

Pilotní ověření návrhu nové metodiky hodnocení výzkumných organizací

Pilot Test of New Evaluation Methodology of Research Organisations

**Samostatný doplňující dokument 5:
Příklad bibliometrické zprávy**

***Background document 5:
Example of a Bibliometric Report***

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Dokument „Example of a Bibliometric Report“ neprošel jazykovou korekturou.

Bibliometric report

Quantitative information about research outputs

Research Unit:

Evaluated Unit:

Field of Research:

Chemical sciences

Prepared by:
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1.1 Introduction

1.1.1 Three groups of research outputs

The research outputs are divided in three groups – scholarly outputs, non-traditional scholarly outputs, and IPR-related outputs.

For the scholarly outputs, bibliometric indicators are provided that can be compared within fields across Evaluated Units. The bibliometric indicators are based on bibliographic data that are derived from or can be verified against independently produced bibliographic data sources.

The quantitative information about non-traditional scholarly outputs and IPR-related outputs is based on institutional self-reporting in the national RD&I Information System (IS). In many cases, this information is less easy to verify and to bring into comparable indicators. Nonetheless, this information is important in the evaluation to understand and assess the activities that can be seen as expressed in non-scholarly outputs. These outputs will be listed with numbers in the self-reported categories.

Context information that is needed to understand and assess data on non-traditional scholarly and IPR-related outputs include: a) the self-evaluation report on these outputs and the activities they represent, and b) data to study examples of non-scholarly outputs.

For both the publication-type outputs and other type outputs and activities and IPR-related ones, it is necessary to understand how their types and relative frequencies vary with the field and type of research.

1.1.2 Purpose of the quantitative information

The quantitative information about research outputs is only part of the material provided for the evaluation. The quantitative information is designed to support, not to replace, the qualitative judgement of the panel.

The relative importance of the three groups of outputs – as well as the types of outputs within them – can be expected to vary not only by field of research, but also the different purposes and forms of research.

None of the bibliometric indicators or numbers provided should be used alone. Instead, they should be seen in the context of each other and of other information provided for the evaluation. One reason is that peer review – much more than the performance indicators themselves – allows for overview, understanding, discussion and formative judgements. Another reason is that the indicators can enlighten each other, e.g. an indicator of the number of authors per article in a field can enlighten the indicator of the presence of international co-authorship in the same field.

1.1.3 Data sources

The bibliometric indicators covering **publication-type research outputs** have two complementary data sources:

- International: InCites by Thomson Reuters, providing data based on publications indexed for Web of Science in these categories: Articles, Reviews, Proceedings Papers, Letters. The indicators were counted based on Underlying Source Article Data from InCites provided by Thomson Reuters in the middle of year 2014.
- National: the Czech RD&I Information System (IS), providing data for publications in the following categories: Articles in peer-reviewed journals (type J); monographs (type B); book chapters (type C - includes Articles in Books and Chapters in Books); Proceedings papers (type D)

The data source for information about other **research outputs and activities** and **IPR-related outputs** is the Czech RD&I Information System, which can provide data for outputs in the following categories:

- Results used by the funding provider, projected into legislation or norm, projected into non-legislative or strategic documents (type H), Research report containing classified information (type V), Certified methodologies, art conservation methodologies, specialized map works (type N), Pilot plant (Zpilot), Verified technology (Ztech), Software (R), Prototypes, Function examples (G), Audiovisual production, electronic documents(A), Conference organization(M), Workshop organization (W), Exhibition organization (E), Other results (O)
- IPR-related outputs, i.e. Patents (type P), Plant variety (type Zodr), Animal breed (type Zplem), Utility model, Industrial design (F)

1.1.4 The selection of bibliometric indicators

The selection of the bibliometric indicators for quantitative information about scholarly publications is based on:

- The purpose of informing field specific panels in the best possible way
- Relevance for the institutional level of evaluation
- Well-established international practice in the field
- Availability, compatibility and transparency in relation to chosen data sources
- Comprehensiveness by also including publications not covered in international data sources, which is important especially in the humanities, the social sciences and the engineering sciences.

1.1.5 Time span of the indicators

The time span for bibliometric indicators, also allowing for time series, is (for an evaluation conducted in 2015):

- 2009-2013 for publication-based indicators
- 2009-2012 for citation-based indicators, allowing a minimum of one full year for citing publications to be indexed

1.1.6 Field categorisation of the research outputs

- In Web of Science/InCites-based indicators, publications are classified by fields according to the journals they were published in. Thomson Reuters predefines both the underlying journal classification in 251 Web of Science fields and the aggregated OECD field classification used here.
- It is important to highlight here, that publication could be classified to more than one Web of Science fields (max 6) and those multi-fields publications are counted once in each field in the field divided indicators (such as A1, A2, A4 - A9, B1).
- In RD&I IS-based data, the research outputs are classified in fields as they are reported to the RD&I IS by the institution. The RD&I IS classification is mapped over to the OECD classification.
- RD&I IS classification doesn't exactly fit the OECD classification. There are some OECD fields to which are not coupled any RD&I IS fields.
 - Not coupled OECD fields:
 - 1.7 Other natural sciences
 - 2.8 Environmental biotechnology
 - 2.10 Nano-technology
 - 6.5 Other humanities

1.1.7 Types of information and indicators

The **bibliometric** information and indicators presented below are categorised in five main categories. The first category (A) are indicators on country level (Czech Republic); the other four categories are on the level of Research Units.

