METODIKA HODNOCENÍ VAV UTB VE ZLÍNĚ

PROJEKT IKAROS UTB VE ZLÍNĚ

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The Methodology for the Evaluation of Science and Research (hereinafter referred to as R & D) of Tomas Bata University in Zlín (hereinafter referred to as UTB) is an output of the project of the OP VVV entitled Institutional Quality and Development of Science Strategy at UTB in Zlín (CZ.02.2.69/0.0/0.0/18_054/0014623, hereinafter referred to as "IKAROS") within the framework of the key activity KA4.

The document generally follows the *National Policy of Research, Development and Innovation of the Czech Republic 2021+* (approved by Government Resolution No.759 of 20 July 2020), specifically the *Methodology for the Evaluation of Research Organisations and the Evaluation of Programmes of Special Purpose Support for Research, Development and Innovation* (approved by Government Resolution No. 107 of 8 February 2017, hereinafter referred to as Methodology 17+) and the *Principles for the Evaluation of Research Organisations and their Fields according to the Methodology 2017+ in the 3rd year of implementation of* the evaluation system, issued by the Government Council for Science, Research and Innovation (hereinafter referred to as the GSCRI).

In addition to these binding national documents serving for the strategic focus and management of R&D&I in the Czech Republic, the methodology also builds on:

(1) external evaluation of the quality and quantity of science, research and innovation (hereinafter referred to as R&D&I) by the International Evaluation Panel (hereinafter referred to as MEP) as part of the evaluation of UTB ve Zlíně as a research organisation by the RVVI;
(2) external evaluation of UTB by the European University Association (EUA) within the Institutional Evaluation Programme (IEP);
(3) The Strategic Plan of UTB in Zlín for the years 2021+ (hereinafter referred to as SZ UTB 2021+), in particular its objectives, indicators and measures related to R&D&I;
(4) Rector's Directive SR 07/2021 *Evaluation and Management of the Development of Teaching, Creative, Management and Other Activities of Academic and Scientific Staff of UTB* (hereinafter referred to as SR07/2021) and related standards of UTB.

The methodology serves to implement recommendations and measures resulting from the evaluations described above and to set up procedures that will lead to the realization of the strategic goals of UTB in Zlín in the field of R&D. *The aim of the methodology is to set general indicators and procedures for R&D evaluation at UTB in Zlín, in line with the national R&D evaluation in the segment of interdisciplinary universities*, which will contribute to the long-term conceptual management of creative activities at UTB in Zlín. The intention is to set up R&D evaluation depending on the disciplinary specifics of individual units (faculties and research centres) as well as their sub-research teams. In this respect, the methodology sets up R&D monitoring

procedures not only for individual units but also for their research sub-units (usually institutes/centres/studios or research groups).

The methodology as a whole consists of two parts:

1. ***Methodology of evaluation of creative activities of units, institutes and research teams of UTB in Zlín***. In its case, it is a methodology for the evaluation of creative activity at the level of (a) UTB units, usually faculties or research centres, and (b) their institutes, centres, studios, or research teams (research subunits), which will serve the strategic setting of the management of creative activity at the units of the university. The methodology will regulate the evaluation of research units on the basis of the results of creative activity recorded in the information systems (external and internal) used at UTB for the evaluation of the research organisation in Modules 1 and 2 of Methodology 17+. The methodology will also include a procedure for implementing the methodology.
2. ***Methodology for collecting, recording, evaluating and providing feedback to the different actors of the research organisation on the results of Modules 3, 4 and 5 of the Methodology 17+.*** The output of will include a methodology for the strategic setting and management of the HEI's activities in the areas of societal relevance (results with economic and societal impact), viability (evaluation of research management, sharing of instrumentation, involvement of academic and scientific staff in international research networks, etc.) and the development of the Research Organisation Strategy and Concepts as defined under Modules 3, 4 and 5 of Methodology 17+.

3 METHODOLOGY FOR EVALUATING THE CREATIVE ACTIVITY OF UNITS, INSTITUTES AND RESEARCH TEAMS AT UTB VE ZLÍNĚ

Linkage of the evaluation to the current M17+ Methodology

The UTB Zlín methodology follows the basic principles of evaluation applied at the national level. The evaluation is divided into five modules:

Module 1: Quality of selected results

Module 2: Research performance

Module 3: Social relevance

Module 4: Viability

Module 5: Strategy and Concepts.

The modules are further referred to as M1, M2, ..., M5. Following *Protocol II Evaluation of Research Organisations in the Higher Education Segment in* 2020, which UTB received in April 2021, the evaluation is further divided into three parts, the first of which links M1 and M2, the second links M3, M4 and M5, and the third summarises the aggregated evaluation according to all five modules.

3.1 MODULES 1 AND 2

Modules 1 and 2 are evaluated by the RVVI at the national level, and the results are publicly available on the website *Evaluation of Research Organisations and Evaluation of Programmes of Special Purpose Support for Research, Development and Innovation according to the M17+ Methodology* (hodnoceni.rvvi.cz). These results, including source data, are a natural source of information that can be used for internal evaluation of UTB. Their advantage is that they accurately reflect the principles of evaluation according to Methodology 17+, they are independently and externally prepared and can be directly used for comparison of UTB with other research organisations in the Czech Republic, moreover in the context of the world. They are regularly updated, and so far their publication has always taken place in the autumn. The disadvantage is that they do not reflect the most recent calendar year (results up to 2019 were published in the autumn of 2021).

The results are analysed in modules M1 and M2 in the OECD disciplinary structure in six FORD categories (the detailed breakdown, which is also reflected in the WoS database, is contained in Annex 1 entitled *FORD disciplines*, their conversion to the Scopus database is in Annex 2 entitled *FORD disciplines - Scopus converter*):

1 Natural sciences

2 Engineering and Technology

3 Medical and Health

4 Agricultural and veterinary sciences

5 Social sciences

6 Humanities and the Arts

Emphasis is placed on discipline-specific evaluation. The minimum number of outputs for the assessment in individual disciplines (Detailed FORD) is set at 10 according to Methodology 17+.

3.1.1 **Module 1**

In M1, the following rating scale is applied by the evaluators for the results submitted in the 'contribution to knowledge' area as part of the 'remote evaluation':

(1) A result that is world-leading in terms of originality, significance and difficulty to obtain;

(2) A result that is internationally outstanding in terms of originality, significance and difficulty of acquisition, but does not reach the highest level of excellence (excellent);

(3) A result that is internationally recognised in terms of originality, significance and difficulty of acquisition;

(4) A result that is nationally recognizable in terms of originality, significance, and difficulty to obtain;

(5) A result that does not meet the standard of nationally recognized work.

For the results submitted in the area of "social relevance" in M1, the evaluation scale is as follows:

(1) A world-leading result, the use of which in practice will bring about a fundamental change with international economic impact (a realistic assumption of broad application in multiple foreign markets, etc.), or a change with an extraordinary international impact on society (a realistic assumption of fundamental application at the international level in areas of public interest).

(2) A result at an excellent level (excellent), the use of which in practice will bring about a change with an international economic impact (a realistic assumption of application in a foreign market, etc.), or a change with a significant impact on society (a realistic assumption of a fundamental application in areas of public interest).

(3) A result at a very good level, whose use in practice will bring about a change with an economic impact on the Czech market or a change with an impact on society (a realistic assumption of application in areas of public interest).

(4) A result at an average level, whose use in practice will bring a partial change with an economic impact on the Czech market or a partial change with an impact on Czech society (a realistic assumption of partial application in areas of public interest).

(5) The result is at a below-average level, the use of which in practice is unlikely to bring any change with economic impact or change with impact on Czech society (there is no realistic expectation of application in areas of public interest).

In M1, the lower the grade, the more positive the evaluation. Grades 1, 2 and 3 are considered good across FORD categories, grades 4 and 5 are considered bad. The aggregate assessment does not distinguish between outputs according to 'contribution to knowledge' and according to 'social relevance'. The overall grade at the level of the discipline and field is then determined as follows:

A - the prevalence of good grades over bad grades;

B - roughly equal number of good and bad grades;

C - prevalence of bad grades over good grades and most of the bad grades are 4;

D - prevalence of bad grades over good grades and most of the bad grades are 5.

The M1 results are updated on the RVVI website every autumn. Annex 3, *Interactive M1 Evaluation Results 2017-19*, allows for analysis of the outcomes and their evaluation from the following perspectives:

- Segment (Academy of Sciences of the Czech Republic, departments, universities, all);
- Provider (Academy of Sciences of the Czech Republic, ministries, etc.);
- Research organisation (name of the research organisation, including all HEIs);
- Evaluation period (in the annex you can work with 2017-19);
- Criterion (contribution to knowledge, social relevance, all);
- Scientific area (6 main FORD categories);
- Field (Ford) (detailed category FORD).

This annex also includes a comprehensive list of assessed results, which can be broken down according to the following aspects:

- Segment;
- Provider;
- Research organization;
- Registration number;
- Type (A - Z, abbreviating the recognised types of results according to Methodology 17+);
- Criterion;
- Authors;
- The name of the result;
- Scientific area (6 FORD areas);
- Field (Ford) (detailed FORD);
- D-Ford (subfield, optional).

The results in M1 cannot be obtained from any other database and cannot be expedited, and must await publication by the RVVI. For this reason, the evaluation of UTB in M1 must be implemented with the same delay as it is implemented at the national level.

The results mediated by the RVVI can be used for evaluation purposes in M1 at the level of UTB as a whole, its units/faculties and also FORD disciplines/detailed fields. For the purposes of assessment in terms of lower units (centres, institutes, teams, etc.) it would be necessary to supplement them internally with the affiliation of the result to these units. However, given the small number of results submitted to M1 for UTB as a whole (2017: 24; 2018: 46; 2019: 32), this seems unwarranted.

3.1.2 **Module 2**

In M2, bibliometric parameters of quantity and quality of outputs are applied. In the WoS database it is the Artice Influence Score (AIS), in the Scopus database it is the Scimago Journal

Rank (SJR). The journals are divided into 5 groups in the evaluation: 1st decile (D1), 1st - 4th quartile (Q1 - Q4). This setting is the same across all FORD categories.

In FORD categories 1, 2 and 3, only results listed on WoS are taken into account. In categories 4, 5 and 6, results included on Scopus are also taken into account.

