Plan of Educational, Creative and Other Activities of the Czech University of Life Sciences Prague for the period from 2021 (CZU Strategic Plan 2021+)	To strengthen the incentive component associated with the evaluation of the performance of academic staff within the R&D&I and the financial and other stimulus areas as the objectives and vision of CZU strategy.
Sustainability strategy of the CZU 2025+	Strive to create a fully resilient and sustainable environment for all CZU activities including R&D&I
HR AWARD of the European Commission	Strategic R&D management at CZU in accordance with the terms of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers

5.2 Research and development objectives

The HEI will describe its intentions and goals for the next five-year period. The objectives in the field of research development, innovation, and knowledge transfer as well as the objectives in the field of cooperation with public administration, entrepreneurs, and non-profit organisations will be described in relation to the mission, vision and disciplinary capacities of the HEI. Furthermore, the objectives for the development of the HEI as a research organisation will be described, in the areas of human potential development, institutional resilience, the implementation of open science and adherence to the principles of ethics, scientific integrity, and good practice, and their interrelationship with R&D&I objectives. The objectives described must be consistent with the Strategic plan for the teaching, scholarly, scientific, research, development, artistic and other creative activities of the higher education institution.

Maximum 2000 words.

Self-assessment:

In the coming period the primary strategic goal, which is in line with CZU Strategic Plan 2021+, is to strengthen the university's excellent position in the principal research areas of life sciences such as agriculture, forestry, biological sciences, earth sciences, environmental sciences and environmental engineering, food sciences, and socio-economic disciplines.

CZU will continue to create conditions for further improvement of scientific, research, development activities and innovation transfers so that they effectively use the existing capacities (in particular those relating to excellent research results), and that they are simultaneously open to the building of new capacities enabling a flexible response to new sustainability challenges, national NRDIP 2021+ strategy and regional innovation strategies (RIS). Strengthen cooperation with the application sphere (various industries) as a way of applying the sustainability ideas (embedded in UN SDGs) into

practice, thereby accelerating the transfer of scientific findings and innovations into their practical use. Fostering innovation and entrepreneurship through encouraging students, faculties, and researchers to develop innovative solutions, startups, and spin-offs. Furthermore, increasing research funding and grants through national and international research projects, industry partnerships, and government support. Encouraging interdisciplinary and collaborative (transdisciplinary) research, which integrates multiple fields to address complex societal challenges, including activities related to awareness ethics in science, research and development as one of the manifestations of socially responsible CZU activities. Particular effort will be dedicated to developing open science and digitalization initiatives through the implementation of open-access publishing, digital platforms, and data-sharing policies. Further ongoing focus in research, development, and innovation (R&D&I) will be on gender mainstreaming and enhancing gender sensitivity.

The CZU R&D&I strategy will focus on engaging PhD students and young researchers (post-docs) in research by encouraging their participation in projects and providing postgraduate mentorship. We will create highly motivating incentives to support the timely and successful completion of PhD studies, particularly aiming for high-quality outcomes such as prestigious publications. Our goal is to develop strong personalities among the PhD students supervised by experienced mentors, enabling them to confidently express their opinions and present their research findings to both scientific and general audiences at regional, national, and international levels—these individuals will be referred to as "change agents." Additionally, we aim to adapt the financing of PhD studies to make them more socially relevant and economically efficient, thereby significantly contributing to the development of the scientific environment in the Czech Republic and internationally.

Referring to its Strategic Plan 2021+, CZU will continue contributing to the development of international multidisciplinary research teams, specialized centres, and platforms as a key focus. To support these goals, we will aim to enhance the opportunities available for outstanding PhD students and create favourable conditions for postdoctoral researchers. CZU aspires to be a reputable university and a leading institution, both in the Czech Republic and internationally, making it an attractive partner for international research projects.

5.3 Institutional tools and measures for the implementation of the research and development strategy

The HEI will describe its institutional and strategic tools (e.g., strategic management tools, tools created to support the implementation of research objectives, legal and organisational norms in relation to R&D&I support, etc.) that are designed to fulfil the research and development objectives for the next five-year period (Table 5.3.1), with an emphasis on:

- Supporting quality R&D&I.
- Excellent science.
- Innovative environment and increasing the international or disciplinary competitiveness of the HEI's research activities.
- Development of human potential.
- Institutional resilience.
- Adherence to ethical principles, scientific integrity and good practice in R&D&I.