- A: Characteristics of the field (CR)

- B: Characteristics of the Research Unit (RU)
- C: Publishing Profile (RU)
- D: Citation Impact (RU)
- E: Collaboration (RU)

Citation indicators and collaboration indicators that demand reasonable coverage of the publications in Web of Science will not be applied in fields with more limited coverage.

The first five sections of this report (A to E) focus on the publication-type outputs as defined in Section 1.1.3, above. For these indicators, the total outputs in the time span 2009-2013 (2009-2012 D indicators) have been taken into account.

The last two sections, instead, provide **statistical** data on all research outputs of the Research Unit, including the publication trends over the years. These data are based on information registered in the Czech RD&I Information System. The sections are:

- F: All RD&I Information System registered outputs (RU)
- G: IPR-related outputs (RU)

1.2 A: Characteristics of the field (CR)

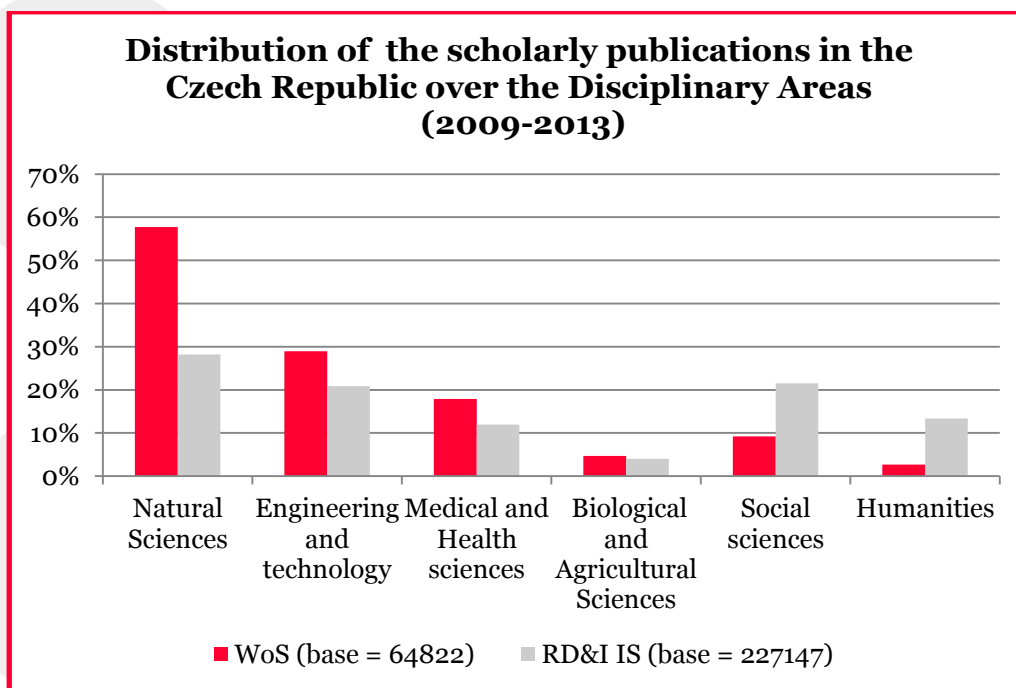
This group of indicators are all meant to give the panel an overview of the characteristics of the field at country level, thereby providing a context for interpreting the indicators for a specific Research Unit in a specific field.

This information will be of particular value for the (main) panel members drafting the overview and analytical reports at the national field and/or disciplinary area level.

The same indicators will be used at the level of Research Units in the categories B-F below. More details about the indicators and their interpretation will be given there.

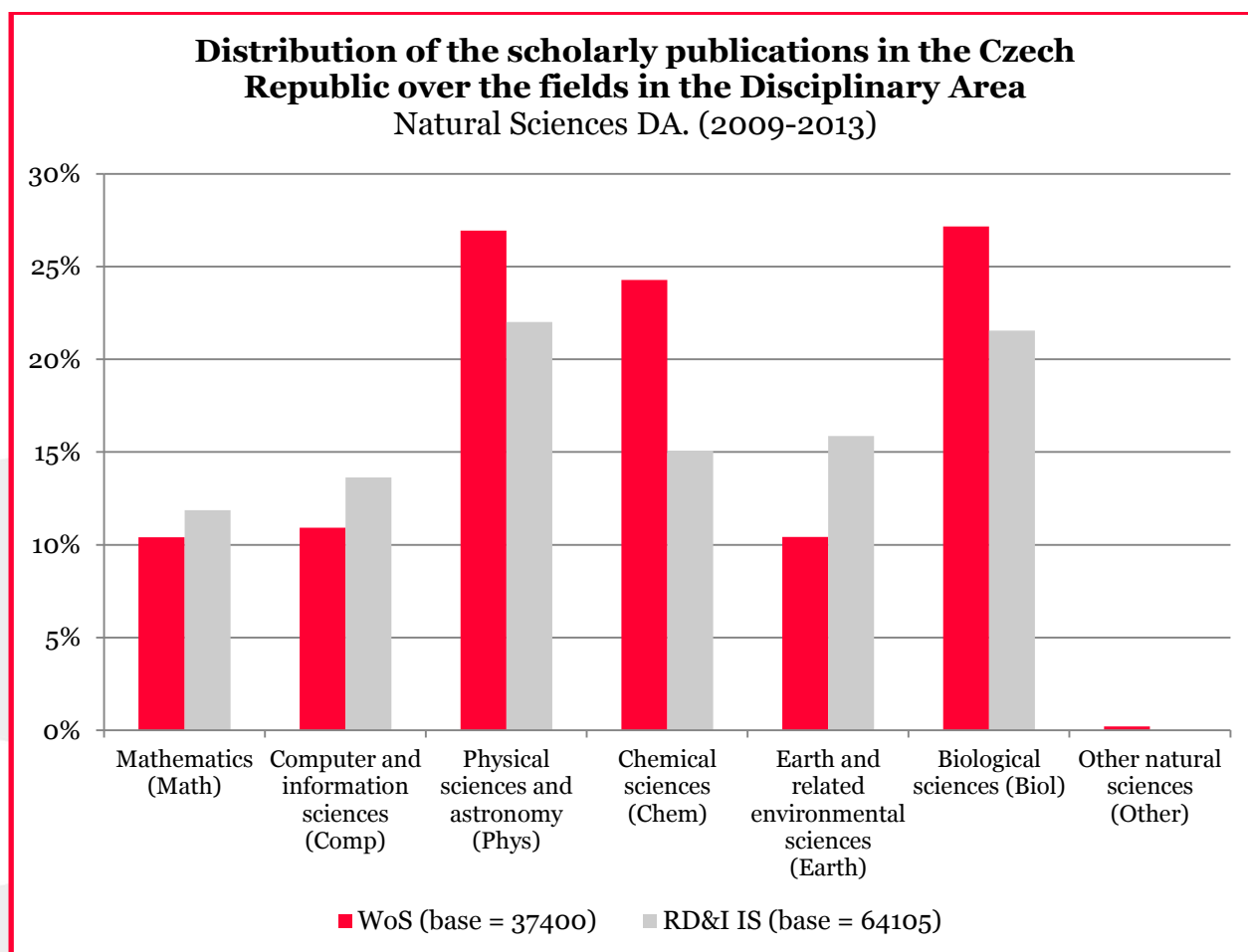
Indicator A1. Relative size of the Disciplinary Area (DA) - publication data from WoS and RD&I IS.