The quality of the results is assessed differently within the FORD categories, with the majority of results considered to be good in D1, Q1 and Q2, and poor in Q3 and Q4. Different FORD categories have different rules for awarding an overall grade for M2. In Category 5 (Social Sciences), for example, it is generally as follows:

A - the ratio of the proportion of cells in Q1+Q2 and Q3+Q4 is about 70% : 30%;
B - the ratio of the proportion of cells in Q1+Q2 and Q3+Q4 is about 50% : 50%;
C - the ratio of the proportion of cells in Q1+Q2 and Q3+Q4 is about 40% : 60%;
D - the ratio of the proportion of cells in Q1+Q2 and Q3+Q4 is about 30% : 70%.

The quantity of outputs does not play a major role in the framework of Methodology 17+, as already mentioned above, the minimum for obtaining a national assessment of the field is 10 outputs and the priority in their assessment is quality (in the sense of the ratio of bibliometrically high quality and lower quality outputs).

M2 results are examined in the context of national, EU15 and global levels. Supplementary information includes results with a large number of authors (over 30) and results produced in international collaboration with a reprint author from the Czech Republic (all in publicly available RVVI outputs). A sample of UTB's ranking according to M2 parameters is included in two annexes: annex 4 entitled *UTB's results in WoS database and their disciplinary structure in 2016-19*; annex 5 entitled *UTB's results in Scopus database and their disciplinary structure in 2016-19*. Both annexes are available on the website hodnoceni.rvvi.cz, which are also available on the web site.The excel files are Annex 6 entitled *Evaluated UTB outputs in the WoS database in 2016-19*; Annex 7 entitled *Evaluated UTB outputs in the Scopus database in 2016-19*:

- Year of application (in the annexes, the years 2016 - 2019);
- UT_WoS (result identification number, EID for the Scopus database);
- Result (name of the result);
- The name of the magazine;
- Author;
- VO (research organization - everywhere mentioned UTB);
- Organisational unit (part, faculty of UTB and their combination in case of joint results);
- All participating VOs (other research organisations contributing to the result);
- RIV entry for VO (yes/no);
- Reprint author from VO (yes/no);
- VO for reprint author (research organization where the reprint author is assigned);
- International cooperation (yes/no);
- 30+ authors (yes/no);
- >= EU15 median (result is above the EU15 median AIS level: yes/no);
- >= world median (result exceeds the world median AIS level: yes/no);
- FORD (FORD a detailed FORD);
- Band (D1, Q1, Q2, Q3, Q4);
- ALL_FORD (a list of all the so-called detailed FORD domains to which the result belongs, if it belongs to more than one domain, it means that it is registered in each domain);
- Max band (highest bibliometric level of result achieved: D1, Q1, Q2, Q3, Q4).

The above list reflects the WoS database, for the Scopus database outputs the list of criteria is similar but reduced (e.g. no comparison with EU15 countries).

As already mentioned, these results are updated annually in the autumn on the web site hodnoceni.rvvi.cz. They can be used as a data base for evaluation at the level of UTB as a whole, individual units, institutes, centres, research teams, basic and detailed FORD categories.

Preliminary analyses based on selected data available in the Web of Science (WoS), Scopus, or in the Register of Information on Results (RIV), or in the Personal Bibliographic Database (OBD), or in the Evaluation of Academic Personnel (HAP) can also be carried out within M2.

3.1.3 **Summative assessment of modules M1 and M2**

The overall mark for M1 and M2 modules is set differently in different FORD regions. According to the document *Principles for the assessment of research organisations and their fields according to the 2017+ Methodology in the 3rd year of implementation*, the procedures are as follows:

1 Natural sciences

> "The final grade for the subject included the grades for M1 and M2 (determined taking into account all the circumstances mentioned); the statistical significance of the result for M1 was also taken into account.
>
> Different segments of the HEIs (departmental HEIs, HEIs, HEIs) were evaluated with increasing rigour.
>
> Determination of the final grade for science-only HEIs: the number of staff in a given field (according to the IDEA application) was used to infer whether the HEI was a major or a minor field; major fields were taken into account, and minor fields were taken into account."

2 Engineering and Technology

> "The aggregate marks for M1, M1-Rel[1] and M2 were formed in the same way as the subject grades, but for all the results in the technical subjects combined."

3 Medical and Health sciences

> "We arrived at our overall assessment by taking a comprehensive look at both modules, and the assessment of the VOs between them also played a role."

4 Agricultural and veterinary sciences

> "The overall assessment was given by the assessment in both modules, with the emphasis on Module 2 for basic research-focused VOs. For universities, both modules were adequately considered, but with consideration of the number of results (especially M1) and the share of the results of the discipline group in the total publication output of the university (Module 2). For HEIs primarily engaged in applied research (departmental and private HEIs), the emphasis was on Module 1, but Module 2 was also taken into account."

[1] Applied results.

5 Social sciences

> "The resulting grade for the VO was then created by aggregating the grades in M1, M2-WoS and M2-SCOPUS."

6 Humanities and the Arts

> "For the design of the aggregate assessment for the 6th scientific area, the fields of study for which the DSP is accredited were therefore taken into account as determinants. This assumption was confirmed as:
>
> > a) A significant trend or at least the potential of an A-B rating is shown only by those HEIs that have accredited doctoral studies for the assessed field.
> >
> > b) None of the HEIs that do not have at least one DSP accredited in Science Area 6 show an above-average number of results for any of the Science Area 6 disciplines in M1.
>
> The evaluation of the data for individual HEIs is part of the material entitled Evaluation of the information potential of M17+ for the disciplinary breakdown of the HEIs within the 6th scientific area for the first three years of implementation of M17+ (data for HEIs), which was submitted as the result of the evaluation for the 3rd year of implementation for the 6th scientific area to the CHC on 17 December 2020."

Aggregate scores for M1 and M2 together are not subject to internal evaluation by UTB.

4 INTERNAL EVALUATION PROCEDURE OF UTB IN ZLÍN IN CASE OF M1 AND M2

4.1 INTRODUCTION

The aim of R&D evaluation at the level of UTB Zlín units in M1 and M2 modules is to obtain

(1) Ongoing feedback on the scope and quality of R&D carried out in the M1 and M2 modules, which are also the key to the evaluation of R&D at UTB in Zlín by the RVVI and the Ministry of Education and Science
(2) On the basis of the continuous evaluation, then to influence the resulting quality of outputs in relation to the evaluation of UTB ve Zlíně as a research organization according to the valid methodology of evaluation of R&D&I, as well as its units/faculties, or individual disciplinary groups according to their classification in FORD. In particular, this concerns the targeted improvement of the quality of M2 outputs published in Q1 and Q2 (see description of Module 2 above), which is related to the quality of the research organisation.
(3) To get an overview of the performance of units/faculties and individual research teams (i.e. in this case institutes, centres, research groups) in module M2, especially their contribution to the overall performance of UTB in Zlín in this module
(4) Compare the sub-units/faculties of UTB in Zlín with similar - "benchmark" - institutions in the Czech Republic.

Through the implementation of these four objectives, UTB Zlín will improve the long-term management of R&D data and will be able to better evaluate, plan and manage activities in the field.

4.2 DATA EVALUATION PROCEDURES IN M1 AND M2

In order to implement the upcoming goals, data from internal information systems of UTB ve Zlíně (especially OBD) and external systems (RVVI database and WoS database, Scopus) will be continuously monitored and evaluated annually, always after the publication of updated results of the RVVI evaluation on the web site hodnoceni.rvvi.cz, which is implemented in the autumn. The results of the previous evaluation period, usually 3 years, will always be evaluated, taking into account the one-year delay of the evaluation (in the autumn of 2021 the results of the evaluation up to 2019 were published).

For the purposes of the evaluation, the following terms are defined. *A research unit* represents a part/faculty of UTB. *A research sub-unit* represents a centre, institute, research team or group falling under a specific research unit. All evaluated units and sub-units must be defined before the evaluation is prepared.

The evaluation procedures reflect the following five methodological principles:

(1) Principle of proportionality of results to the size of the research units.
(2) The principle of proportionality of results with respect to the size of the research subunits.
(3) The principle of disciplinary differentiation of research units according to FORD disciplines.

(4) The principle of disciplinary differentiation of research units according to detailed FORD disciplines.
(5) The principle of benchmarking against similar research organisations in the Czech Republic.

The different principles will be applied differentially due to the different volume of outputs and different assessment criteria in modules M1 and M2 (see above). Therefore, the individual principles described in more detail below always indicate whether they apply to both M1 and M2 outputs. This information is summarised in the table below.

Table: application of evaluation principles in M1 and M2

Principle	M1	M2
1 (research units)	✓	✓
2 (research subunits)	x	✓
3 (research units: FORD disciplines)	✓	✓
4 (research units: detailed FORD fields)	✓	✓
5 (benchmarking)	✓	✓

4.1.1 Principle of proportionality of results to the size of the research units

This principle works primarily with the aggregation of results of research units (units/faculties) of UTB in Zlín in module M1 and M2 based on the number of employees. The calculation base is the FTE (full-time equivalent) value per research unit.

Beyond this initial aggregation, the number of staff in the associate professor/professor category in a given research unit (again expressed in FTE value) will be used as a supplementary indicator. It is the staff in these categories that correspond abroad to the "senior researcher" category, which is considered to be the main bearers of key, high-quality R&D&I outputs. The FTE data from the Annual Report of UTB in Zlín for the relevant year will be used as the initial data base for the evaluation year.

The indicators chosen for this type of evaluation are as follows, all of which will then be weighted according to the size of the research unit by FTE:

M1

- Number of outputs in M1 per research unit
- Number of outputs with the share of associate professors and professors in M1 per research unit
- Number of outputs rated 1-3 in M1 per research unit

M2

- Number of outputs in M2 per research unit
- Number of outputs with the share of associate professors and professors in M2 per research unit
- Number of outputs in the Q1-Q2 band in M2 per research unit

The selected indicators can serve as a basis for the creation of other derived indicators.