Maximum 2000 words.

Self-assessment:

The tools and measures used by CZU to conduct high-quality research addressing complex environmental, economic and social challenges are embedded in interdisciplinary approaches to conduct high-quality research that contributes to scientific progress, particularly in life sciences, agriculture, forestry, and all other its related R&D&I fields. CZU builds resilient environment for all its activities, ensuring that the strategic objectives in R&D&I can be updated annually with respect to the needs of society. To enhance knowledge transfer mechanisms CZU will supports intellectual property protection by providing guidance on patents, copyrights, and trademarks to university research outputs. Furthermore, CZU has established knowledge transfer offices (<https://ott.czu.cz/en>) to facilitate the commercialization of research results, helping researchers identify potential commercial partners and providing support for patenting and licensing intellectual property. Research ethics is guaranteed through Ethics committee and namely by its panel on research ethics. The panel work on highlighting good research practices in university information channels (e.g. university journal “Živá univerzita – a living university” and interviews with researchers). Considering the research development, innovation, and knowledge transfer the CZU employs a variety of institutional and strategic tools to achieve its RDI objectives. Here are some key elements:

Strategic Management Tools

Supporting quality R&D&I and Excellent science:

CZU has comprehensive strategic plan (CZU Strategic Plans 2021+) that outline its goals and objectives for education, research, and other activities. These plans are periodically updated to reflect new priorities and challenges. To ensure the quality and relevance of its research, CZU has established an International Evaluation Panel. This panel evaluates the university's self-assessment reports and other documentation, providing objective assessments that inform strategic decisions and enhance research quality. The university has established a Career Regulation framework that outlines the basic rules and principles of evaluation related to career planning for its employees. This regulation ensures that staff (particularly academic staff) development aligns with the university's research goals to excellent science. Together with the wage regulation, it supports the incentive remuneration of CZU academic staff in relation to their performance in the field of R&D&I. The positive results of the policy of supporting excellent research are clearly evident from the increase in the total number of mainly foreign research projects at CZU. Examples include: BEAST - BiodivErsity dynamics Across a continuum of Space, Time, and their scales, Agency: European Research Council (ERC); COCOS – effects of Climatic extremes On eCOsystem Stability, Agency:

Horizon Europe – Marie Skłodowska-Curie Actions (MSCA); DRIFT FOOD - Advanced technologies for high quality, safe and sustainable regional food production, Agency: Horizon Europe (Era Chair) and others listed in Module 4 of this self-evaluation report.

Within the framework of the Rector's Directive "Principles of Utilizing Institutional Support for the Long-Term Conceptual Development of a Research Organization at CZU", CZU has implemented a methodology for redistributing the budget between faculties in connection with excellent outputs in science and research. The excellent results are evaluated within the so-called pillars 1 and 2 (Methodology 17+), where publications indexed on WOS in journals D1, Q1 and Q2 are considered only.

Innovative environment and increasing the international or disciplinary competitiveness of the CZU research activities

Among the main strategies of CZU to support an innovative environment and increase international or disciplinary competitiveness include strengthening international collaboration through participation in Global Research Networks: Euroleague for Life Sciences ELLS, Association for European Life Science Universities ICA, The European Alliance on Agricultural Knowledge for Development AGRINATURA, European University Association (EUA) International Union for Agroforestry IUAF and others. Active involvement in international consortia, and joint research projects: collaborations such as ERC, Horizon Europe, Erasmus+, COST Actions, EJP Soil with top universities and research institutions worldwide. CZU received the Seal of Excellence for SUSTAIN-LIFE project (<https://education.ec.europa.eu/education-levels/higher-education/european-universities-initiative/seal-of-excellence>). The Seal of Excellence is a quality label awarded to proposals of universities alliances that did not receive funding through Erasmus+ due to budgetary constraints. The label recognises the high quality of the proposal and helps other funding bodies take advantage of the European Universities initiative evaluation process. CZU supports researcher mobility funding for short-term and long-term stays abroad for CZU researchers and visiting international experts. The Innovative environment at CZU was also supported via establishment of interdisciplinary research centres and innovation hubs such as Centre for Water, Soil, and Landscape (CVPK) and Forest Invasion Synthesis Centre (FISC). Furthermore entrepreneurial support and startups programs like CZU Business Incubator help researchers commercialize their innovations. Within the framework of disciplinary competitiveness, the redistribution of university R&D&I funds (Institutional Support for the Long-Term Conceptual Development) favours scientifically weaker research disciplines at CZU to ensure funding for their further development and achieving the same level of excellence as the best research disciplines within the university in the future.