Disciplinary Areas (2009-2013).



Indicator A2. Relative size of the fields within the Disciplinary Area - WoS and R&D IS.

Natural sciences Disciplinary Area (2009-2013).



Field *Other natural sciences* is not coupled with any RD&I IS classification field (described in the section 1.1.6).

Indicator A3. Number of publications in the fields of the Disciplinary Area registered in the RD&I IS

Natural sciences Disciplinary Area (2009-2013).

| Category | Math | Comp | Phys | Chem | Earth | Biol |
|----------------------------------------|------|------|------|------|-------|-------|
| Articles in peer-reviewed journals (J) | 4550 | 2401 | 9565 | 7089 | 5887 | 11658 |
| Monographs (B) | 112 | 120 | 52 | 35 | 283 | 140 |
| Book chapters (C) | 188 | 337 | 237 | 286 | 616 | 792 |
| Proceedings papers (D) | 2758 | 5879 | 4257 | 2254 | 3389 | 1220 |

Indicator A4. Number and share of scholarly publications in the RD&I IS that are indexed in Web of Science.

Natural sciences Disciplinary Area (2009-2013).

| Data Source | Math | Comp | Phys | Chem | Earth | Biol | Other |
|------------------|------|------|-------|------|-------|-------|-------|
| Web of Science * | 3895 | 4083 | 10075 | 9077 | 3901 | 10157 | 82 |
| RD&I IS | 7608 | 8737 | 14111 | 9664 | 10175 | 13810 | |
| % Web of Science | 51% | 47% | 71% | 94% | 38% | 74% | |

*Publication could be counted more than once in different fields (described in the section 1.1.6).

Indicator A5. Mean number of authors and addresses per WoS publication with 20 or less authors.

Natural Sciences Disciplinary Area (2009-2013).

| Articles with <= 20 authors | Math | Comp | Phys | Chem | Earth | Biol | Other |
|-----------------------------|------|------|------|------|-------|------|-------|
| Mean number of authors | 2,3 | 2,7 | 4,8 | 4,9 | 4,5 | 5,3 | 6,1 |
| Mean number of addresses | 2,2 | 1,5 | 3,0 | 2,8 | 3,2 | 3,4 | 5,1 |

Specification of articles with more than 20 authors.

| Articles with > 20 authors | Math | Comp | Phys | Chem | Earth | Biol | Other |
|----------------------------|------|------|------|------|-------|------|-------|
| Number of articles | 3 | 1 | 1460 | 22 | 55 | 216 | 12 |
| Percentage of articles | 0% | 0% | 14% | 0% | 1% | 2% | 14% |
| Maximum authors | 48 | 36 | 3220 | 151 | 244 | 1268 | 391 |
| Maximum addresses | 53 | 15 | 362 | 129 | 245 | 1534 | 229 |

Indicator A6. Percentage of WoS publications in the most cited WoS journals

Percentage of Web of Science publications in the most cited 10 per cent , 25 per cent, and 50 per cent of the journals in the field (counted from the top by the number of articles in the field), based on Journal Impact Factor in the latest (2013) edition of Journal Citation Reports.

Natural Sciences Disciplinary Area (2009-2013).

| | Math | Comp | Phys | Chem | Earth | Biol | Other |
|---------------------------------|------|------|------|------|-------|------|-------|
| In the 10% most cited journals | 2% | 1% | 1% | 1% | 3% | 2% | 24% |
| In the 25% most cited journals | 12% | 10% | 9% | 9% | 8% | 9% | 26% |
| In the 50% most cited journals | 34% | 27% | 40% | 30% | 21% | 34% | 58% |
| In the 50% least cited journals | 66% | 73% | 60% | 70% | 79% | 66% | 42% |

Indicator A7. Mean Field Normalized Citation Impact of Czech WoS publications

Mean Field Normalized Citation Impact, compared to the world average (=1,00) and the EU28 average (=1,00).