4.1.2 Principle of proportionality of results with respect to the size of the research subunits

Following the previous principle, this one operates with aggregation of results at a lower organizational level. Analogous to it, the research sub-units of units (e.g. institutes, centres, studios, research groups) are evaluated, always according to the organisational structure of the unit/faculty and the R&D&I organisation within it. For the purpose of the evaluation, the smallest evaluated unit is defined as the one with at least 5 employees by FTE. Smaller units are not subject to evaluation

Due to the limited number of outputs in module M1 at UTB Zlín, only outputs in M2 are evaluated in the case of this criterion. The source of data regarding FTEs for the respective year of evaluation is information from the Annual Reports of the units/faculties of UTB in Zlín for the respective year.

The indicators chosen for this type of evaluation are as follows, all of which will then be weighted according to the size of the research sub-unit by FTE

M1

(unreflected in this context)

M2

- Number of outputs in M2 per research subunit
- Number of outputs with the share of associate professors and professors in M2 per research subunit
- Number of outputs in the Q1-Q2 band in M2 per research subunit

The selected indicators can serve as a basis for the creation of other derived indicators.

4.1.3 The principle of disciplinary differentiation of research units according to FORD disciplines

In order to take into account the disciplinary differentiation between individual research units (units/faculties) of UTB ve Zlíně, the criterion of disciplinary differentiation according to FORD categories is also used to evaluate their activities in the module. For this purpose, each unit will be evaluated only in the fields it focuses on. With regard to the current status of Methodology 17+, only outputs indexed in the WoS database are used for evaluation in M2 in FORD 1, 2 and 3, while outputs in FORD 4, 5 and 6 are also taken into account as outputs indexed in the Scopus database.

The indicators chosen for this type of evaluation are:

M1

- Number of outputs in M1 by FORD 1-6 per research unit
- Number of outputs rated 1-3 in M1 by FORD 1-6 per research unit

M2

- Number of outputs in M2/Wos by FORD 1-6 per research unit
- Number of outputs in M2/Scopus by FORD 4-6 per research unit
- Number of outputs in the Q1-Q2 band in M2/Wos by FORD 1-6 per research unit
- Number of outputs in the Q1-Q2 band in M2/Scopus by FORD 4-6 per research unit

The selected indicators can serve as a basis for the creation of other derived indicators.

When interpreting the overview obtained in this way, it is necessary to take into account the specifics of the scientific fields. Firstly, there is the role of traditional publication preferences within diverse fields, which may be strongly oriented towards the production of monographs or other types of outputs. Furthermore, the number of journals and articles registered in the WoS/Scopus databases, which varies dramatically across disciplines, makes it very difficult to compare the quantity of outputs in different fields. Annex 8, entitled *Number of journals and articles in WoS and Scopus in 2019*, summarises the number of journals registered in WoS and Scopus databases in 2019 in FORD subject categories, as well as the number of articles with affiliation to the Czech Republic that were published in the subject categories in 2016-2019. The appendix shows that in terms of the quantity of journal article production in the WoS and Scopus databases, there are diametric differences across FORD disciplines that must be taken into account. In the field 1.4 Chemical sciences, 9066 articles were published in the WoS database (Scopus database is not taken into account here), in the field 5.2 Economics and Business, it was 1326 in the WoS database and 2938 in the Scopus database.3 Education only 144 on WoS and 602 on Scopus, and in field 6.4 Arts (arts, history of arts, performing arts, music) there were no articles published on WoS, because in this field there are no journals with assigned quartile in the WoS database, while in Scopus database there were 1569 articles.

Furthermore, it is necessary to reflect the comments of the expert panels on FORD fields, which are part of the evaluation outputs on the website hodnoceni.rvvi.cz. These comments describe in more detail the specifics of the disciplines in relation to the set evaluation system. As an example, Annex 9 entitled *Commentary on the M17+ evaluation in FORD 6* is included in this document. The author is Prof. Vorel, who states right in the introduction, "For the evaluation of R&D results in the 6th scientific area, bibliometric analysis based on WoS data is not an appropriate evaluation tool."

4.1.4 The principle of disciplinary differentiation of research units according to detailed FORD disciplines

For the purposes of the sectoral evaluation, the so-called detailed FORDS are taken into account in analogy with the previous principle. Each unit chooses two or three detailed FORDs according to its own publication profile, which allows the analysis of R&D dynamics in its research specialisation areas.

The selected indicators for this type of evaluation are:

M1

- Number of outputs in M1 broken down by detailed fields FORD 1-6 per research unit
- Number of outputs assessed with grades 1-3 in M1 by detailed fields of FORD 1-6 per research unit

M2

- Number of outputs in M2/Wos by detailed fields FORD 1-6 per research unit

- Number of outputs in M2/Scopus by detailed fields FORD 4-6 per research unit
- Number of outputs in the Q1-Q2 band in M2/Wos broken down by detailed fields of FORD 1-6 per research unit
- Number of outputs in the Q1-Q2 band in M2/Scopus, broken down by detailed fields of FORD 4-6 per research unit

The selected indicators can serve as a basis for the creation of other derived indicators.

In interpreting the overview thus obtained, the situation should be reflected by analogy with the comments made on the previous principle.

4.1.5 The principle of benchmarking against similar research units in the Czech Republic

The last principle is used to compare R&D with similar research organisations in the Czech Republic. Within this principle, the outputs of the units/faculties are reassessed in modules M1 and M2. Each unit/faculty chooses three to four relevant benchmarking faculties against which to compare its R&D results. The subject of the comparison will be the criteria set out in the Outcomes Principle in relation to the size of the unit, while ensuring that the benchmarking research unit is similar to the faculty/unit being assessed in terms of FORD. The comparison will always be the most recently verified results in M1 and M2 according to the RVVI.

The selected indicators for this type of evaluation are:

M1

- Number of outputs in M1/FTE per research unit
- Number of outputs rated 1-3 in M1/FTE per research unit

M2

- Number of outputs in M2/FTE per research unit
- Number of outputs in the Q1-Q2 band by WoS/FTE per research unit for FORD 1-6.
- Number of outputs in the Q1-Q2 band according to Scopus/FTE per research unit for FORD 4-6.

4.1.6 Summary of applied principles and indicators

This chapter summarizes the above principles and indicators of R&D quality assessment at UTB. Within the principles related to research units and sub-units, weights are applied according to their size (staff per FTE). The selected indicators can serve as a basis for the creation of other derived indicators.

1. **Principle of proportionality of results to the size of the research units**

   M1

   - Number of outputs in M1 per research unit
   - Number of outputs with the share of associate professors and professors in M1 per research unit
   - Number of outputs rated 1-3 in M1 per research unit

M2

- Number of outputs in M2 per research unit
- Number of outputs with the share of associate professors and professors in M2 per research unit
- Number of outputs in the Q1-Q2 band in M2 per research unit

2. Principle of proportionality of results with respect to the size of the research subunits

M1 (not reflected in this context)

M2

- Number of outputs in M2 per research subunit
- Number of outputs with the share of associate professors and professors in M2 per research subunit
- Number of outputs in the Q1-Q2 band in M2 per research subunit

3. The principle of disciplinary differentiation of research units according to FORD disciplines

M1

- Number of outputs in M1 by FORD 1-6 per research unit
- Number of outputs rated 1-3 in M1 by FORD 1-6 per research unit

M2

- Number of outputs in M2/Wos by FORD 1-6 per research unit
- Number of outputs in M2/Scopus by FORD 4-6 per research unit
- Number of outputs in the Q1-Q2 band in M2/Wos by FORD 1-6 per research unit
- Number of outputs in the Q1-Q2 band in M2/Scopus by FORD 4-6 per research unit

4. The principle of disciplinary differentiation of research units according to detailed FORD disciplines

M1

- Number of outputs in M1 broken down by detailed fields FORD 1-6 per research unit
- Number of outputs rated 1-3 in M1 by detailed fields of FORD 1-6 per research unit

M2

- Number of outputs in M2/Wos by detailed fields FORD 1-6 per research unit
- Number of outputs in M2/Scopus by detailed fields FORD 4-6 per research unit
- Number of outputs in the Q1-Q2 band in M2/Wos broken down by detailed fields of FORD 1-6 per research unit
- Number of outputs in the Q1-Q2 band in M2/Scopus, broken down by detailed fields of FORD 4-6 per research unit

5. The principle of benchmarking against similar research units in the Czech Republic

M1

- Number of outputs in M1/FTE per research unit
- Number of outputs rated 1-3 in M1/FTE per research unit

M2

- Number of outputs in M2/FTE per research unit
- Number of outputs in the Q1-Q2 band by WoS/FTE per research unit for FORD 1-6.
- Number of outputs in the Q1-Q2 band according to Scopus/FTE per research unit for FORD 4-6.

From the above, it follows that the data available on the website hodnoceni.rvvi.cz can serve well as a data base for internal evaluation of UTB. For M1, this is the data presented in the already mentioned Annex 3 entitled *Interactive evaluation results in M1 in 2017-19*. For M2, this is the data presented in the already mentioned Annex 6 entitled *UTB results in the WoS database and their disciplinary structure in 2016-19*; and in Annex 7 entitled *UTB results in the Scopus database and their disciplinary structure in 2016-19*.

However, this data needs to be supplemented annually so that each output has this additional information:

- The affiliation of the output to the research sub-unit;
- Share of associate professor/professor with UTB affiliation in the output (yes/no);
- Size of research units and sub-units in FTE.

In addition, the work with outputs that fall under more than one research unit/sub-unit and, by analogy, the work with outputs falling under multiple FORD disciplines/detail areas should be set up in a uniform manner. It should also be noted that the data do not include information on the mental contribution of individual authors to the outputs, which causes significant discrepancies, especially in fields where it is customary to publish in large author teams. However, this is a limitation that persists even at the level of Methodology 17+ itself.

In the overall interpretation of the results it is necessary to take into account the specifics of the field, which have a strong impact on the number of publications in the databases monitored. It is completely irrelevant to compare numbers of outputs across components (e.g. FT versus FHS). The numbers are meant to track the development of individual components (i.e. FT to date and now; FHS to date and now, etc.).