Development of human potential.

CZU has implemented several strategic initiatives to enhance human potential in R&D&I. CZU undertook a project to align its human resources management with the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers. Due to this initiative, CZU obtained and maintained the HR Excellence in Research Award (HR Award). The above mentioned initiatives were focused on developing capacities, knowledge, and skills of CZU staff, enhancing international cooperation in research, promoting inter-sectoral collaboration and technology transfer and advancing the promotion of research activities at CZU. Through its Sustainability Strategy 2025+, CZU is emphasized on sustainable development as a key objective across all sectors of human activity. This strategy underscores the importance of a healthy planet and equal social conditions as foundations for human well-being and global economic prosperity.

Institutional resilience.

CZU demonstrates a robust commitment to enhancing its institutional resilience in R&D&I fostering an environment that supports innovation, sustainability, and societal engagement. CZU has

successfully passed the international institutional evaluation by the European University Association's Institutional Evaluation Programme (IEP). Furthermore CZU establishing the EU BETTER Life Centre as the output of Horizon Europe project "Bringing Excellence to Transformative Engaged Research in Life Sciences through Integrated Digital Centres" (BETTER Life) coordinated by CZU and aiming to create an inter-institutional support structure. The center focuses on developing capacities of early career researchers to foster socially engaged research addressing societal challenges. As part of the National Recovery Plan for Higher Education (2022-2024), CZU is involved in projects aimed at transforming universities to adapt to new forms of learning and respond to changing labor market needs. This includes the digitization of educational and research activities, administrative tasks, which inherently involves implementing robust cybersecurity measures to protect digital assets and ensure secure online learning environments. It should be mentioned that CZU has extensive infrastructure and assets, including university enterprises, which can provide financial resources for the implementation of strategic R&D&I plans in case of emergency. This can also be considered as a form of financial resilience of CZU as a research institution.

Adherence to ethical principles, scientific integrity and good practice in R&D&I.

CZU demonstrates a strong commitment to ethical principles, scientific integrity, and best practices in R&D&I through several key actions. CZU has established a comprehensive Code of Ethics that outlines the expected moral standards and behaviours for its academic community. This code emphasizes adherence to universally accepted moral principles, respect for human rights and fundamental freedoms, rejection of discrimination, and the avoidance of conflicts of interest. It also underscores the importance of creating a positive work and interpersonal environment, preventing conflicts, and enhancing the relationship between the university community and the public. Furthermore, CZU has implemented a Gender Equality Plan to ensure equal opportunities and support for all researchers, which is crucial for fostering a diverse and inclusive research environment. The adherence to ethical standards in research and development at CZU is best demonstrated by the fact that the university was awarded the HR Excellence in Research Award (HR Award) by the European Commission.

Through these strategic tools and adherence to legal and organizational norms, CZU will effectively support and advance its research and development objectives, fostering an environment conducive to academic excellence and innovation in the next 5 year period.