Natural sciences Disciplinary Area (2009-2012).

| World average | 2009 | 2010 | 2011 | 2012 |
|---------------|------|------|------|------|
| Math | 0,71 | 0,88 | 0,56 | 0,81 |
| Comp | 0,77 | 0,79 | 0,76 | 1,17 |
| Phys | 0,88 | 0,96 | 1,05 | 1,48 |
| Chem | 0,83 | 0,80 | 0,71 | 0,73 |
| Earth | 0,82 | 0,85 | 0,75 | 0,85 |
| Biol | 0,92 | 0,89 | 1,02 | 1,01 |
| Other | 2,77 | 5,84 | 1,26 | 2,13 |

| EU28 average | 2009 | 2010 | 2011 | 2012 |
|--------------|------|------|------|------|
| Math | 0,67 | 0,85 | 0,56 | 0,75 |
| Comp | 0,64 | 0,71 | 0,66 | 0,88 |
| Phys | 0,74 | 0,79 | 0,87 | 1,10 |
| Chem | 0,77 | 0,76 | 0,67 | 0,68 |
| Earth | 0,74 | 0,74 | 0,67 | 0,71 |
| Biol | 0,79 | 0,76 | 0,85 | 0,81 |
| Other | 1,00 | 2,25 | 0,50 | 0,86 |

High and oscillating values in the *Other natural sciences* field are caused by occasionally appearing highly cited articles from journals Nature and Science which are classified to this field.

Indicator A8. Number and percentage of Czech publications in WoS among the most cited publications.

Number and percentage of Czech WoS publications among the top 10%, and 25% most cited publications (world, EU28).

Natural sciences Disciplinary Area (2009-2012).

World

| Number | Math | Comp | Phys | Chem | Earth | Biol | Other |
|------------------------------|------|------|------|------|-------|------|-------|
| 10% most cited publications | 259 | 117 | 798 | 532 | 221 | 533 | 11 |
| 25% most cited publications | 815 | 387 | 1979 | 1547 | 684 | 1382 | 19 |
| 50% most cited publications | 1401 | 1027 | 3404 | 3005 | 1278 | 2589 | 35 |
| 50% least cited publications | 1694 | 2388 | 4541 | 4116 | 1857 | 2787 | 27 |

| Percentage | Math | Comp | Phys | Chem | Earth | Biol | Other |
|------------------------------|------|------|------|------|-------|------|-------|
| 10% most cited publications | 8% | 3% | 10% | 7% | 7% | 10% | 18% |
| 25% most cited publications | 26% | 11% | 25% | 22% | 22% | 26% | 31% |
| 50% most cited publications | 45% | 30% | 43% | 42% | 41% | 48% | 56% |
| 50% least cited publications | 55% | 70% | 57% | 58% | 59% | 52% | 44% |

EU28

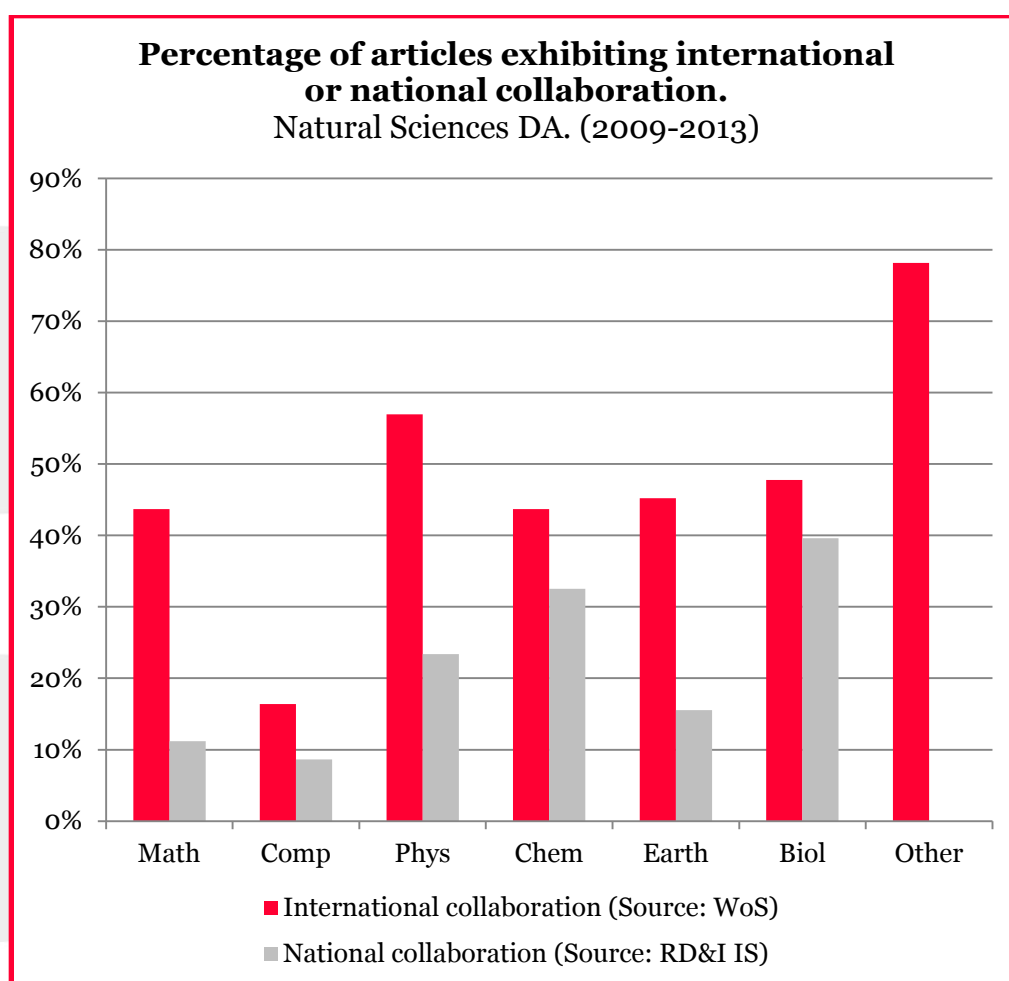
| Number | Math | Comp | Phys | Chem | Earth | Biol | Other |
|------------------------------|------|------|------|------|-------|------|-------|
| 10% most cited publications | 252 | 121 | 624 | 532 | 192 | 405 | 9 |
| 25% most cited publications | 644 | 371 | 1640 | 1426 | 571 | 1068 | 17 |
| 50% most cited publications | 1401 | 1027 | 3404 | 3005 | 1278 | 2589 | 35 |
| 50% least cited publications | 1694 | 2388 | 4541 | 4116 | 1857 | 2787 | 27 |