5 METHODOLOGY FOR COLLECTING, RECORDING, EVALUATING AND PROVIDING FEEDBACK TO THE DIFFERENT ACTORS OF THE RESEARCH ORGANISATION ON THE RESULTS OF MODULES 3, 4 AND 5 OF THE METHODOLOGY 17+

The aim of the R&D methodology in the case of M3 to M5 is the **strategic setting and management of UTB Zlín activities in the area of** the so-called **social relevance of R&D**. This includes both the area of R&D&I results (1) with direct economic and (2) social impact. At the same time, it will include **recommendations for the development of viability of UTB in Zlín** as a research organisation, especially with regard to the evaluation of its research management, sharing of instrumentation, involvement of academic and scientific staff in international research networks and other related processes. Last but not least, it will include recommendations for the creation of the **next research organisation development strategy for the period 2030+**, which will enable the long-term conceptual setting of the research organisation.

5.1 INTRODUCTION

The evaluation based on modules M3 to M5 is carried out at the level of the provider (MoEYS) through an international evaluation panel set up to evaluate a specific HEI. As stated in the cover letter of Pavel Dolecek, Deputy for Management of the Higher Education, Science and Research Section of the MoEYS, to the first evaluation report for UTB in April 2021, "the evaluation in the first two modules is already in its third year with increasing quality and robustness every year, the scope of the evaluation in the remaining modules has been in its pilot mode". The evaluation in question will primarily take place on the basis of a peer review process through the College's International Evaluation Panel (MEP). The document then goes on to state that "the primary objective of the MEP recommendations in Modules M3 to 5 is to provide **formative feedback to the colleges from international experts**".

It follows that in modules M3 to 5 the evaluation is (for the time being) in a pilot phase and its parameters will probably be refined and established in the future, to which this methodology will have to be adapted.

In M3, all units of the university are first assessed and assigned a grade:

A - Excellent

B - Very good

C - Good - Average

D - Below average - Insufficient

The overall grade for the university is then determined as the modus of the above values. In the case of equality of frequency for two or more values, the grade is determined by taking into account the next most frequent value.

5.2 GENERAL COURSE OF THE UTB VE ZLÍNĚ EVALUATION (2020)

The evaluation of research organisations in the higher education segment in 2020 was carried out in accordance with *the Methodology for the Evaluation of Research Organisations and Evaluation of Programmes of Special Purpose Support for Research, Development and Innovation*[2] and its Annex 5, *Methodology for the Evaluation of Research Organisations in the Higher Education Segment*[3] . The results of the evaluation were discussed in a joint meeting between the Ministry of Education, Youth and Sports (MEST), the Council for Research, Development and Innovation and the Czech Conference of Rectors.

The submitted Protocol II contains the results of the comprehensive evaluation of the College in all five Modules:

1. Module 1 (hereafter M1): Quality of selected results
2. Module 2 (hereafter M2): Research performance
3. Module 3 (M3): Social relevance
4. Module 4 (M4):
5. Module 5 (hereafter M5): Strategy and Concepts,

including justification and recommendations.

The first section provides information on the evaluation in Modules 1 and 2, which was carried out by the RDI Council at national level. The second part provides information on the evaluations in Modules 3-5, which were carried out at the level of the MEP provider (MoEYS) to evaluate a specific HEI.

The results of the evaluation in Modules 1 and 2, as well as the recommendations of the international evaluation panel in Modules 3 to 5 in relation to their relevance and criticality assessed by the provider's board, will also be used by the university to adjust the internal system of research and development and will be incorporated into conceptual documents, e.g. the strategic plan of the university's educational and creative activities, or the annual plan for the implementation of the strategic plan.

In the final section, the aggregate rating of the college in all five Modules and the procedure for determining its aggregate rating on an A to D scale are presented[4]

5.2.1 The course of UTB Zlín's evaluation in M3 to M5

In the case of the M3 to M5 modules, the following research units were evaluated for UTB in Zlín for the period 2014 to 2018:

1. Faculty of Technology
2. Faculty of Management and Economics

[2] Approved by Government Resolution No. 107 of 8 February 2017.
[3] Approved by Government Resolution No. 563 of 30 July 2019.
[4] Part 4.1 of the Methodology for the Evaluation of Research Organisations and the Evaluation of Programmes of Targeted Support for Research, Development and Innovation.

3. Faculty of Multimedia Communications
4. Faculty of Applied Informatics
5. Faculty of Humanities
6. Faculty of Logistics and Crisis Management
7. University Institute

UTB ve Zlíně submitted a complete documentation with partial formal deficiencies to the provider in due time, which were subsequently eliminated. Due to the pandemic situation in the Czech Republic, the MEP's "on-site visit" took place from 21 to 23 October 2020 via a series of video conferences. The "On-site visit" itself was preceded by an online MEP meeting. After the "On-site visit" several further online meetings were then conducted to finalise the Evaluation Report.

5.3 RESULTS OF THE UTB ZLÍN EVALUATION IN M3 TO M5

In the last evaluation, UTB Zlín research units achieved the following results in **MODULE M3**:

Faculty Name:	**Overall rating:**
Faculty of Technology	Very good
Faculty of Management and Economics	Good
Faculty of Multimedia Communications	Good
Faculty of Applied Informatics	Good
Faculty of Humanities	Average
Faculty of Logistics and Crisis Management	Below average
University Institute	Very good

In the case of M4 and M5, UTB ve Zlíně achieved the following ranking:

MODULE 4: Overall rating - Good

MODULE 5: overall grade - Very Good

Detailed description of the results of individual research units in M3 and the university as a whole in M4 and M5 is part of the following chapters. These serve as a starting point for identifying the strengths and weaknesses of the units, as well as the threats and opportunities for R&D development in terms of social relevance, viability and strategy at UTB Zlín. It is on their basis that the key recommendations and measures for strategic management in this area will be formulated.

5.3.1 Summary evaluation of the MEP of the Faculty of Technology (M3)

The evaluation of the Faculty of Technology states that it can be considered a stable faculty of good to very good national level. Individual indicators 3.2-3.12 are rated between 2 (average) and 5 (excellent). The faculty is on the cusp of scoring between good to very good overall, with a final calibrated score of 172 points very close to the good rating threshold. A summary of faculty ratings is as follows:

The budget for applied research projects was on a downward trend between 2014 and 2018. Contract research revenues were reasonable given the size of the unit under review. Revenue from non-public sources was not high between 2014 and 2018 and is made up of donations only.

The impact of applied research results is good. The results of applied research of the faculty with other than economic impact on society are adequate.

Faculty interaction with the non-academic application/business sphere is quite extensive. The system and support for technology transfer and intellectual property protection is provided centrally through the Centre for Technology Transfer (CTT). The information provided on the activities of the CTT confirms that the centre is quite effective. No spin-off companies have been set up or other forms of commercialisation of R&D&I results have taken place. This applies to both the faculty and the entities falling under the faculty or staff of the evaluated unit. On the other hand, the strategy exists as such.

The most significant R&D&I awards received between 2014 and 2018 and recognition by the international R&D&I community are commensurate with the size of the unit being evaluated. The popularisation of R&D&I and communication with the public is at an excellent level.

5.3.2 Summary evaluation of the MEP of the Faculty of Management and Economics (M3)

The evaluation of the Faculty of Management and Economics summarizes its results as follows. In terms of applied research/contract research/non-public research indicators, the Faculty performed well; although in the case of contract research, the results are worse. The European Commission was the primary source of funding for its R&D&I activities, although funding fell by two-thirds in 2017 compared to the peak level reached in 2016, and by a further two-thirds in 2018 compared to 2017. It is therefore important for future development that the Faculty obtains additional sources of funding. This points to the need for a broader research funding strategy for the faculty. The results of applied research are solid, including very good societal benefits.

Technology transfer, intellectual property protection, strategy and opportunities in the area of spin-off company establishment are rated as relatively good at the faculty. The Faculty (as a whole) enjoys reasonable recognition by the scientific community. This can be further improved by improving the reputation of individual researchers, by publishing in better quality journals and by joining e.g. editorial boards of journals with better reputation. In conclusion, the popularisation of R&D&I can be improved.

5.3.3 Summary evaluation of the MEP of the Faculty of Multimedia Communications (M3)

The results of the Faculty of Multimedia Communications are evaluated as follows. The Faculty is a fully-fledged part of UTB Zlín and at the same time has a number of specific features that are characteristic of a faculty focused mainly on artistic educational programmes, related creative research and artistic activities. The Faculty of Multimedia Communications implements many activities and projects that enhance the social benefits of the results of creative research and artistic activities, which are mainly focused on the cultural and creative sectors. These projects contain elements of applied research and achieve significant results, often in collaboration with private economic entities, cultural institutions, public authorities, etc. The Faculty of Multimedia Communications also focuses on activities related to technology transfer and the development of innovative artistic strategies in the cultural and creative sectors. The Faculty builds and uses its own technology transfer tools and also cooperates with a number of external partners, especially in the Zlín region. In addition to being active in the Zlín region for a long time, the faculty is also active internationally. It is part of a number of professional organisations and its academic staff cooperate with a number of foreign universities and other institutions.

Aspects that the faculty will need to focus on to maintain and further strengthen its position are:

- Deepening the role of artistic research within the research strategies implemented at the faculty.
- A much greater focus of applied research on sustainable design, environmentally friendly technologies and the cultural and creative industries in general.
- Establishment and intensive use of appropriate tools for the transfer of technologies used in artistic research and art, design or audiovisual production.
- Finding and creating other tools suitable for presenting the results of creative research and artistic activity to the professional and general public.
- The G18 Gallery project aimed at continuously strengthening the professional quality of the activities carried out within the framework of artistic research and the linking of this project with similarly oriented research projects implemented in the Czech Republic and abroad, including grant activities aimed at supporting the research and artistic projects carried out at Galerie G18.
- Publication outputs in the context of ongoing artistic research and other creative research and artistic activities - for example, through the faculty publication plan. Strengthening the international dimension of the educational and creative activities carried out at the Faculty, for example by building international teams focused on multidisciplinary applied research.
- Strengthening the role of the Register of Artistic Outputs in internal and external processes of evaluation of creative research and artistic activities of the faculty and the faculty in general.

Despite these recommendations, it is clear that the Faculty of Multimedia Communications is a unique university institution with a clearly formulated programme and high quality R&D&I outputs. The overall grade proposed in this evaluation process reflects this - good.