5.3.1 Institutional tools and measures for the implementation of the research and development strategy

Name of instrument/measure	Description of the tool/measure	Implementation status	Year
CZU Strategic Plan 2021+	Strategic Plan of Educational, Creative and Other Activities of the Czech University of Life Sciences Prague for the period from 2021	Implemented	2021
Rules of the system of ensuring the quality of educational, creative and associated activities and the internal evaluation of the quality of educational, creative	The document describes terms and conditions and methods of ensuring and evaluating the quality of educational, scientific, research, development and innovation activities at CZU, its faculties and the university institute.	Implemented	2023

and associated activities of CZU			
CZU Evaluation Report	This report is the result of the evaluation of CZU by IEP. The Institutional Evaluation Programme (IEP) is an independent membership service of the European University Association (EUA) that offers evaluations to support participating institutions in the continuing development of their strategic management and internal quality culture. IEP is a full member of the European Association for Quality Assurance in Higher Education (ENQA) and is listed in the European Quality Assurance Register for Higher Education (EQAR).	Implemented	2022
International Evaluation Panel	The panel evaluates the university's self-assessment reports and other documentation, providing objective assessments that inform strategic decisions and enhance research quality.	Implemented	2019
CZU Gender Equality Plan	The GEP expresses the interest of CZU and its commitment to gender mainstreaming and equal gender opportunities in a systematic and long-term manner, in such a way that gender issues and the elimination of cumulative inequalities (not desirable differences and diversity associated with gender issues) become a matter of everyday life and enable CZU to function smoothly.	Implemented	2021
CZU Career Regulation	CZU has established a Career Regulation framework that outlines the basic rules and principles of evaluation related to employee career planning.	Implemented	2023
Rules of the Habilitation Procedure or the Procedure for Appointment as a Professor of CZU	The Rules of the Habilitation Procedure or the Procedure for Appointment as a Professor of CZU are internal regulations of the CZU pursuant to Act No. 111/1998 Coll, on Higher Education and on Amendments and Supplements to Other Acts (the Higher Education Act), as amended, and set out details of the procedure for habilitation proceedings at CZUZ within the meaning of Section 72 of the Act and for the procedure for appointment as a professor at the CZU within the meaning of Section 74 of the Act	Implemented	2023
Rules for awarding the Rector's Award for publication outputs of CZU employees	The rector directive sets out the rules for awarding the Rector's Award for employees' publication outputs listed in the Nature Index.	Implemented	2024

Rules for awarding the Rector's Award for the best publication outputs of doctoral students' research work	The rector directive sets out the rules for awarding the Rector's Award to PhD students for outstanding publication outputs.	Implemented	2024
CZU Internationalisation Strategy	This strategy aims to integrate an international and intercultural dimension into the university's teaching, research, and services. The primary objectives include enhancing the global competencies of students and staff, and fostering a multicultural academic environment. Additionally, the strategy seeks to strengthen CZU's international partnerships and collaborations, aligning with the university's vision of achieving European standards of quality and competitiveness.	Implemented	2023
The Sustainability Strategy of the CZU 2025+	The Sustainability Strategy of the Czech University of Life Sciences Prague (CZU) 2025+ is a comprehensive plan that outlines the university's commitment to sustainable development across various facets of its operations including Sustainable Development Management; Science, Research, Educational, and Creative Activities; People, Health, and Social Cohesion; Relationships and Collaboration.	Implemented partially	2025
Principles of using institutional support for the long-term conceptual development of a research organization at CZU	The rector's directive concerns the purpose of using the funds for the long-term conceptual development of a research organization, the method of its distribution to faculties, and the establishment of guidelines for the management of these funds, provided by the Ministry of Education, Youth and Sports in accordance with Act No. 130/2002 Coll.	Implemented	2021
Intellectual Property Administration at CZU	The directive regulates the relationships and determines certain rights and obligations of employees and students of CZU associated with the creation, protection and use of the results of creative activities in relation to the university, with the intent to support the creative, research and innovation potential of CZU, its employees and collaborating entities.	Implemented	2023
Strategic setting of Human Resources Development at CZU Prague (HR Award)	The purpose of the initiative is to set up strategic R&D management at CZU in accordance with the terms of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers and to obtain the HR AWARD.	Implemented	2023

CZU Code of Ethics	The CZU Code of Ethics introduces the essential ethical principles that guide employees and students of the CZU in their academic and other activities within the university and non-university spheres, in particular as regards educational, scientific and research, development and innovation, artistic and other creative activities, or their work in the public space.	Implemented	2022
Counter Foreign Interference Manual of CZU	The manual describes general resilience-building measures at CZU against foreign interference on an institutional level and the most common interference techniques foreign powers use against individuals. The manual helps to understand the necessity of mitigating foreign interference risks. The manual is a document of a preventive nature.	Not-implemented	2026

5.4 Implementation of the recommendations in Module 5

The HEI will briefly describe how it has implemented the recommendations for Module 5 from the previous evaluation period, if applicable.