| Percentage | Math | Comp | Phys | Chem | Earth | Biol | Other |
|-----------------------------|------|------|------|------|-------|------|-------|
| 10% most cited publications | 8% | 4% | 8% | 7% | 6% | 8% | 8% |
| 25% most cited publications | 21% | 11% | 21% | 20% | 18% | 20% | 21% |

| | | | | | | | |
|------------------------------|-----|-----|-----|-----|-----|-----|-----|
| 50% most cited publications | 45% | 30% | 43% | 42% | 41% | 48% | 45% |
| 50% least cited publications | 55% | 70% | 57% | 58% | 59% | 52% | 55% |

Indicator A9. Percentage of publications exhibiting international or national collaboration in the addresses.

Natural sciences Disciplinary Area (2009-2013).



Indicator A10. International collaboration

Five most frequent collaborating countries, their shares of the collaborating publications in the field, and the Mean Field Normalized Citation Impact of articles in each country relation, compared to EU28 in the field.

Chemical sciences (2009-2013).

| | Share of international co-publications | Citation impact (compared to EU 28) |
|----------|----------------------------------------|-------------------------------------|
| USA | 9% | 1,27 |
| GERMANY | 9% | 1,04 |
| FRANCE | 5% | 1,05 |
| SLOVAKIA | 5% | 0,93 |
| POLAND | 4% | 0,86 |

1.3 B: Characteristics of the Research Unit (RU)

Research Unit: ***

Evaluated Unit: ***

Field of Research: **Chemical sciences**

Indicator B1. RU publications - percentage share of all Czech scholarly publications in the main fields

RU scholarly publications as a share of all Czech publications in the main fields.

RU (2009-2013).

| | | WoS | | R&D IS | |
|------|-------------------------------------------------------------------------|-------|--------|----------|-------|
| | Field | % CZ | Count* | % R&D IS | Count |
| 1,1 | Mathematics | 0,05% | 2 | | |
| 1,2 | Computer and information sciences | 0,05% | 2 | 0,07% | 6 |
| 1,3 | Physical sciences and astronomy | 0,20% | 20 | 0,01% | 2 |
| 1,4 | Chemical sciences | 2,60% | 236 | 3,65% | 353 |
| 1,5 | Earth and related environmental sciences | 0,51% | 20 | 0,16% | 16 |
| 1,6 | Biological sciences | 0,19% | 19 | 0,06% | 8 |
| 1,7 | Other natural sciences | | | | |
| 2,1 | Civil engineering | 0,26% | 2 | | |
| 2,2 | Electrical engineering, electronic engineering, information engineering | | | 0,01% | 1 |
| 2,3 | Mechanical engineering | 0,18% | 5 | | |
| 2,4 | Chemical engineering | 2,58% | 25 | 7,42% | 111 |
| 2,5 | Materials engineering | 0,58% | 30 | 0,36% | 33 |
| 2,6 | Medical engineering | | | | |
| 2,7 | Environmental engineering | 0,58% | 13 | 0,03% | 1 |
| 2,8 | Environmental biotechnology | 0,47% | 4 | | |
| 2,9 | Industrial Biotechnology | | | | |
| 2,10 | Nano-technology | 0,19% | 2 | | |
| 2,11 | Other engineering and technologies | 0,13% | 4 | | |
| 3,1 | Basic medical research | 0,37% | 18 | 0,04% | 1 |
| 3,2 | Clinical medicine | 0,04% | 3 | 0,01% | 1 |
| 3,3 | Health sciences | 0,12% | 2 | | |
| 3,4 | Medical biotechnology | | | | |
| 3,5 | Other medical sciences | | | 0,11% | 3 |
| 4,1 | Agriculture, forestry, and fisheries | | | | |

| | | | | | |
|-----|-----------------------------------------------------|-------|---|-------|---|
| 4,2 | Animal and dairy science | | | | |
| 4,3 | Veterinary science | | | | |
| 4,4 | Agricultural biotechnology | | | | |
| 4,5 | Other agricultural sciences | | | | |
| 5,1 | Psychology | | | | |
| 5,2 | Economics and business | | | | |
| 5,3 | Educational sciences | 0,24% | 2 | 0,01% | 1 |
| 5,4 | Sociology | | | | |
| 5,5 | Law | | | | |
| 5,6 | Political Science | | | | |
| 5,7 | Social and economic geography | | | | |
| 5,8 | Media and communication | | | 1,01% | 4 |
| 5,9 | Other social sciences | | | | |
| 6,1 | History and archaeology | 0,33% | 1 | | |
| 6,2 | Languages and literature | | | | |
| 6,3 | Philosophy, ethics and religion | | | | |
| 6,4 | Art (arts, history of arts, performing arts, music) | 0,34% | 1 | 0,01% | 1 |
| 6,5 | Other humanities | | | | |

*Publication could be counted more than once in different fields (described in the section 1.1.6).

