



IF₄TM

Institutional framework for development
of the third mission of universities in Serbia



Metrics for monitoring the third mission activities





IF4TM

D.6.2 Metrics for monitoring the third mission activities

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Abstract	Deliverable of Act. 6.2: Metrics for monitoring of third mission activities; presents a list of indicators to measure Serbian HEI's third mission activities
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1. Introduction

The metrics for monitoring the third mission activities have been elaborated in the second and third year of project implementation. The project team of DUK, QAPT team and three working group members (WG2, WG3, WG4 within this project) have defined the set of metrics in order to measure the progress of implementation of all three dimensions within third mission at Serbian HEIs. Besides these, the teams have also defined the mechanisms for the collecting, monitoring and analysing of these indicators. The results of this document will be incorporated into the first version of Operational Manual for third mission implementation. This list of metrics will be updated and revised until the end of the project based on experience from implementing third mission activities within IF4TM. The final list with statistics and graphical presentation of monitored metrics will be presented in the Final Monitoring Report for Third Mission Activities.

2. Methodology for the selection of metrics

The metrics for monitoring of third mission activities have been developed

- Based on results from international research on the topic
- In a multi-level process
- Jointly by Serbian and international project partners.

The most important **theoretical source** for this document are the results of the European E3M project, which has been realised under the Lifelong Learning / Eurydice scheme, led by the Polytechnic University of Valencia in partnership with Danube University Krems and a six other universities.

The document also reflects the indicators as used for the U:Multirank ranking, and for the metrics part of the intellectual capital reports that Austrian universities have to produce on an annual basis. Additionally, current developments in the governance of third mission and responsible science at the Austrian science ministry have been reflected in the compilation of this report.

The metrics reflect the **feedback by all** Serbian higher education institutions in all their heterogeneity, i.e. university vs. technical college of applied studies, public vs. private, loosely-coupled vs. integrated, urban vs. rural. Theoretical input and institutional experience has been shared by Danube University Krems.



3. Significance and prioritization of metrics

In the definition of metrics, the following criteria have been set to assure a good selection of indicators:

- **Availability of data**
 - Preference is given to those indicators for which the data is already available or can be easily made available.
 - The amount of data to be collected from single employees of higher education institutions should be kept to the absolute minimum, in order not to over-burden academic staff with bureaucratic issues and assure academic staff's openness to provide data.
- **Methodological quality of indicator**
 - Preference is given on indicators that represent an output or throughput, not inputs
 - A clear definition of the indicator should be possible, so the data of various units and institutions is comparable
- **Variety of indicators**
 - The set of indicators is structured according to the three dimensions of third mission, i.e. continuing education, technology transfer & innovation, and social dimension
 - Each sub-set should cover a maximum of sub-fields defined for each dimension
 - A comparison of indicators across the three dimensions assures that a broad picture is provided
- **Adapt to Serbian needs**
 - The selected indicators reflect the socio-economic setting in Serbia,
 - and the institutional capacities of Serbian higher education institutions in this regard.

4. Collect, monitor and analyse data

To achieve change on system level, it is necessary that a national player (e.g. the ministry, the accreditation agency) defines a set of metrics together with deadlines when the higher education institutions have to provide the data. If there is already a set of key performance indicators to be communicated by Serbian universities, it would be cost-saving to include metrics on third mission into the existing set.

To facilitate the establishment of the system, a person competent in statistics should be the main contact point. As there might be still open questions regarding the definition and interpretation of the metrics and the under laying data, a steering committee with



representatives from Serbian higher education institutions should be available beyond the IF4TM project.

Metrics should be collected on an annual basis. The results should be published and made available in formats that allow further use for analysis and research.

5. Set of Metrics

5.1 Continuing Education (CE) indicators

CE 1: Existence of Continuing Education in the university strategy and action plan

- Is continuing education mentioned in the university strategy?
- Does the university have an action plan how to implement strategic goals in continuing education?
- If the university has an action plan, is this plan updated regularly?

CE 2: Number of CE programs as a percentage of the total number of study programs

Does only list programs that have taken place, hence excludes programs that were developed but have not started or that have been offered but did not reach the minimum number of participants. Answers should be provided in the categories

- Not ECTS awarding CE programs,
- CE programs awarding 1 – 29 ECTS,
- Short-cycle programs (30 – 60 ECTS).
- CE programs with external accreditation (through appropriate ministries, defined in [D4.1 Guidelines for the establishment of integrative approach in continuing education at university level](#))

Under total number of study programs (in indicator definition), each realized regular bachelor or master program count as one.

CE 3: Number of CE participants as a percentage of the total number of students

Head count of participants in continuing education as defined by Serbian legislation, as a percentage of the total number of students as defined by the Ministry (the latter number excludes CE participants).

CE 4: Quality Assurance for Continuing Education

- Does the university have dedicated rules on quality assurance for continuing education?



- Are QA rules for CE defined in line with procedures developed during IF4TM project and defined in [D4.1 Guidelines for the establishment of integrative approach in continuing education at university level](#))?

