

# **EVALUATION REPORT FOR EVALUATING RESEARCH ORGANISATIONS IN THE UNIVERSITIES SEGMENT IN 2020**

## INTRODUCTION

The new methodology for evaluating research organisations was approved by the Government of the Czech Republic in 2017 with the primary purpose:

- Gaining new knowledge for quality management of Research Organisations and Research, Development and Innovation (hereinafter referred as “R&D&I”) at all levels (formative evaluation),
- Increasing the efficiency of public spending (summative evaluation);
- Fostering the quality and international competitiveness of the Czech research, experimental development and innovation,
- Distribution and increase of responsibilities of the various participants in research, experimental development and innovation,
- Obtaining one of the supporting documents for provision of a grant for the long-term conceptual development of the research organisation (hereinafter referred as „LCDRO“).

The evaluation takes place at three levels, each contributing to the achievement of the objectives. In addition to the national level, the evaluation continues at the level of grant providers for long-term conceptual development of research organisations and at the level of the research organisation itself. The evaluation is focused on 5 areas, the so-called Modules:

- M1-Quality of Selected Results
- M2-Research Performance
- M3-Social Relevance
- M4-Viability
- M5-Strategy and Policies

The evaluation at national level is carried out by the Research, Development and Innovation Council, the Expert and Advisory body of the Czech Government and is focused on modules M1 and M2.

You, as an evaluator, are currently part of the evaluation at the level of the grant provider for the long-term conceptual development of the research organization, which is a university. This evaluation focuses on modules M3, M4 and M5. The combination of outcomes from the evaluation at national and provider level will then give an overall picture of the research organisation. The outcome from the evaluation of the university at the national level is available as an annex to the self-evaluation report for your information. The M3 module provides information about the social relevance of the research, development and innovation of the evaluated university in detail providing information on the extent and quality of the results of individual components and fields. The outcome from the evaluation in Modules M4 and M5 will form a single whole because they represent the conceptual unit (module M4 – Retrospective data and module M5 – SWOT analysis with projection to the setting of the main objective, vision in accordance with the mission of the University and Development of strategy and conception).

The evaluation of universities in all 5 modules is carried out in the Czech Republic for the first time. The parallel aim of the evaluation is therefore to gain experience in evaluating and verifying the suitability of the chosen model, especially for getting feedback from the university for its further institutional activities in the field of research, experimental development and innovation. The outcome from the evaluation in Modules M3, M4 and M5 expresses the level of the evaluated university, horizontal comparison of the individual evaluated university will not be carried out. The evaluators compare the university with the usual level of universities based on their expert knowledge. The evaluation will be carried out in five-year cycles, with the following evaluation assessing the progress

of the university and the application of the recommendations provided. Written evaluation and recommendations are therefore very important part of the evaluation.

## INSTRUCTIONS FOR EVALUATORS

The section below introduces the basic information in relation to the method of evaluation and the specifics of each module M3 to M5. The information relates to individual specifics for each module, evaluation criteria and evaluation scales.

Please read the following section before approaching to your evaluation.

### MODULE 3 SOCIAL RELEVANCE

This module evaluates the positive impact of research, development and innovation and its results on society and individuals. The social relevance criterion concerns applied research results that are of direct significance for the economy, state and public administration, and cultural and social policy. This module therefore concerns the evaluation of the impact of research results, experimental development and innovation and is therefore complementary to modules 1 and 2.

A module M3 evaluation and its results depend on the nature of the field of research and development (FORD<sup>1</sup>), and it is therefore essential to evaluate a unit that is as compact as possible, and the evaluation must take into account the specific features of various types of units depending on their fields of research and development (calibration).

Under module M3, the evaluated unit is typically a faculty or other relevant constituent part of a university such as an institute (“evaluated unit”) under Section 22(1) of the Universities Act. Each evaluated unit is evaluated separately, therefore the evaluation report contains the number of evaluations in M3 according to the number of evaluated units. A summary of the evaluation to the level of the university is then carried out.