5.3.4 Summary evaluation of the MEP of the Faculty of Applied Informatics (M3)

The evaluation of the societal relevance of research to the Faculty of Applied Informatics takes into account several activities and outputs, such as the application potential of projects (Indicator 3.2), revenues from contract research (Indicator 3.3) and from non-public sources (Indicator 3.4), results of applied research applied in practice (Indicator 3.5), results of applied research
with non-economic impact on society (Indicator 3.6), significant interactions s mimoakademickou aplikační/podnikovou sférou (indikátor 3.7), využívaný systém přenosu technologií (indikátor 3.8), praktické využití duševního vlastnictví (indikátor 3.9), ocenění za VaVaI (indikátor 3.10), uznání hodnocené jednotky mezinárodní vědeckou komunitou VaVaI (indikátor 3.11), hlavní aktivity v oblasti popularizace VaVaI (indikátor 3.The faculty was rated as excellent in indicator 3.12, very good in indicators 3.2, 3.3, 3.5, 3.7 and 3.9, good in indicator 3.4 and average in indicators 3.6, 3.10 and 3.11. The overall rating of the research unit in FORD 2 (Engineering and Technology) was 181, which places it among "good" research organisations.

The strengths of the evaluated unit are:

- the potential of using the results of applied research projects,
- the quantity and variety of contract research,
- interaction with the non-academic application/business sphere,
- the existence of the Science and Technology Park,
- the existence of the Centre for Security, Information and Advanced Technologies (CEBIA-Tech),
- a number of results (e.g. patents, prototypes, technologies, software), or
- a number of business incubators.

The weaknesses of the Faculty of Applied Informatics are:

- Number of projects funded from international sources,
- income from non-public sources (excluding grants or contracts),
- absence of spin-off companies,
- internationalisation in relation to staffing.

5.3.5 Summary evaluation of the MEP of the Faculty of Humanities (M3)

The Faculty of Humanities is a relatively young faculty within UTB and is still building its position. There are no research laboratories at the faculty. The Research Centre of the FHS stands out in the structure of the faculty. The Research Centre deals with the following areas: providing support in applying for grants for other departments of the faculty, providing consulting and training activities related to research methodology, providing services in data analysis and interpretation, pursuing grant opportunities outside the faculty, and publishing the journal Social Pedagogy. The Center should direct its efforts toward developing a strategy for commercialization of research results and societal impact. It should also publish excellent monographs and record research and development activities.

Presenting the impact of scientific activity on the functioning of society and the economy is not easy in the humanities, yet it is possible. The societal significance of this research is difficult to understand using classical tools (hard data).

The assessment of societal benefits is carried out, inter alia, on the basis of the submitted "impact description". The description shall demonstrate the relationship between research, development and economics and other factors affecting the civilisational development of

society. However, this impact should be demonstrated. In the case of the FHS, the Self-Evaluation Report did not provide sufficient information on the research and its results. Thus, in the future, the Research Centre should select significant 'results' (research and research 'know-how') and then monitor and document their impact on the development of society and the economy. In this context, the description of impact may refer, for example, to outstanding monographs of high scientific and publication quality. It will thus be possible to assess their significance. There is no such data in the Self-Evaluation Report.

The Faculty of Humanities has potential in the criterion of social contribution. Scholars working at the Faculty attach great importance to interaction with society. They are very good at planning strategies of cooperation with the non-academic community and trying to implement the results of their research. Unfortunately, not all activities have been sufficiently described and documented in the Self-Evaluation Report. The description of activities carried out by faculty researchers is not balanced in all areas. The two areas for which the least amount of information is provided are: non-medical health sciences and philology. No information (supported by facts) is available on the website on many of the significant research activities carried out by researchers whose focus is teacher and non-teaching staff pedagogy. Researchers from the Faculty of Humanities have been involved in national and international arena and have carried out innovative research projects. Unfortunately, this was not sufficiently emphasized (by the panel).

The strengths of the faculty are:

- collaboration on interdisciplinary projects that are carried out in teams (four thematic areas can be combined in interdisciplinary research projects);
- Innovative research projects that change school culture;
- involvement of students and PhD students in research;
- conducting research that addresses important 'pressing issues' and contributes to improving the quality of education and quality of life;
- concern for the quality of education and support for talented students;
- Creating a critical space for "theoretical grasp of practice";
- combining theory with practice;
- Prioritising active research whose activities are important for the development of science in the region;
- Interested in obtaining feedback and establishing cooperation with interest groups, based on pre-defined conditions in the contract.

Weaknesses of the evaluated unit include:

- lack of activities leading to the application of results into practice and commercialisation of research results, no action strategy in this area;
- that the Self-Evaluation Report does not sufficiently present and describe activities that showcase the collaboration of the research teams in the four areas mentioned.

5.3.6 Summary evaluation of the MEP of the Faculty of Logistics and Crisis Management (M3)

The Faculty of Logistics and Crisis Management is rated as "below average". There is room for improvement in Indicator 3.2 and 3.3, and also in Indicator 3.10, if the assessed unit would be strategically interested in doing so. Improvement in the second and third indicators may be problematic. Creating a successful system is not a simple matter in contract research. In

general, improving the quality of staff capacity involved in this type of research is a long haul. In the shorter term, it may (at least) be useful to focus more on this topic.

Achieving quality applied research takes time. Success is closely related to with effective networking, which also takes time. The shortcomings in this area may therefore be related to the fact that the faculty was established relatively recently.

There are no R&D&I awards listed for indicator 3.10 in the Self-Evaluation Report. Not seeking any awards may be a strategic decision of the university or even the faculty. MEP does not believe that pursuing awards is an appropriate strategy for the Faculty of Logistics and Emergency Management. MEP generally considers it much more sensible to build a faculty based on the classic pillars: education, dissemination of research results, applied research and theoretical/foundational research. Since the faculty is based on these foundations, it will naturally gain significant accolades through solid research activities.

In addition to the potential weaknesses mentioned above, the activities of the faculty show the following
in the Self-Evaluation Report are of reasonable quality. Although it is a young faculty, it has potential. The faculty presentation made a good impression at the MEP. The diversity of the faculty's achievements is also interesting. Although the overall grade may seem low, there is obvious potential for further growth and improvement.

5.3.7 Summary evaluation of the MEP of the University Institute (M3)

The University Institute (hereinafter referred to as "UNI") conducts, mainly through the Centre for Polymer Systems (CPS), efficient and fruitful applied research in the field of rubber-based materials, waste recovery and the development of additive and sustainable materials. This research is carried out exclusively in collaboration with national and international companies and through major projects funded by national agencies and ministries. The impact of the research results is mainly applied in the economic sector. These results help to improve the competitiveness of companies and the Czech Republic in the global market and international environment. However, other impacts of the research carried out are also relevant, although not sufficiently described in the Self-evaluation Report. Other promising impacts may be considered, for example, the opportunity to train young researchers in strategic research activities, the chance to raise national awareness of the concept of sustainability and the circular economy. These may yield increasing returns in the future.

Cooperation with non-academic bodies is well structured. However, there is apparently an excessive focus on cooperation with foreign companies. Most of these contracts are very small and meeting the requirements of the contracting authority is likely to require a disproportionate amount of human resources. The technology transfer system is well implemented. A Technology Transfer Centre has been set up to promote technology transfer. However, there are only a small number of examples of successful technology transfer, but this will certainly increase in the future. There are no spin-off companies associated with UNI, which is a problem. This could be solved by implementing a clearly defined strategy to identify key research areas and methodological approaches that will lead to increased excellence in research
and to obtain more funding.

International reputation needs to be further strengthened The current state of affairs is satisfactory, but more can be done not only for UNI's reputation but also for its involvement in international research projects and partnerships. UNI makes good use of social media. It has a good strategy in this area, which aims to make UNI more attractive to companies, international institutions, scientists and to attract new projects. UNI has great potential to become an international reference institution in the future in the field of polymer and composite materials research.

UNI's strengths:

- The UNI is well structured. It is divided into independent research centres such as the Centre for Polytechnic Systems (CPS), the Centre for Technology Transfer (CTT), the Research Centre for Both (FRC). The above mentioned centres are capable of fulfilling national and international contracts. Considerable efforts have been made to link applied research (but also basic research) with societal challenges such as the demand for innovative and sustainable products, improving and monitoring health quality and protecting the environment. Significant efforts have also been made to establish a Technology Transfer Centre, which is essential to strengthen the Institute's activities in the further application of applied research results.
- UNI has long been involved in specific research topics (such as the development of and characterization of rubber products, use of waste or by-products) and has achieved excellent results in these areas (several projects, some under the COST programme, which are very important for the expansion of the international network, several contracts with national and international clients). The Institute has already identified other areas, but their development is still at an early stage.
- The societal and economic impact of the selected results of applied research is obvious: licenses, new products with high potential for concrete applications, very close cooperation with local and international companies.

UNI weaknesses:

- In the future, UNI will need to focus on developing a strategy for strengthening research excellence and strengthening its international role and connections. The Institute will also need to focus on developing coherent research programmes. This will be relevant when applying for European funding (Horizon 2020, Horizon Europe, Marie Curie, ERC calls).
- The number of licenses and patents corresponds to revenues. If the number grows, it will lead to will lead to greater involvement of UNI in research in selected areas such as rubber-based products, waste recovery and sustainability.
- UNI's international reputation is also at an appropriate level, but needs to be improved by strengthening interactions with international institutions and scientists. This will benefit young scientists, who will gain an international outlook and the ambition to tackle challenging scientific problems.

5.4 DEVELOPMENT ACTIVITIES BASED ON THE EVALUATION OF THE MEP OF THE INDIVIDUAL COMPONENTS IN MODULE 3 AND EXAMPLES OF GOOD PRACTICE

Tomas Bata University in Zlín as a research organization can benefit from its privileged position in the Zlín Region, where it is the only public university[5] established under Act No. 111/1998 Coll., on Higher Education, in the territory. In view of the above, there is a relatively large potential for cooperation with the application sphere primarily in the Zlín Region. This needs to be emphasised more in the next period (including a higher degree of its presentation on the websites of the individual units, as for some of them it was not entirely clear whether these activities were completely absent or whether there was no mention of them in the evaluation report - this could be avoided by continuous publication of related information on activities). Systematic deepening of cooperation with the application sphere in all sectors related to the educational fields of the individual units should contribute not only to the transfer of R&D results into practice, but also to the desired improvement of the evaluation, or maintenance of the current rating of the highly evaluated units in the field of social relevance for the next specified five-year period. It is important to note that **the evaluation in Module 3 is crucial for scaling up research organisations**. Having said that, all components have a common objective, namely to maintain or move up the scale of their ratings. The following table captures the specific objective.