CE 5: Earnings from continuing education per total number teaching staff in FTE

Total amount of money earned through all continuing education programs of the university in the reporting year, measured in RSD, divided by the total number of teaching staff (FTE - full-time equivalent).

CE 6: Number of CE programs with external approval as a percentage of the total number of CE programs

Number of CE programs that have received external approval, defined in [D4.1 Guidelines for the establishment of integrative approach in continuing education at university level](#). It counts approvals after an external quality procedure, e.g. a CE program accreditation from a national or international agency, a quality label from trade organizations, approval by a Ministry (e.g. of Education or of Health etc.). External approvals that are transferred automatically without any quality procedure are excluded. This is divided by the number of total CE programs as given in indicator CE2.

5.2 Technology Transfer & Innovation (TTI) indicators

TT 1: Income from licenses per researcher (full-time equivalent)

The total amount of income gained through licensing university knowledge, measured in RSD, divided by the number of researchers of an institution measured in full-time equivalent

TT 2: Number of patents per researcher (full-time equivalent)

The total number of patents, national and international, held by the university/faculty divided by the number of researchers of an institution measured in full-time equivalent.

Patent is accepted as described in [the Rulebook on procedure evaluation and quantitative expression of scientific research results of researchers](#) ("Official Gazette of the Republic of Serbia", No. 24/2016) adopted by the Ministry of Education, Science and Technological Development of the Republic of Serbia, defined in the following categories:

- M86 International patent application
- M87 National patent application
- M91 Registered patent at international level
- M92 Registered patent at the national level
- M93 Published patent on an international level
- M94 Published patent at the national level



TT 3: Number of technical solutions applied on national or international level, per researcher (full-time equivalent).

The total number of technical solutions applied at national or international level divided by the number of researchers of an institution measured in full-time equivalent.

Technical solution is accepted as described in [the Rulebook on procedure evaluation and quantitative expression of scientific research results of researchers](#) ("Official Gazette of the Republic of Serbia", No. 24/2016) adopted by the Ministry of Education, Science and Technological Development of the Republic of Serbia, defined in the following categories:

- M81 New technical solution applied internationally
- M82 New technical solution (method) applied at the national level

TT 4: Number of joint publications with at least one coauthor from economy sector outside of HEI, per researcher (full-time equivalent)

The total number of joint publications with at least one coauthor from economy sector (employed in company, business institution, NGO, government institution, business associations and similar nonacademic legal entity) divided by the number of researchers of an institution measured in full-time equivalent.

TT 5: Number of hours taught by external lecturers as a percentage of teaching hours in regular study programs

For this indicator, "external lecturer" corresponds "predavač van radnog odnosa" defined in article 80 of [the Law on higher education of the Republic of Serbia](#)¹. It could be a person who is self-employed or employed by an organization (including companies, NGOs and government bodies, excluding public and private higher-education institutions or research institutes). The number of hours includes in-class contact hours and excludes one-on-one counselling.

Teaching hours in regular study programs counts contact hours in bachelor and master programs excluding CE programs.

¹ Visokoškolska ustanova može na predlog stručnog organa angažovati u delu aktivne nastave, uključujući predavanja i vežbe, na prvom i drugom stepenu studija, najviše do trećine časova nastave na predmetu u toku semestra, predavača van radnog odnosa koji ima stečeno visoko obrazovanje najmanje master akademskih studija i koji ima neophodna znanja i veštine u odgovarajućoj oblasti i pokazuje smisao za nastavni rad.

Predavač van radnog odnosa može biti angažovan isključivo na stručno-aplikativnim predmetima.

Nosioci predmeta zaposleni na visokoškolskoj ustanovi su odgovorni za obezbeđenje kvaliteta nastave koju realizuju predavači van radnog odnosa.

Opštim aktom samostalne visokoškolske ustanove bliže se uređuju način izbora i vreme na koje se angažuje predavač van radnog odnosa.

Sa licem iz stava 1. ovog člana zaključuje se ugovor o angažovanju u trajanju od najduže jedne školske godine sa mogućnošću produženja, a isplate po osnovu tog ugovora se realizuju iz sopstvenih prihoda visokoškolske ustanove.



TT 6: Final works, master works and doctoral thesis developed in cooperation with economy sector, per total number of students

The number of student final works, master and doctoral thesis that were realized in cooperation with economy sector (company, business institution, NGO, government institution, business associations and similar nonacademic legal entity) divided by the total number of students.

TT 7: Number of spin-offs established per researcher (full-time equivalent)

In this context, a spin-off is defined as a company that uses research results, and therefore either the university or a faculty owns a stake in this company, or the university has given official allowance to a researcher to start this company.

Indicator should be divided in three categories.

- I category: HEI is co-owner of company
- II category: HEI decided not to accept co-ownership, 60 days after invention disclosure.
- III category: Student start-up company, incubated or supported by expertise from the university/faculty. Institution could have part in start-up company profit.