Each evaluated unit is registered under a single field of research and development (“FORD category”), which is only relevant for the purposes of calibration. The evaluation covers all projects and the results from all fields of research and development of the evaluated unit.

As the individual criteria have different degrees of relevance for the various FORD categories, module M3 expresses the indicative relevance of each criterion in six FORD categories in the form of a number of stars.

The indicative relevance of each criterion (number of stars) is defined as follows:

| RELEVANCE OF CRITERIA IN FORD CATEGORIES |                        |
|--|------------------------|
| 5*                                       | Highly relevant        |
| 4*                                       | Significantly relevant |
| 3*                                       | Relevant               |
| 2*                                       | Partially relevant     |
| 1*                                       | Low relevance          |

<sup>1</sup> OECD *Fields of Research and Development (Frascati Manual 2015)*

The total number of stars represents total indicative relevance in Module M3 for each criterion of a specific FORD category:

| CRITERIA                          |  | FORD CATEGORIES |                            |                             |                                      |                 |                         |
|-----------------------------------|--|-----------------|----------------------------|-----------------------------|--------------------------------------|-----------------|-------------------------|
|                                   |  | Natural Science | Engineering and Technology | Medical and Health Sciences | Agricultural and Veterinary Sciences | Social Sciences | Humanities and the Arts |
| 3.2                               | Applied research projects  | 4*              | 5*                         | 3*                          | 5*                                   | 4*              | 3*                      |
| 3.3                               | Contract research  | 4*              | 5*                         | 4*                          | 5*                                   | 3*              | 1*                      |
| 3.4                               | Revenues from non-public sources   | 5*              | 5*                         | 4*                          | 5*                                   | 2*              | 1*                      |
| 3.5                               | Applied research results with an economic impact on society  | 4*              | 5*                         | 3*                          | 5*                                   | 2*              | 1*                      |
| 3.6                               | Applied research results with an impact other than an economic one on society  | 3*              | 3*                         | 5*                          | 3*                                   | 5*              | 5*                      |
| 3.7                               | Evaluated unit's interactions with the non-academic application/corporate sphere   | 4*              | 5*                         | 5*                          | 5*                                   | 4*              | 4*                      |
| 3.8                               | System and support for technology transfer and intellectual property protection  | 5*              | 5*                         | 4*                          | 5*                                   | 1*              | 1*                      |
| 3.9                               | Strategy for setting up and supporting spin-off firms or other forms of commercialising R&D&I results (can be extended to the whole university, emphasizing the specific features of the evaluated unit) | 4*              | 5*                         | 4*                          | 4*                                   | 1*              | 1*                      |
| 3.10                              | Significant individual awards for R&D&I  | 5*              | 5*                         | 5*                          | 5*                                   | 5*              | 5*                      |
| 3.11                              | Recognition in the international R&D&I community (elected membership of professional societies, etc.)  | 5*              | 5*                         | 5*                          | 5*                                   | 5*              | 5*                      |
| 3.12                              | Significant activities in the popularisation of R&D&I and communication with the public  | 5*              | 5*                         | 4*                          | 5*                                   | 5*              | 5*                      |
| <b>TOTAL INDICATIVE RELEVANCE</b> |  | <b>48*</b>      | <b>53*</b>                 | <b>46*</b>                  | <b>52*</b>                           | <b>37*</b>      | <b>32*</b>              |

Each criterion is scored 0 – 5 points, establishing the individual ratings (see table 1).