Maximum 1000 words

Self-assessment:

The recommendations from the previous evaluation emphasized the need to prioritize the internationalization of research and development. This focus aims to enhance involvement/leadership in high-level research projects, particularly those financed by the EU. Additionally, there should be a greater emphasis on successfully obtaining patents and industrial models. This should be linked to more effective collaboration with businesses and the private sector. Publication strategy and award system could also be better organised together with unclear career policy. Finally, the advisory and evaluation help from international boards and experts seems to give good results, and therefore, this strategy should be continued.

As reported in previous parts of Module 5 CZU implements several strategies to support excellent and internationally oriented research. The positive results of this policy resulted in increase of total number of foreign research projects financed by EU at CZU, particularly Horizon Europe grants. The fact that CZU managed to obtain a very prestigious ERC grant can serve as an example of the correct direction of the above strategy. The total funds from foreign research projects where CZU is a main beneficiary (coordinator) increased from 7.35 million EUR (previous SER 2014 – 2019) to 18.41 million EUR (actual monitored period 2020 – 2024) and total funds from foreign research projects where CZU is another participant (partner) increased from 1.89 million EUR (previous SER 2014 – 2019) to 10.27 million EUR (actual monitored period 2020 – 2024). A similar trend can be observed in the case of successfully obtaining patents and industrial models, which have increased from 21 to 27 (previous and actual evaluation period) and from 13 to 62 (previous and actual evaluation period), respectively. This fact is also supported by data from the annual reports of CZU, which state that the volume of funds from contractual research from non-public sources has increased from an average value of EUR 519,803 in the years 2016 to 2019 to EUR 1,751,111 in last years in the currently evaluated period.

Regarding the publication strategy, award system and career policy of CZU, it can be stated that all these aspects played an important role in setting a new strategy aimed at ensuring the university's excellent position in the field of R&D&I. It can be stated that CZU has adopted a strategy for redistributing financial resources between faculties based on their publication performance in high-quality scientific journals (D1, Q1 and Q2) indexed on WOS. In 2023, the number of research papers in the D1 category increased by 84% compared to 2017, while the Q1 category saw an increase of 154%. Together, papers in the Q1 and Q2 categories made up 81% of the total research papers published by CZU in the Web of Science (WoS). In the Leiden Ranking (CWTS Leiden Ranking 2024), which assesses 1,506 major universities worldwide, CZU achieved 2nd place among Czech universities in terms of the percentage of papers published in D1 according to the Web of Science for the period from 2019 to 2023, with a rate of 8.1%. This places CZU just behind South Bohemian University, which had 8.7%, and ahead of Palacky University with 7.9%, Masaryk University with 7.4%, and Charles University with 7.3% (<https://vedavyzkum.cz/veda/ze-zahranici/leidensky-zebricek-a-prekvapivy-cesky-publikacni-premiant-jihoceska-univerzita>). Furthermore, the university implemented new rules for awarding the Rector's Award for publication outputs of CZU employees, rules for awarding the Rector's Award for the best publication outputs of doctoral students' research work as well as the new career regulation code was implemented at CZU. The university obtained the HR Excellence in Research Award from the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

Finally, the advisory and evaluation from international boards and experts continued at CZU. Several meetings of the university IEP (International Evaluation Panel) have been organized during the evaluated period. Furthermore in 2022, CZU was subjected to an external IEP evaluation at its own request. The Institutional Evaluation Programme (IEP) is an independent membership service of the European University Association (EUA) that offers evaluations to support participating institutions in the continuing development of their strategic management and internal quality culture. IEP is a full member of the European Association for Quality Assurance in Higher Education (ENQA) and is listed in the European Quality Assurance Register for Higher Education (EQAR).