Indicator B2. Percentage share of all scholarly outputs by the Evaluated Unit

Publications by the RU versus all publications by the EvU, all fields taken together.

RU (2009-2013).

| | Nr RU publications | Nr EvU publications | RU % of EvU total |
|-----------------|--------------------|---------------------|-------------------|
| Source: WoS | 299 | 872 | 34% |
| Source: RD&I IS | 542 | 1743 | 31% |

Interpretation: These indicators identify the relative size – measured in publication output (research activity) of the Research Unit within its field in the country and within the Evaluated Unit it belongs to. Coverage in Web of Science is field dependent.

1.4 C: Publishing Profile (RU)

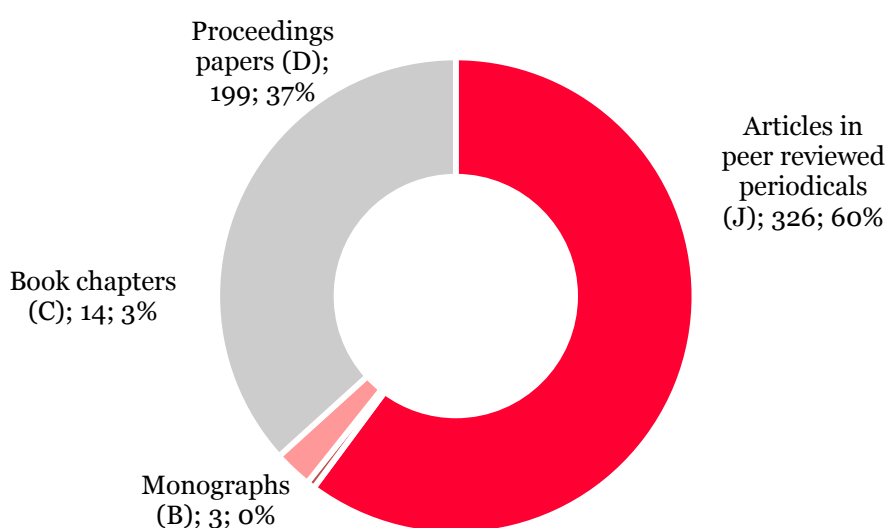
Interpretation: The indicators in this group give an overview of the publishing profile of the Research Unit. This profile should be contextualized with other material provided to the evaluation panel, such as:

- The information on the level of the field given in indicator group A
- Field and type of research
- Mission, size and resources of the Evaluated Unit, as given in the self-evaluation and in other statistical information provided for the evaluation

Indicator C1. Number and shares of the RU publication-type outputs in the RD&I IS

RU (2009-2013).

**Number and shares of the RU publication-type outputs
in the RD&I IS categories**



| Category | Number of outputs |
|----------------------------------------|-------------------|
| Articles in peer-reviewed journals (J) | 326 |
| Monographs (B) | 3 |
| Book chapters (C) | 14 |
| Proceedings papers (D) | 199 |

Indicator C2. Number and shares of RU publications indexed in Web of Science

RU (2009-2013).

| Data Source | Indicator |
|--------------------|-----------|
| Web of Science (N) | 299 |
| RD&I IS (N) | 542 |
| Web of Science (%) | 55% |

Indicator C3. Mean and median number of authors and institutional affiliations (published addresses) per WoS publication by the RU

| Data Source | Mean | Median |
|-------------|------|--------|
| Authors | 5,6 | 5 |
| Addresses | 2,9 | 3 |

Specification of articles with more than 20 authors.

No articles with more than 20 authors.

Indicator C4. Percentage of WoS publications by the RU in the most cited WoS journals

Percentage of Web of Science publications in the most cited 10 per cent, 25 per cent, and 50 per cent of the journals in the field (counted from the top by the number of articles in the field), based on Journal Impact Factor in the latest (2014) edition of Journal Citation Reports.

RU (2009-2013).

| | RU publications |
|---------------------------------|-----------------|
| In the 10% most cited journals | 3% |
| In the 25% most cited journals | 17% |
| In the 50% most cited journals | 44% |
| In the 50% least cited journals | 56% |

Indicator C5. Number and percentage of RU articles per journal in Web of Science

The listing includes those journals with more than 5 per cent of the total volume of RU articles.

RU (2009-2013).

No journals with more than 5 per cent.

1.5 D: Citation Impact (RU)

Interpretation: Citation indicators may inform about the international influence, impact, or usefulness of the research, as seen in the frequency of received citations per publication. Note that citation distributions are highly skewed. One or a few highly cited articles may influence the averages considerably and cause large variations from year to year as well. The two indicators presented here should therefore be seen in relation to each other. One of them identifies the average citation rate, while the other records the presence of articles among the most highly cited articles in the world and EU.

The relevance and validity of the citation indicators have to be related to the specific field and type of research. Especially relevant is the Web of Science coverage of the field. Citation indicators will not be presented in fields with low Web of Science coverage.