Table 1

| RATING   |               |
|----------|---------------|
| 5 points | Excellent     |
| 4 points | Very good     |
| 3 points | Good          |
| 2 points | Average       |
| 1 point  | Below average |
| 0 points | Inadequate    |

The individual ratings represent a qualitative value framework.

|               |  |
|---------------|--|
| Excellent     | The evaluated unit achieves top, world-class level in the criterion.                         |
| Very good     | The evaluated unit achieves an exceptional level in the criterion.                           |
| Good          | The evaluated unit achieves great level in the criterion.                                    |
| Average       | The evaluated unit achieves an average level in the criterion.                               |
| Below average | The evaluated unit is below the average level in the criterion.                              |
| Inadequate    | The evaluated unit is significantly below average level, almost zero level in the criterion. |

The quantitative evaluation of the rated unit in module M3 is based on the score of 11 criteria (3.2-3.12) within the relevant FORD category.

Note: Criterion 3.1 has no indicative relevance, being an introduction in which the evaluated unit assesses the social benefit of R&D&I in the fields of research at the evaluated unit, and of the evaluated unit as a whole.

Under module M3 the evaluated unit's score is the sum of the results of multiplying the indicative relevance of each criterion (the number of stars) and the scoring of the individual criteria. The maximum scores for the individual categories are listed in table 2.

Table 2

| CRITERIA   | FORD CATEGORIES |                            |                             |                                      |                 |                         |
|--|-----------------|----------------------------|-----------------------------|--------------------------------------|-----------------|-------------------------|
|  | Natural Science | Engineering and Technology | Medical and Health Sciences | Agricultural and Veterinary Sciences | Social Sciences | Humanities and the Arts |
| <b>TOTAL INDICATIVE RELEVANCE MULTIPLIED BY MAXIMUM SCORES</b> | 240             | 265                        | 230                         | 260                                  | 185             | 160                     |

The overall rating scale reflects the calibration by setting the indicative relevance of the individual criteria and the point range on the rating scale within the FORD categories.

Table 3

| <b>EVALUATION SCALE</b>                     |               |
|---|---------------|
| <b>Natural Sciences</b>                     |               |
| > 216 points                                | Excellent     |
| 169 – 216 points                            | Very good     |
| 121 – 168 points                            | Good          |
| 73 – 120 points                             | Average       |
| 25 – 72 points                              | Below average |
| 0 – 24 points                               | Inadequate    |
| <b>Engineering and Technology</b>           |               |
| > 238 points                                | Excellent     |
| 186 – 238 points                            | Very good     |
| 133 – 185 points                            | Good          |
| 80 – 132 points                             | Average       |
| 27 – 79 points                              | Below average |
| 0 – 26 points                               | Inadequate    |
| <b>Medical and Health Sciences</b>          |               |
| > 207 points                                | Excellent     |
| 162 – 207 points                            | Very good     |
| 116 – 161 points                            | Good          |
| 70 – 115 points                             | Average       |
| 24 – 69 points                              | Below average |
| 0 – 23 points                               | Inadequate    |
| <b>Agricultural and Veterinary Sciences</b> |               |
| > 234 points                                | Excellent     |
| 183 – 234 points                            | Very good     |
| 131 – 182 points                            | Good          |
| 79 – 130 points                             | Average       |
| 27 – 78 points                              | Below average |
| 0 – 26 points                               | Inadequate    |
| <b>Social Sciences</b>                      |               |
| > 166 points                                | Excellent     |
| 130 – 166 points                            | Very good     |
| 93 – 129 points                             | Good          |
| 56 – 92 points                              | Average       |
| 19 – 55 points                              | Below average |
| 0 – 18 points                               | Inadequate    |
| <b>Humanities and the Arts</b>              |               |
| > 144 points                                | Excellent     |
| 113 – 144 points                            | Very good     |
| 81 – 112 points                             | Good          |
| 49 – 80 points                              | Average       |
| 17 – 48 points                              | Below average |
| 0 – 16 points                               | Inadequate    |

The scoring for each criterion is then supplemented with a written evaluation, including a recommendation. The overall evaluation for the evaluated unit under module M3 is established using an evaluation scale (see table 3).

## MODULE M4 VIABILITY

Module 4 aims to describe how the university functions as an institution in the following areas: organisation, quality of management of R&D&I; human resources policy; structure and development of human resources; equipment and organization of infrastructure; the ability to raise funds to implement R&D&I.