The findings and recommendations from the evaluations are systematically integrated into CZU's strategic planning. This integration ensures the continuous improvement of R&D&I outcomes, as well as the provision of adequate infrastructure. Additionally, it fosters a welcoming environment that embodies the principles of sustainable development and ensures equal and inclusive treatment for both employees and students.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 5

Document name	No. criteria	Location (link in HTML)
Strategic Plan of Educational, Creative and Other Activities of the Czech University of Life Sciences Prague for the period from	5.1	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-15702-strategic-plans-and-documents

2021 (CZU Strategic Plan 2021+)		
CZU Gender Equality Plan	5.1	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-15702-strategic-plans-and-documents
CZU Internationalisation Strategy	5.1	Internationalisation Strategy of CZU for the period of 2023-2030.pdf
Sustainability Strategy of the CZU 2025+	5.1	https://csr.czu.cz/en/r-15346-sustainability-strategy-and-sustainability-reports
Rectors Directive on Intellectual Property Administration at CZU	5.1	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations See Other Internal Regulations and Internal Rules, Rector's Directives, Intellectual Property Management at the Czech University of Life Sciences Prague
HR Award	5.1	https://www.czu.cz/en/r-9191-projects-and-partnerships/r-16736-strategic-setting-of-human-resources-development-at-czu
The Academic Ranking of World Universities (ARWU)	5.1	https://www.shanghairanking.com/institution/czech-university-of-life-sciences-prague
Sustainability Report 2023	5.2	https://csr.czu.cz/en/r-15346-sustainability-strategy-and-sustainability-reports
Report of the Internal Evaluation of the Quality of Educational, Creative and Related Activities 2022	5.2	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-13754-quality-of-educational-and-creative-activities
Rules of the system of ensuring the quality of educational, creative and associated activities and the internal evaluation of the quality of educational,	5.3	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations

creative and associated activities of CZU		
CZU Career Regulation	5.3	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations
Rules of the Habilitation Procedure or the Procedure for Appointment as a Professor of CZU	5.3	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations
Rules for awarding the Rector's Award for the best publication outputs of doctoral students' research work	5.3	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations See Other Internal Regulations and Internal Rules, Rector's Directives, Rules for Awarding the Rector's Award for the Best Publication Outputs from Doctoral Research
Rules for awarding the Rector's Award for publication outputs of CZU employees	5.3	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations See Other Internal Regulations and Internal Rules, Rector's Directives, - Award rules Rector's Awards for publication output of CZU employees listed in the Nature index, - Award rules Rector's Awards for publication output of CZU employees in journals ranked in the 1st decile of WoS
CZU Code of Ethics	5.3	https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-9226-university-internal-regulations
BETTER Life	5.3	https://www.czu.cz/en/r-9191-projects-and-partnerships/r-9347-successfull-researchers/better-life.html
BEAST	5.3	https://www.fzp.czu.cz/en/r-9411-projects-and-partnerships/r-9880-projects/r-18897-beast-biodiversity-dynamics-across-a-continuum-of-space-time-and-their-scales
DRIFT-FOOD	5.3	https://driftfood.eu/
Technology Transfer Office	5.3	https://ott.czu.cz/en
CZU Seal of Excellence for	5.3	https://education.ec.europa.eu/education-levels/higher-education/european-universities-initiative/seal-of-excellence

SUSTAIN-LIFE project		
CZU Evaluation Report	5.4	https://www.iep-qa.org/downloads/publications/czech%20university%20of%20life%20sciences%20prague%20report_final.pdf
International Evaluation Panel	5.4	https://msmt.gov.cz/uploads/odd_322/Povereni/CZU/Statut_a_JR.pdf?utm_source=chatgpt.com (Statute and Rules of Procedure of the International Evaluation Panel of the Czech University of Life Sciences Prague)
REFOREST	5.4	https://www.czu.cz/en/r-9191-projects-and-partnerships/r-20275-reforest
ECO READY	5.4	https://www.czu.cz/en/r-9191-projects-and-partnerships/r-20199-eco-ready