Indicator D1. Mean Field Normalized Citation Impact for the Research Unit

RU (2009-2012).

Compared to the world average (=1,00) and the EU28 average (=1,00).

| | 2009 | 2010 | 2011 | 2012 | All Years |
|---------------------------|------|------|------|------|-----------|
| Compared to world average | 1,03 | 0,86 | 0,71 | 0,59 | 0,79 |
| Compared to EU 28 average | 0,92 | 0,77 | 0,64 | 0,53 | 0,71 |
| Number of publications | 53 | 59 | 55 | 58 | 225 |

Indicator D2. Number and percentage of WoS publications by the RU among the most cited publications

RU (2009-2012).

Number and percentage of RU publications in WoS among the top 10%, and 25% most cited publications (world, EU28).

| | World (num) | World (%) | EU28 (num) | EU128 (%) |
|------------------------------|-------------|-----------|------------|-----------|
| 10% most cited publications | 17 | 8% | 17 | 8% |
| 25% most cited publications | 61 | 27% | 55 | 25% |
| 50% most cited publications | 113 | 50% | 113 | 50% |
| 50% least cited publications | 111 | 50% | 111 | 50% |

1.6 E: Collaboration (RU)

Interpretation: These indicators provide information about the relations to main partners in international and national collaboration in the field, as seen in the addresses of co-authored publications. Caution has to be taken with regard to publishing practices in the field, see Indicator B3: Mean and median number of authors and addresses per WoS publication. Generally, the relevance and validity of the collaboration indicators will have to be related to the publication practices in the specific field of research and their Web of Science coverage. The collaboration indicators will not be presented in fields with low Web of Science coverage. (The R&D IS needs further development to make the basis for similar indicators.)

Indicator E1. Percentage of RU publications exhibiting international and national collaboration in the addresses

RU (2009-2013).

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|----------------------------------------------|------|------|------|------|------|
| International collaboration (Source: WoS) | 31% | 27% | 24% | 22% | 21% |
| National collaboration (Source: RD&I IS) | 36% | 32% | 46% | 52% | 48% |

Indicator E2. Five most frequent collaborating countries, their shares of the RU's collaborating publications, and the Mean Field Normalized Citation Impact of articles in each country relation, compared to EU28 in the field.

RU (2009-2013).

| | Share of international co-publications | Citation impact (compared to EU 28) |
|----------|----------------------------------------|----------------------------------------|
| POLAND | 4% | 1,29 |
| FRANCE | 4% | 0,26 |
| USA | 3% | 1,41 |
| GERMANY | 3% | 0,42 |
| SLOVAKIA | 3% | 0,77 |

1.7 F: Research outputs and activities – statistical data (RU)

Interpretation: the statistical data presented below give the panels a view on the trends in scholarly and non-traditional scholarly outputs during the evaluation period and set the publication profile of the Research Units in the context of the field in the CR. It also provides information on the potential reach of the journals in which the articles are published (national versus international), based upon the databases in which the journals are registered.

Indicator F1: Research outputs by the RU and their distribution over the years (raw data)

RU (2009-2013).

| Output type | 2009 | 2010 | 2011 | 2012 | 2013 | All years |
|----------------------------------------------------------------------------------------------------------------------|------|------|------|------|------|-----------|
| Article in a periodical (J) | 60 | 72 | 61 | 70 | 63 | 326 |
| Monographs and books (B) | 0 | 0 | 1 | 2 | 0 | 3 |
| Book chapter (C.) | 0 | 6 | 1 | 6 | 1 | 14 |
| Conference proceedings / Article in proceedings (D) | 54 | 49 | 37 | 39 | 20 | 199 |
| Results used by the funding provider, i.e. into legislation or norm, into non-legislative or strategic documents (H) | 0 | 0 | 0 | 0 | 0 | 0 |
| Research report containing classified information (V) | 0 | 0 | 0 | 0 | 0 | 0 |
| Certified methodologies, art conservation methodologies, specialized map works (N) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pilot plant (Zpilot) | 0 | 0 | 0 | 0 | 0 | 0 |
| Verified technology (Ztech) | 1 | 2 | 4 | 6 | 0 | 13 |
| Software (R) | 1 | 3 | 1 | 0 | 2 | 7 |
| Prototypes, Function examples (G) | 0 | 0 | 3 | 0 | 0 | 3 |
| Audiovisual production, electronic documents(A) | 1 | 1 | 0 | 0 | 0 | 2 |
| Conference organization(M) | 2 | 0 | 0 | 2 | 1 | 5 |
| Workshop organization (W) | 0 | 1 | 2 | 0 | 1 | 4 |
| Exhibition organization (E) | 0 | 0 | 0 | 0 | 0 | 0 |
| Other results (O) | 0 | 0 | 0 | 0 | 0 | 0 |

Indicator F2: Research outputs– shares of the Field total in the CR

RU (2009-2013).

| Output type | Number for the RU | Number in the Field (CR) | RU share of Field total* |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------|--------------------------|
| Article in a periodical (J) | 250 | 7121 | 3,51% |
| Monographs and books (B) | 1 | 35 | 2,86% |
| Book chapter (C) | 8 | 286 | 2,80% |
| Conference proceedings / Article in proceedings (D) | 94 | 2328 | 4,04% |
| Results used by the funding provider, i.e. projected into legislation or norm, projected into non-legislative or strategic documents (H) | 0 | 7 | 0,00% |
| Research report containing classified information (V) | 0 | 2 | 100,00% |
| Certified methodologies, art conservation methodologies, specialized map works (N) | 0 | 43 | 0,00% |
| Pilot plant (Zpilot) | 0 | 20 | 0,00% |
| Verified technology (Ztech) | 0 | 131 | 0,00% |
| Software (R) | 2 | 49 | 4,08% |
| Prototypes, Function examples (G) | 0 | 182 | 0,00% |
| Audiovisual production, electronic documents(A) | 1 | 17 | 5,88% |
| Conference organization(M) | 4 | 73 | 5,48% |
| Workshop organization (W) | 4 | 35 | 11,43% |
| Exhibition organization (E) | 0 | 1 | 0,00% |
| Other results (O) | 0 | 956 | 0,00% |

*Calculated using number of publications in field, which is different in this instance to F1.