Name of component	**M3 rating (2014-2018)**	**Goal: Evaluation of M3 (2019-2023)**
Faculty of Technology	Very good	Very good /
Faculty of Management and Economics	Good	**Very good** / Good
Faculty of Multimedia Communications	Good	**Very good** / Good
Faculty of Applied Informatics	Good	**Very good** / Good
Faculty of Humanities	Average	**Good**
Faculty of Logistics and Crisis Management	Below average	**Average**
University Institute	Very good	Very good / **Excellent**

An effective tool in this area at UTB could be a university-wide knowledge and technology transfer unit supporting all units equally. This could operate independently or by extending the

[5] See https://www.msmt.cz/vzdelavani/vysoke

activities of the Technology Transfer Centre, which is part of the University Institute[6] with a declared university-wide focus.

[6] See https://uni.utb.cz/organizacni-clenen i/centrum-transferu-technologii/

Example of good practice - University of Ostrava

An inspiration could be the Knowledge and Technology Transfer Centre of the University of Ostrava, which should support all faculties (workplaces) regardless of the field of education in which the faculty conducts applied (and basic) research.[7] Its main objective is "to provide support and advice to researchers in demonstrating and increasing the social, cultural and economic value of their knowledge and skills". In order "to achieve this goal, a comprehensive system of support and management of intellectual property management has been built and implemented, and collaboration with the applied sector has been initiated to support the maximisation of the societal benefits of knowledge generated in the academic environment". Knowledge and technology transfer revenues by type and component can be transparently tracked on the website.[8] An interactive Catalogue of services offered by the different components to the applied sphere is also published on the website[9] , from which interested businesses, services and public administrations can get a comprehensive overview of the opportunities offered for future cooperation with academia in each area. In addition to this, an overview of the OU research infrastructure (instruments) is available at[10] for possible use in research and application cooperation. This gives the public a more realistic picture of potential links between the two spheres. In addition, a list of OU technologies available for licensing is included.[11] The Knowledge and Technology Transfer area also includes the Commercialisation Council, an advisory body to the Rector headed by the Vice-Rector Strategy and Development, which aims to: "(1) Evaluating and making recommendations on projects and activities in the area of knowledge and technology transfer and plans related to the use of resources (internal and external) for proof-of-concept, preseed activities and the establishment of spin-off companies at the OU, formulating recommendations on notifications received on the creation of industrial property; (2) Discussing strategy and proposals for the future direction of the OU in the area of knowledge and technology transfer; and (3) Discussing proposals for updating internal regulations in the area of knowledge and technology transfer and commercialization."[12] Another department, the Centre for Development and Innovation, managed by the Vice-Chancellor for Strategy and Development, with 18 staff, certainly contributes to the above objectives.[13] It aims to increase the success rate of project submissions by: "providing advisory and consultancy services to those interested in submitting projects, preparing project applications and seeking grant opportunities, registering, coordinating and supporting the management of operational programme projects".

For the purpose of cooperation with the application sphere and knowledge and technology transfer, research centres have been established at UTB in the past, two of which belonged to regional R&D centres,[14] , namely (1) the Centre for Polymer Systems ("CPS") at the University Institute and (2) the Centre for Security, Information and Advanced Technologies (CEBIA - Tech) at the Faculty of Applied Informatics. Not only these centres, but also other departments established within the units can be built upon in fulfilling Module 3, which emphasises applied R&D and its utility not only in industries but also in the public domain. As mentioned above, other faculties also have research centres where both basic (GAČR) and applied research (TAČR) projects are carried out. One such centre is the FHS Research Centre at the Faculty of Humanities. In addition to this, there are two other centres at the Faculty of Humanities, namely the Education Support Centre and the Language Education Centre. A Centre for Polymer Materials has been built at the Faculty of Technology and a Centre for Applied Economic Research at the Faculty of Management and Economics.

[7] See https://www.osu.cz/transfer-poznatku-a-technologii/
[8] See https://www.osu.cz/transfer-v-cislech/
[9] See https://www.osu.cz/katalog-sluzeb/
[10] See https://www.osu.cz/vyzkumna-infrastruktura/
[11] See https://www.osu.cz/technologi
[12] See https://www.osu.cz/rada-pro-komercializaci/
[13] See https://www.osu.cz/centrum-pro-rozvoj-a-inovace/)
[14] See Analysis of the state of research, development and innovation in the Czech Republic and their comparison with foreign countries in 2019 available from: https:

Another workplace contributing to the cooperation between academia and the application sphere is the Information and Communication Technologies Science and Technology Park at the Faculty of Applied Informatics, which was established with the aim of developing cooperation between the university and regional companies (industry) on the basis of contract and collaborative research.[15]

As can be seen from the above list, almost all units have established specialised departments whose objectives and mission correspond to the requirements anchored in Module 3 (on societal relevance of R&D&I). Considering the fact that social relevance is related to "**results of applied research that are of immediate importance for the economy, state and public administration and cultural policy**", but also to results of "**basic research that affect individuals and society indirectly (indirect impact)**" (Methodology 17+, p. 13), it can be concluded that UTB as a whole (and its individual units) is formally (i.e. the setup of the departments) well prepared to fulfil this area. Subsequently, the content and process need to be set up to be of high quality and functional, which is the responsibility of the managers of the individual units within the R&D&I management process at their unit.

Example of good practice - Palacký University Olomouc

A domestic university with a university-wide workplace focused on supporting knowledge and technology transfer and their eventual commercialisation is Palacký University in Olomouc. It operates the Science and Technology Park[16] , whose services are intended for UP students and budding entrepreneurs, for UP scientists, PhD students and employees, and for companies. This Science and Technology Park is part of UP Olomouc[17] and declares itself to be the centre for innovation and technology transfer of UP. It also aims to support the creation of start-up and spin-off companies using the potential of UP. Another objective is to make new technologies available and to connect companies with the world of UP.
The Science and Technology Park has several departments: (1) technology transfer, (2) business support, (3) marketing and PR. It is headed by a director whose team consists of 11 internal staff.

According to Methodology 17+ (p. 13), this module is based on the assessment of two groups of parameters in particular:

(A) Watchers:

- transfer of results into practice,
- cooperation with the application sphere,
- activities for knowledge and technology transfer to non-academic actors,
- impact on the quality of life of society and the citizen,
- economic benefits,
- social contribution,
- contribution to the formation of national and cultural identity.

(B) Involving student involvement in research activities:

- Selected lectures/seminars related to the VO research,
- student practice,
- the quality of education and application of doctoral students,

[15] See https://fai.utb.cz/o-fakulte/zakladni-informace/struktura/ustavy/vedeckotechnicky-park-informacni-a-komunikacni-technologie/o-nas/
[16] See https://www.vtpup.cz/
[17] See https://www.vtpup.cz/o-nas

- international and domestic prestigious awards for scientific contribution,
- mobility of researchers between research organisations and industry and services,
- the importance of the VO in terms of the development of the region,
- popularization and feedback.

With regard to the above parameters, the planning of the activities of the research organisation's units for the next period should be based on these and the strategic plan should include specific objectives (and measurable indicators) aimed at their fulfilment so that the individual units move upwards in the quality of evaluation.

6.5 SUMMARY ASSESSMENT OF THE MEP IN MODULE 4

Considering the age of the university, after a thorough evaluation of its R&D&I strategy, it can be said that all aspects (research, development and innovation) are at a very good level. This applies to both the implementation and management areas, both nationally and internationally. At the same time, the R&D&I strategy is in line with national and international strategic documents (Europe 2020, RIS3). It is rare to see such a young higher education institution that has achieved so much in just twenty years. The R&D&I rating is good to very good across most indicators. 26 out of 33 criteria (79%) were rated as very good or good (16 very good and 10 good). **The highest rating** (5 - excellent) **was given in three indicators** where UTB achieves world-class results. These are indicators assessing **the funding of doctoral studies**, the **setting of internal regulations and ethical standards**, and the **mission and vision in R&D&I**.

Module 4 was rated with a total of 95 points, which means that the University as a whole achieved a 'good' score in the viability assessment. The threshold for a very good level starts at 99 points, which puts UTB on the borderline of a good to very good rating. The assessment of this module and the individual recommendations should be taken by UTB as an incentive to improve its institutional R&D&I strategy for the next assessment period. With the speed and agility with which the university
the university has progressed in the past, significant improvements can be expected in the near future
and achievements.

6.6 FOLLOW-UP DEVELOPMENT ACTIVITIES TO THE MEP SUMMARY ASSESSMENT IN MODULE 4

Module 4 assesses the viability of the research organisation based on the quality of management and internal processes in 4 areas:

(1) Research environment (including quality of research management, personnel policy, human resource structure and development, research facilities and infrastructure).

(2) International and national collaboration (especially membership in the international and national research community).

(3) Funding from external sources (in particular international and national cooperation, internships of students and young researchers abroad, prestige of research,[18] success in obtaining projects (their co-financing).

(4) The basic structure of costs and revenues from grant and programme projects of which the institute is (co-)recipient (this includes activities such as contract research, collaborative research and technology transfer, licence income, spin-offs, revenues from the sale of patents and licence agreements.

With regard to the areas presented and the results of the evaluation, it is necessary to focus on three identified areas of high potential for further development, according to the specificities of the individual components:

(1) Human resources with the aim to (a) support internal capacities (e.g. recruiting excellent doctoral students at UTB units or existing internationally recognized experts in individual disciplines related to the Zlín Region) by creating conditions for their further scientific growth and development; (b) "attract" to UTB excellent world scientists with international impact and create an interesting working environment for them. The management of human resources also includes the creation of a good organisational culture with clearly defined rules defining unambiguous procedures for employees of all units without making distinctions and exceptions and building a good reputation of the organisation represented by people - scientists and other academic staff with a good reputation in the Czech, European and world scientific community. The aim is the cooperation of all parts with the common main goal of achieving the development of the scientific institution (UTB). The watchword then becomes cooperation, not internal rivalry often leading to the destruction of the good foundations built together.