TT 8: Earnings from contract research per researcher (full-time equivalent)

In this context, contract research is defined as a cooperation between the university and an external non-academic partner where the university performs research against money; external non-academic partners include companies, NGO, and government institutions but exclude higher-education institutions, research institutes, research funds, EU framework programs, etc.).

In addition to the agreed bilateral contract research between university/faculty/institute and business partner, this includes contract research/service implemented within the innovation voucher scheme. Innovation vouchers represent a simple financial incentive provided by Innovation Fund of the Republic of Serbia for contract research. It enables small and medium-sized enterprises to raise the level and innovation of their products and become more competitive on the market, using the contract research/services of the scientific research sector (university/faculty/institute/innovation center etc.). They are intended for small and medium-sized enterprises to solve the technical/technological problem they encounter in their business, or for the transfer of scientific, technological or innovative services that are new to the enterprise.

This amount in RSD, earned by the university and its faculties/departments/institutes within the reporting year through contract research, is divided by the number of researchers of an institution measured in full-time equivalent.

TT 9: Number collaborative research agreements with companies where technology transfer is included per researcher (full-time equivalent)

Total number of contracts between the university and profit-seeking companies where both partners jointly do research, and the research result should be commercialized by the company.



The number includes all valid contracts, also those signed in earlier years, classified in following three categories:

- EU financed research projects (Like H2020, must include TTI)
- Cooperation of HEIs and companies (e.g. IF Collaborative grant scheme, etc..).
- Collaborative projects of HEI and company with joint research and joint financing. Intellectual property issues must be defined by legal binding contract.

TT 10: Number of contracts for access to university space, facilities, equipment and services per researcher (full-time equivalent)

Total number of contracts between the university and non-academic partners (as defined above) that regulate the use of university facilities by the externals; these facilities include machinery and instruments, laboratories, class-rooms etc. Services include various aspects of university administration (like IT services, library use, facility management, payroll, financial management, etc) but excluded contract research or teaching.

TT 11: Revenue from TTI activities realized on the market, provided from non-academic partners per researcher (full-time equivalent)

This amount in RSD, earned by the university and its faculties/departments/institutes within the reporting year through TTI activities realized on the market, charged from non-academic partners (as defined above) is divided by the number of researchers of an institution measured in full-time equivalent.

TT 12 Number of TTI events and competitions (not including knowledge competitions)

Head count of TTI events intended to innovation and entrepreneurship development, organized by university and its members, such as:

- Competition for best student idea
- Open innovation campaigns
- Start-up weekends
- Summer schools on TTI topics
- Etc.

5.3 Social Engagement (SE) indicators

SE 1: Mention of social engagement in the mission of university

- Does the university mission mention the institutional role in developing the society?
- Does the university have SE action plan?
- Does the university update SE action plan regularly?
- Does the university have monitoring mechanism for SE action plan realization?



SE 2 Number of student volunteers in SE activities as a percentage of total number of students

Relative measure for recognizing the involvement of students in non-discipline volunteering activities towards the community/society (fully applicable if volunteering is defined as activity within the studies or by the rules on volunteering expressed in the ECTS).

SE 3 Number of academic/administrative staff volunteers in SE activities as a percentage of total number of academic/administrative staff (full-time equivalent)

Relative measures for recognizing the involvement of academic/administrative staff in non-discipline volunteering activities towards the community/society.

SE 4: Impaired students as a percentage of the total number of students

Total number of impaired students includes:

- students with disabilities,
- students from minority groups,
- students of poor material status,
- students who are experiencing learning difficulties that are caused by one of the following factors:
 - lower socio-economic status;
 - come from other backgrounds, or do not have a place of residence in a university center;
 - have difficulties in adapting to the new environment and learning;
 - come from families in which none of the parents has a university degree or similar.
- students migrants

The indicators can be monitored through statistics of higher education in Serbia provided by the Statistical Office of the Republic of Serbia (form SW20).

SE 5: Number of students who received some kind of institutional financial support as a percentage of total number of students

Institutional financial support provided by higher education institution (university/faculty/department) could include following:

- scholarships
- partial or total exemption from tuition fees
- prizes (goods or money)
- etc.



SE 6 Number of an active Council of employers per number of faculties

Relative measure for recognizing of the involvement of Councils of employers in creating and harmonizing study programs with the economy and the real needs of the labor market (fully applicable only if Councils of employers have already been established at faculties). Integrated universities should provide binary answer Yes/No with qualitative description.

SE 7 Number of events open to community/public

Numbers of events held by the university open to the general public (excluding invitation-only events).

SE 8 Number of events (sports, culture, trainings, health, exhibition...) organized by community using HEI facilities (free of charge or reduced charged)

Availability university/faculties facilities for different community activities free of charge or with reduced-cost charge.

SE 9 Number of events in HE Institutions involving primary and secondary students

The measure of the effort of university/faculties in organization of events with different purposes for primary and secondary students.



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