Under module M4 the evaluated unit is the university as a whole. The condition of the university is evaluated usually according to the data for the evaluated period 2014-2018. If the university did not indicate data in some years because it was not available, it is evaluated according to the data provided. Module M4 does not take into account the calibration for the individual FORD categories. The scoring is the same for all evaluated universities.

The quantitative evaluation for module M4 is based on the scores for 28 criteria. Each criterion is scored 0 – 5 points, establishing the individual ratings (see table 4). The exception is criterion 4.4, which is not relevant for all universities evaluated. If it is not relevant, the university is formally evaluated by the average number of points in the other M4 module criteria. The maximum score is 140 points.

Table 4

| RATING   |               |
|----------|---------------|
| 5 points | Excellent     |
| 4 points | Very good     |
| 3 points | Good          |
| 2 points | Average       |
| 1 point  | Below average |
| 0 points | Inadequate    |

The individual ratings represent a qualitative value framework.

|               |  |
|---------------|--|
| Excellent     | The evaluated unit achieves top, world-class level in the criterion.                         |
| Very good     | The evaluated unit achieves an exceptional level in the criterion.                           |
| Good          | The evaluated unit achieves great level in the criterion.                                    |
| Average       | The evaluated unit achieves an average level in the criterion.                               |
| Below average | The evaluated unit is below the average level in the criterion.                              |
| Inadequate    | The evaluated unit is significantly below average level, almost zero level in the criterion. |



Table 5 shows the individual evaluation criteria under module M4.

Table 5

| CRITERIA |  |
|----------|--|
| 4.1      | Organisation and management of R&D&I   |
| 4.2      | Support system for R&D&I and measures to stimulate high-quality science  |
| 4.3      | Institutional regulations for the use of institutional support for the long-term conceptual development of a research organization           |
| 4.4      | Strategy for the establishing, financing and long-term development and sustainability of research centres and large research infrastructures |
| 4.5      | Training system for intellectual property protection and technology transfer   |
| 4.6      | Organisation of doctoral studies   |
| 4.7      | Internationalisation of doctoral studies   |
| 4.8      | Subsequent careers for doctoral graduates (support)  |
| 4.9      | Rules for funding doctoral students, including foreign students (stimulation and motivation tools)   |
| 4.10     | Significant cooperation in R&D&I at national level   |
| 4.11     | Significant cooperation in R&D&I at international level  |
| 4.12     | Mobility of academic and research workers (including segmental and intersegmental mobility)  |
| 4.13     | Internationalisation of the internal environment   |
| 4.14     | System for career growth for academic and research workers   |
| 4.15     | Appraisal system for academic and research workers and filling key positions in R&D&I  |
| 4.16     | Recruitment system for academic and research workers from the external environment   |
| 4.17     | Human resources structure  |
| 4.18     | Gender equality measures   |
| 4.19     | Structure of funding for R&D&I   |
| 4.20     | Support for obtaining foreign research projects (including the strategy for obtaining prestigious foreign funding for R&D&I)                 |
| 4.21     | Internal and external system for evaluating research units (groups, teams, departments, institutes)  |
| 4.22     | Conditions for setting up new teams and introducing new research topics (start-up strategy)  |
| 4.23     | External advisory bodies for R&D&I, independent feedback for R&D&I   |
| 4.24     | System for acquiring and renewing instruments and equipment for R&D&I  |
| 4.25     | System for sharing instruments and equipment for R&D&I   |
| 4.26     | Internal regulations and measures for maintaining good practice in R&D&I (e.g. Code of Conduct for Research Integrity, ethical issues)       |
| 4.27     | Open Access strategy for information from R&D&I  |
| 4.28     | Data Management strategy for research data   |

The scoring for each criterion is then supplemented with a written evaluation, including a recommendation. The overall evaluation under module M4 is established using an evaluation scale (see table 6).