(2) The area of contract, basic[19] and applied research with the aim of setting up a system at individual units to reward the acquisition and successful solution of contract research contracts implemented in all accredited areas of education and other basic and applied research projects (or other projects). Revise the motivation systems at the units so that they become highly motivating, because without continuous involvement in the solution of basic and applied research projects at individual units it will not be possible to compete in the future, not only in the evaluation of Methodology 17+, but especially in the internal and external accreditation of existing or new modernly designed study programmes).

This area also includes collaborative research and technology transfer into practice and related licensing income. A notable area is the establishment of spin-off companies, which is also proliferating within research organisations in the social sciences and humanities. In these, for example, training centres are being set up using the know-how of existing programmes previously implemented by the university unit.

Success in this area can be assessed on the basis of parameters based on statistical data on the number of projects of each type that have been awarded and successfully implemented, and on the volume of funds raised (after deducting the necessary costs associated with project implementation).

[18] See projects listed in the Central Project Register - https://www.isvavai.cz/cep

[19] See https://gacr.cz/seznam-podporenych-projektu-od-roku-2022/ - the number of projects of applicants from UTB supported by GA CR with the solution period from 1 January 2022 and see https://gacr.cz/seznam-podporenych-projektu-od-roku-2021/ - the number of projects of applicants from UTB supported by GA CR with the solution period from 1 January 2021.

(3) The area of international cooperation with the aim of supporting the involvement of academic staff in international research networks and communities, including the acquisition of international projects. In view of the fact that long-term foreign internships of academic staff are one of the requirements for submitting e.g. projects of the GA of the Czech Republic and others, it seems appropriate to develop a system for fulfilling this requirement at individual units, especially for promising scientists with a high level of potential. Longer-term foreign experience of supervisors not only of study programmes but also of courses is also evaluated within the accreditation system. In view of the above, it is desirable to pay due attention to supporting academic staff in gaining foreign research experience and to systematically develop this area (e.g. by rewarding academic staff who obtain prestigious scholarships.[20]

6.7 SUMMARY ASSESSMENT OF THE MEP IN MODULE 5

In Module 5, UTB achieves a total score of 21 and therefore a "very good" rating. This also means that it is on the borderline of an excellent rating. The mission and vision in R&D&I is built on the Bata heritage and brand, which stems from the unique long-term vision of individual members of the Bata family. Bata's vision was to create a huge, self-sustaining enterprise. The same is true of Tomas Bata University in Zlín. The university's management understands that its long-term success lies in being self-sufficient and promoting the best principles in R&D&I to ensure that the university remains relevant and competitive in the local and international environment. The Bata empire was designed to operate efficiently, freely and innovatively. UTB designs its structures with innovation and utility in mind.

Location plays an important role with regard to the future development of UTB. The city of Zlín lost its importance during communism and stagnated for forty years, also because of the name change from Zlín to Gottwaldov. After the Velvet Revolution, the city was given the original name of Zlín, and is on the rise. Its innovative spirit, imprinted on the city by the Bata family, has been revived in the last thirty years. Since 2001, UTB has played a significant role in the city's revival and renaissance, and this role as a cultural change-maker is one of the institution's strengths. UTB aims to reinvent the culture of innovation in the Zlín region and the Czech Republic, while promoting the European vision of creating a smart, sustainable and inclusive society and environment. All of UTB's activities to date demonstrate a commitment to the renewal of the city's original mission.

The statistics provided by UTB confirm that Tomas Bata University in Zlín is on the road to great success built on Bata's legacy, the history of the city, cultural responsibility, focus on R&D&I and great leadership that has managed to build a very good R&D&I culture in just ten years. Based on years of experience at a similar institution in the US, MEP notes that creating and maintaining a transparent culture of innovation across the institution is a very difficult task. The story of UTB is an excellent example of how a university can change the culture of its region, country and the world. UTB's motto "educate and create" truly reflects its mission and vision. Below is a SWOT analysis based on the evaluation of Modules 4 and 5.

The strengths of the University's strategy include:

- a good definition of the mission and vision for R&D&I;
- focusing on the highest standards in human resources;

[20] See https://www.fulbright.cz/stipendia/zakladni-informace/

- connection with the Bat'a brand (the heritage of the Bat'a family - Bat'a story/story of the city of Zlín);
- Institutionalized creative thinking;
- focusing on the use of research results;
- functional design strategy;
- entrepreneurial spirit;
- Bilingualism;
- relevant and innovative curriculum;
- the great flexibility of the institution, taking into account its size;
- vision and planned impact beyond the borders of the University, the city of Zlín, the Czech Republic, Europe and globally;
- a large number of international students;
- specialized and unique programs;
- state-of-the-art equipment and technology;
- location (localisation);
- focus on design;
- unique offerings of doctoral degree programmes.

Development opportunities at UTB Zlín include:

- more local and international research partnerships;
- Increase the number of major projects/mobilities;
- Increase participation in international events (conferences, etc.);
- developing new cooperation with local stakeholders;
- establishing new cooperation with international bodies;
- New external consultancy partnerships;
- Attract women to technical studies (professors and researchers, PhD students);
- New curriculum settings (offering new modern study programmes);
- New teaching methods (project-based, practical, internships, projects for students from real clients);
- new major events attracting local and international audiences;
- cooperation with successful brands that are considering relocating to Zlín;
- Promoting well-known researchers, professors, students and alumni; attracting more international PhD students from different countries, including the USA.

Weaknesses in the development of UTB in Zlín include:

- the university is relatively young;
- in competition with established universities in the Czech Republic, Europe and the world;
- small number of students compared to other universities in the Czech Republic;
- lower volume of publications;
- average contribution of publication outputs;
- inconsistent research outputs of individual faculties and organisational units.

Threats to the development of UTB Zlín include:

- other universities that are also rethinking their operations;
- larger universities;
- universities with greater research impact, sustainability and relevance (competitiveness and relevance of UTB).

6.8 FOLLOW-UP DEVELOPMENT ACTIVITIES TO THE MEP SUMMARY ASSESSMENT IN MODULE 5

Considering the age of the university, after a thorough assessment of its R&D&I strategy, it can be said that it has its mission and vision well defined. The main challenge, however, is to translate them into everyday practice so that it does not remain a mere declaration. In line with the 17+ Methodology, this means implementing the concepts, i.e. following the individual steps towards achieving the mission and setting realistic visions. The evaluation in this module then includes a direct link to the "implementation of higher strategic objectives and measures resulting from existing documents at national and supranational level (Methodology 17+, p. 14).

Within the framework of UTB development activities, it is therefore necessary to focus all attention on the so-called weak areas hindering its development, among which are mainly: the average contribution of publication outputs at individual units and inconsistent project activities at individual units. At the same time, these weaknesses become threats to the future development of the research organisation.

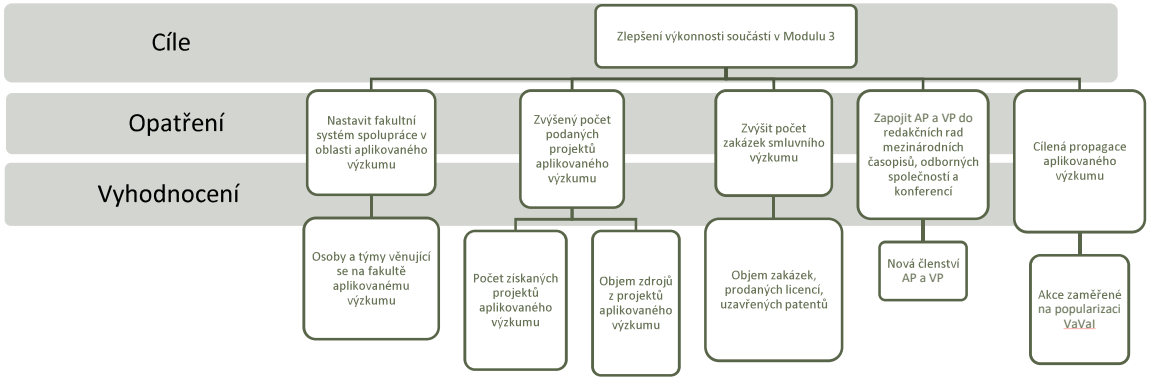
5 MEASURES TO IMPROVE THE M3 RANKING OF UTB IN ZLÍN

The system of measures to enhance the societal relevance of individual research units is based on their ranking according to the field relevance (FORD) in which they are evaluated in module M3. Therefore, the following are always key measures aimed at eliminating weak research units, as well as preventing potential threats and exploiting relevant R&D development opportunities in module M3, including examples of good practice from the Czech Republic and abroad.

Their implementation at UTB in Zlín will be part of the Programme for Supporting Strategic Management of UTB in Zlín for the years 2022 to 2024 and in the system and measures following the Implementation Plan of the UTB Strategic Plan for 2022.

The initial model for the integration of evaluation support measures in M3 is shown in Diagram 1 below.

Diagram 1. Objectives and measures of UTB components based on the M3 assessment



7.1 Faculties evaluated in FORD 5

7.1.1 Measures to improve assessment in the Faculty of Management and Economics

The Faculty of Management and Economics has been evaluated as good in the evaluation so far. The following measures will be implemented in 2022 to eliminate weaknesses based on the analysis of the evaluation:

- Expand cooperation with partner universities.
- Create a methodology for searching international projects and information for AP (CORDIS,...)
- Systematically search for opportunities to solve important applied and contract research projects with the corporate sphere.
- Develop proposals for multidisciplinary research and application projects with demonstrable economic impact on society.
- Actively approach selected institutions with proposals for cooperation in multidisciplinary research and application projects.
- Use CRM principles for customer relationship management.
- Encourage the active involvement of AP and VP units in the activities of international journal editorial boards and scientific boards of scientific and professional conferences.
- Encourage AP and VP faculty membership in international R&D organizations and societies editorial boards of major professional journals.