Indicator F3: Number and shares of articles published in types of journals (national versus international reach)

RU (2009-2013).

| Publication channels | Number | Share of the total |
|----------------------------------------------------------------------------------------------------------------------|------------|--------------------|
| Article in a periodical registered in the Web of Science (Jimp) * | 305 | 93,56% |
| Article in a source registered in SCOPUS, which is not registered in WoS (JSC) | 4 | 1,23% |
| Article in a reviewed periodical in the ERIH database, which is not registered in WoS or SCOPUS (Jerih) ¹ | 0 | 0,00% |
| Article in a reviewed Czech periodical, which is not registered in WoS, SCOPUS or ERIH (Jrec) | 4 | 1,23% |
| Article in a periodical, which is not in any previous group (Jother) | 13 | 3,99% |
| TOTAL | 326 | 100% |

*It is not possible to compare the number of Jimp with a number of WoS publication (from indicator B2) due to the different publication-type classification in the two data sources (WoS, RD&I IS) and due to the way how WoS publications of certain RU were identified.

Indicator F4: RU articles published in types of journals – shares of main Field total in the CR

RU & CR (2009-2013).

| Publication channels | Number for the RU | Number in the Field (CR) | RU share of Field total* |
|---------------------------------------------------------------------------------------------------------|-------------------|--------------------------|--------------------------|
| Article in a periodical registered in the Web of Science (Jimp) | 242 | 6289 | 3,85% |
| Article in a source registered in SCOPUS, which is not registered in WoS (JSC) | 1 | 306 | 0,33% |
| Article in a reviewed periodical in the ERIH database, which is not registered in WoS or SCOPUS (Jerih) | 0 | 1 | 0,00% |
| Article in a reviewed Czech periodical, which is not registered in WoS, SCOPUS or ERIH (Jrec) | 1 | 271 | 0,37% |
| Article in a periodical, which is not in any previous group (Jother) | 6 | 254 | 2,36% |

*Calculated using number of publications in field, which is different in this instance to F1.

¹ ERIH - The European Reference Index for the Humanities and the Social Sciences is the list of journals, which covers the Humanities and the Social Sciences. See, more at: <http://erihplus.nsd.no/>.

1.8 G: IPR-related outputs (RU)

Interpretation: also in this case, the panels are given a view on the trends in patents awarded during the evaluation period. The data set the information for the Research Units in the context of the field in the CR and give a view on the importance of the patents in terms of geographical reach.

Indicator G1: Patents and other forms of IP awarded to the RU and their distribution over the years (raw data)

RU (2009-2013).

| Output type | 2009 | 2010 | 2011 | 2012 | 2013 | All years |
|--------------------------------------|------|------|------|------|------|-----------|
| Patent (P) | 0 | 2 | 1 | 2 | 1 | 6 |
| Utility model, Industrial design (F) | 0 | 2 | 1 | 26 | 3 | 32 |
| Plant variety (Zodru) | 0 | 0 | 0 | 0 | 0 | 0 |
| Animal breed (Zplem) | 0 | 0 | 0 | 0 | 0 | 0 |

Indicator G2: IPR-related outputs of the RU – Shares of the Field total in the CR

RU & CR (2009-2013).

| Output type | Number for the RU | Number in the Field (CR) | RU share of Field total* |
|--------------------------------------|-------------------|--------------------------|--------------------------|
| Patent (P) | 1 | 183 | 0,55% |
| Utility model, Industrial design (F) | 17 | 126 | 13,49% |
| Plant variety (Zodru) | 0 | 0 | 0,00% |
| Animal breed (Zplem) | 0 | 0 | 0,00% |
| TOTAL | 18 | 309 | 5,83% |

*Calculated using number of publications in field, which is different in this instance to G1.

Indicator G3: Number of patents in the patent offices in different countries – RU versus Field (CR)

RU & CR (2009-2013).

| Patent type | Number in the Field (CR) | Number for the RU* |
|-------------------------------------------------|--------------------------|--------------------|
| Patents in the Czech Industrial Property Office | 130 | 1 |
| Patents in the European Patent Office (EPO) | 18 | 0 |
| Patents in the US/Japan Patents Offices | 16 | 0 |
| Patents in other international patent offices | 19 | 0 |
| TOTAL | 183 | 1 |

*Calculated using number of publications in field, which is different in this instance to G1.

Pilotní ověření návrhu nové metodiky hodnocení výzkumných organizací
Samostatný doplňující dokument 5
Příklad bibliometrické zprávy

Vydává Ministerstvo školství, mládeže a tělovýchovy, Karmelitská 7, Praha 1
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Efektivní systém hodnocení a financování výzkumu, vývoje a inovací (IPN Metodika)
www.metodika.reformy-msmt.cz

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