Table 6

| <b>EVALUATION SCALE</b> |               |
|-------------------------|---------------|
| > 126 points            | Excellent     |
| 99–126 points           | Very good     |
| 71–98 points            | Good          |
| 43–70 points            | Average       |
| 15–42 points            | Below average |
| 0–14 points             | Inadequate    |

## MODULE M5 STRATEGY AND POLICIES

Evaluation under module 5 is aimed at evaluating quality in various aspects of the strategies the university has formulated for its future development.

The evaluation takes into account whether the university has defined a strategy and policy and furthermore its quality as well as contribution to fulfilment of sectoral and eventually national strategic documents (the context with the valid documentation, for example EUROPE 2020 A strategy for smart, sustainable and inclusive growth, National Research, Development and Innovation Policy of the Czech Republic 2016–2020, National priorities of oriented research, experimental development and innovations, National Research and Innovation Strategy for Smart Specialization (hereinafter National RIS3 Strategy)). The evaluation covers the previous period and above all the anticipated future developments.

For module M5 the evaluated unit is the university as a whole.

Module M5 does not take into account the calibration for the individual FORD categories. The scoring is the same for all universities.

The quantitative evaluation for module M5 is based on the scores for 5 criteria. Each criterion is scored 0 – 5 points, establishing the individual ratings (see table 7). The maximum score is 25 points.

Table 7

| RATING   |               |
|----------|---------------|
| 5 points | Excellent     |
| 4 points | Very good     |
| 3 points | Good          |
| 2 points | Average       |
| 1 point  | Below average |
| 0 points | Inadequate    |

The individual ratings represent a qualitative value framework.

|               |  |
|---------------|--|
| Excellent     | The evaluated unit achieves top, world-class level in the criterion.                         |
| Very good     | The evaluated unit achieves an exceptional level in the criterion.                           |
| Good          | The evaluated unit achieves great level in the criterion.                                    |
| Average       | The evaluated unit achieves an average level in the criterion.                               |
| Below average | The evaluated unit is below the average level in the criterion.                              |
| Inadequate    | The evaluated unit is significantly below average level, almost zero level in the criterion. |

Table 8 shows the individual evaluation criteria under module M5:

Table 8

| CRITERIA |  |
|----------|--|
| 5.1      | The evaluated institution's R&D&I mission and vision   |
| 5.2      | Research objectives and strategies before the next evaluation  |
| 5.3      | Relation to higher national and supranational strategic goals and measures in R&D&I  |
| 5.4      | Strategy and strategic management tools to improve the international or sectoral competitiveness of the university's research work and its quality |
| 5.5      | Institutional tools for implementing the research strategy, emphasising support for quality R&D&I and the innovation environment                   |

The scoring for each criterion is then supplemented with a written evaluation, including a recommendation. The overall evaluation under module M5 is established using an evaluation scale (see table 9).

Table 9

| EVALUATION SCALE |               |
|------------------|---------------|
| > 22 points      | Excellent     |
| 18–22 points     | Very good     |
| 13–17 points     | Good          |
| 8–12 points      | Average       |
| 4–7 points       | Below average |
| 0–3 points       | Inadequate    |

## **MODULES M4 AND M5 SYNTHESIS**

Modules M4 and M5 represent a single organic whole, as they constitute a logical conceptual unit. Module M4 presents the research organisation on the basis of retrospective data, and module M5 builds on this with a SWOT analysis with a projection for setting the primary objective: the university's vision in accordance with its mission, and creation of its strategy and policy.

The evaluation aims on one hand to evaluate the conditions of the institution for R&D&I (organisation, management and support for R&D&I; doctoral studies; national and international cooperation and mobility in R&D&I; human resources and careers in R&D&I; funding for R&D&I; start-up strategy; research infrastructure; good practice in R&D&I) and on the other hand mission and vision for R&D&I, objectives and strategies for R&D&I, national and international context of R&D&I and chosen tools for implementation of the research strategy.