7.1.2 Measures to improve evaluation at the Faculty of Logistics and Crisis Management

- The Faculty of Logistics and Crisis Management has been evaluated with the grade "below average". The following measures will be implemented in 2022 to address the weaknesses based on the evaluation analysis:
- For each area of education in the context of Strategically Significant Fields (hereinafter referred to as "SVO") of the faculty, prepare conditions for the preparation and subsequent solution of applied research projects (TAČR, TREND, OPTAK and others).
- Continue to actively participate in applied research projects at UTB (GAMA).
- To propose a comprehensive strategy for the development of active collaboration with practice in the field of contract research.
- Initiate activities leading to quality results with the primary goal of their wide economic application (software, working sample, prototype, utility model, etc.).
- Focus on the promotion of the Faculty's R&D results.
- Recommend suitable foreign partners for cooperation based on previous contacts.
- To set conditions and support for the involvement of APs and VPs in international cooperation networks, including active search for foreign partners to prepare and cooperate on international R&D projects.
- Encourage active participation of AP and VP faculty in the activities of international editorial boards of journals and scientific boards of scientific and professional conferences, in international R&D organizations and societies.
- Organizing or co-organizing conferences with the aim of raising the visibility of the Faculty among the professional community in strategically important fields of the Faculty.

7.2 Faculties evaluated in FORD 6

7.2.1 Measures to improve assessment in the Faculty of Humanities

The Faculty of Humanities has been evaluated with the grade: average ("average"). The following measures will be implemented in 2022 to address the weaknesses based on the evaluation analysis:

- Intensify interdisciplinary cooperation within the FHS.
- Increase the number of applied research projects submitted and obtained (TAČR).
- Focus on outcomes with potential economic impacts (e.g. software and licenses to use it.
- Intensify cooperation and interaction with non-academia (potential for contract research for schools and other partners).
- Increase the number of nominations for academic staff awards.
- Intensify the integration of AP and VP into the international scientific community (editorial boards, professional societies, etc.).
- Intensify activities in the area of the so-called third role (communication with the public, popularization, regular events), focus on the potential associated with the implementation of the Junior University (establishment of branches, potential spin-offs).
- Focus on more intensive presentation of the work of the faculty (on the web) and intensify documentation of faculty activities reportable under Module 3 so that they do not fall behind over a longer period of time.

Example of good practice from abroad - University of Glasgow:

A foreign university with highly developed research in FORD 6 is the University of Glasgow. In the case of societal relevance in education research, this institution builds on several research centres that specialise in both basic research and the translation of knowledge into practice. "The 'School of Education', the closest faculty to the University of Glasgow in terms of subject matter, similar to the Faculty of Humanities at UTB in Zlín, has the following research units established for this purpose: (1) the Centre for Research and Development in Adult and Lifelong Learning (CR&DALL), (2) the Robert Owen Centre fir Educational Change and (3) the Centre fdor Computing Science Education. Each of these units aims to undertake high quality, social change and policy formulation oriented research in its field. In other words, the outputs of all research are used not only as basic research findings, but also as sets of recommended methodologies, white papers, and analytical and background materials for relevant stakeholders responsible for education at all levels of the education system.[21]

At the same time, the School of Education has created specific Hubs, which are responsible for working with specific public and private actors to address specific social and educational issues based on the needs of the practice and the region. These are: (1) Glasgow Refugee, Asylum and Migration Network (GRAMNet) and Sustainable Futures in Africa, which on the one hand address the adaptation of migrants in the city of Glasgow, including their education, and on the other hand support the education of people in developing African countries in the long-term fight against poverty. Then there is (2) the Centre for Sustainable Healthy and Learning Cities and Neighbourhoods (SHLC), which focuses on creating everyday opportunities for human capital development and its long-term sustainability. In addition, there is (3) the Urban Big Data Centre and (4) What Works Scotland, which collect and analyse data about life in Scotland and the local labour market and use this to deliver analysis to local authorities and businesses to support their decision-making and strategic direction.

Although the School of Education is a much larger institution than the Faculty of Humanities at UTB in Zlín, a great deal of good practice can be drawn from the organisation and content of their activities in terms of direct

[21] Detailed information is available at: https:

links between research and application in FORDU 6, as well as the way in which information and promotion of this type of R&D is provided.

7.2.2 Measures to improve assessment at the Faculty of Multimedia Communications

The Faculty of Multimedia Communications has been evaluated as good in the evaluation so far. The following measures will be implemented in 2022 to address the weaknesses based on the evaluation analysis:

- FMK will focus on developing its own tools for technology transfer in the field of product design.
- FMK's strategic intent is to increase the number of licenses sold for the use of the work, in the form of work agreements with licensing arrangements.
- In order to better coordinate the cooperation of studios with external entities, FMK purchased a software licence in 2021 that will enable systematic management of relationships with cooperating companies.
- Interviews with studio heads and the Director of the Institute of Marketing Communications were completed at FMK in 2021. The aim of the interviews is to set up an effective tool for collaboration with companies on design, i.e. contract research.
- FMK will use these tools to develop contract research (chapter 3.3 of Module M3), thus also developing the activities that FMK reports in chapter 3.8 of Module 3.
- Cooperation with companies is based on the fact that all works created at the FMK will have contractually anchored licensing rights, i.e. the FMK will sell licenses for each work, but always according to the type of research contract.

7.3 Faculties evaluated in FORD 2

7.3.1 Measures to improve assessment at the Faculty of Applied Informatics

The Faculty of Applied Informatics has been evaluated as good in the evaluation so far. The following measures will be implemented in 2022 to eliminate weaknesses based on the evaluation analysis:

- Increase the number of projects supported by non-national funds.
- Increase the work contracted for foreign clients (FAI has a central location in Europe, competitive research costs compared to some of its neighbouring countries and, above all, a wide range of knowledge disciplines, so it could potentially be able to undertake multidisciplinary projects/contracts).
- Increase revenue from non-public sources such as licenses.
- Increase research outputs with non-economic impact on society (e.g. use FAI's broad knowledge base to open up more space for discussion in thematic areas, create a stable space for knowledge exchange between the "applied" academy and professionals).
- Promote national and international patents, utility models and prototypes, which, in addition to financial benefits, can serve as a basis for building FAI's position as a developer of cutting-edge technologies, increasing its visibility, its ability to attract other projects, and increasing the chances of a more positive evaluation when applying for funding.
- Involve individual researchers in R&D&I award competitions.
- Involve APs and VPs in the editorial boards of international journals and conferences.

Example of good practice from abroad - NTNU:

One possible example of high quality societal relevance in R&D is the strategy and research activities of the Norwegian Institute of Technology (NTNU) in Trondheim, which can be a good model for the units evaluated in FORDU. This Norwegian university focuses on four strategic areas of research with a direct impact on the daily lives of the population not only in Norway but worldwide. These areas are (1) energy, (2) health, (3) oceans, and (4) sustainability.[22] Within these domains, the company conducts both contract research and direct collaboration with business partners, industry and public bodies.

Across these four areas, it creates specific technologies under its own brand name: (a) NTNU Biotechnology, NTNU digital and NTNU Nano. Especially the penultimate one can be an inspiration for the Faculty of Applied Informatics as it includes R&D&I related to communication and information technologies. The aim of technology development in this domain is to enhance the transferability of the developed ICT technologies to other disciplines and to increase their applicability in everyday life.[23] In this regard, NTNU is pursuing a cross-cutting project called Digital Transformation, which includes the development of: (a) autonomous all-electric transporters for navigation on water; (b) the development of digital economy tools aimed at supporting transaction tools, information transfer, service delivery, and their extension and acceleration; (c) digital infrastructure to support citizen engagement - e.g. (d) development and exploration of blockchain technologies and the nexus of trust and transparency in the digital society; (d) advanced development and design of 3D alloys for industrial applications; € creation of digital twins for online health monitoring.

In all cases, research always includes a significant component of social relevance. Each of the implementing teams has a practice partner who is involved in the application dimension of the research, and at the same time the outputs are continuously popularized on the NTNU website and other communication channels

[22] Detailed information is available at: https:
[23] Detailed information is available at: https:

6 OVERVIEW OF UTB IN ZLÍN EVALUATION INDICATORS

Module 1

- Development of the overall UTB rating in Module 1
- UTB Module 1 ratings by discipline (FORD)
- UTB's Module 1 rating by discipline (FORD) in the national context
- Ranking of UTB v Mod ulu 1 by discipline (Detailed FORD) in national context

Module 2

- Outputs in WoS and Scopus databases regardless of quartiles
    - Development of the number of UTB staff article/review outputs published in the WoS database by unit and in total
    - Development of the number of Jsc outputs published in the Scopus database by units and in total
    - Comparison of universities in the Czech Republic based on Jimp and Jsc outputs
- Outputs in the WoS database with quartiles taken into account
    - Development of the number of outputs in D_1 by RiV/OBD at units and total
    - Development of the number of outputs in Q_1 by RiV/OBD at units and total
    - Development of the number of outputs in Q_2 by RiV/OBD at units and total
    - Development of the number of outputs in Q_3 by RiV/OBD at units and total
    - Development of the number of outputs in Q_4 by RiV/OBD at units and total
    - Development of the number of outputs in D1, Q1 and Q2 according to RiV/OBD on units and total
    - Development of output conversion in D1, Q1 and Q2 according to RiV/OBD per FTE in units and total
    - Development of the number of outputs in Q3 and Q4 by RiV/OBD on units and total
    - Development of the conversion of outputs in Q3 and Q4 according to RiV/OBD to FTEs in units and total
- Outputs in the Scopus database for FORD 4, 5, 6 with consideration of quartiles
    - Detailed subcategories (not yet processed)
- Benchmarking at the level of UTB units
- Field bibliometric analyses
    - Development of the number of UTB publications in the WoS database by scientific fields (FORD)
    - Quartile distribution of outputs in the WoS database by scientific fields (FORD)
    - Quartile distribution of outputs in the WoS database by scientific fields (Detailed FORD) (not yet processed)
    - Development of the number of UTB publications in the Scopus database by relevant scientific fields (FORD 4, 5, 6) (not yet processed)
    - Quartile distribution of outputs in the Scopus database according to relevant scientific fields (FORD 4, 5, 6) (not yet processed)
    - Quartile distribution of outputs in the Scopus database according to relevant scientific fields (Detailed FORD 4, 5, 6) (not yet processed)

Modules 1 and 2

- Summary evaluation of FORD areas at UTB in M1 and M2 modules
- Summary of the UTB subject evaluation in M1 and M2 modules

Evaluation in relation to internal UTB standards and components

- Results of creative activity at UTB level
- Results of creative activities at the level of UTB units
- Results of creative activities at the level of sub-departments of the units
- Results of creative activity at the individual level