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Re@WBC

Enhancement of HE research potential contributing to further growth of the WB region

Report on mapping the research human potential and issues in University of East Sarajevo

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Introduction

The University of East Sarajevo is an independent and self-governing institution, consisting of 15 faculties and two academies.

UES has over 30 bilateral agreements signed with partner universities from Europe and Russia. These bilateral agreements regulate different types of cooperation, such as work on subjects and projects of common interest, exchange of scholars and students, joint publications, exchange of information and other activities in order to improve the academic cooperation. Certain faculties of the UES also have a number of bilateral agreements signed with partner faculties abroad. UES is a member of several university networks and international associations - European University Association; - EUA, The Network of Central and Eastern European Quality Assurance Agencies in Higher Education, Danub conference and etc.

The University of East Sarajevo has participated in 24 TEMPUS projects since 2000, two FP6 project, one Fp7 project; and other international projects - such as project dealing with Brain Drain in West Balkan Countries, financed by UNESCO and 'Hewlett Packard', then ALPS/IRIS REFORM PROJECT BIH, financed by USAID, and Institutional University Development Plan 2003-2008 - the project was funded by the World Bank, IPA project CAPINFOOD etc.

The UES is the second largest higher education institution in RS and regional reference in the field of engineering education and research, with long years of experience in providing engineers.

From 2007 all UES' faculties work in line with the Bologna Process and thus have removed all barriers for the mobility of teachers and students. Fostering more dynamic cooperation and exchange of know-how are among the priorities in the university's short term action plan.

The objective of this report is to synthesize the outputs from the process of mapping the research human potential and issues in the university, that included a desk research and a survey among researchers, with objective to serve as a background document for the development of the HR strategy of the university. Based on the good practices of EU universities - the active partners in this process, initial action plan for moving towards an implementation of all principles of the European Charter for researchers and Code of conduct for the recruitment of researchers, is also developed.

Methodology

This report has been developed in three phases.

First phase implemented a desk research, based on the "Questionnaire for mapping the research human potential and issues in WBC universities", which has been developed in scope of Re@WBC project. The questionnaire covers a range of topics relevant for HR management in research institutions, all of which are highlighted in the European Charter and Code, or The Human Resources Strategy for Researchers (HRS4R) process. The completed questionnaire is annexed to this report.

For the purpose of a desk research, a work group was established at the university. The work group was coordinated by mrs. Jovana Amović. Other members of the work group were: prof. Stevan Trbojević, prof. Dejan Bokonjić, asst. prof. Slaviša Moljević, mr. Nenad Marković, MSc. The desk research involved a review of the different legal documents, reports, procedures and manuals and a data collection, which has been performed with collaboration of the various departments and faculties.

Most of the activities were carried on by two sectors, Science, Research and Development Office, and Quality Assurance Office at the University. After extensive analysis of the existing data already available in the field of research, the adapted questionnaire was drafted for faculties, in order to provide us with the information only available to them. This adapted version of questionnaire was delivered to the 15 faculties' secretaries, who filled them in. All collected data was summed up and entered into the final version of the questionnaire. Internal research also included the analysis of the interinstitutional rules and regulations. External research included the analysis of laws and by-laws regulating research and higher education in Republic of Srpska and Bosnia and Herzegovina.

In the second phase, the outputs of the desk research were complemented with the data, collected by implementing a "Survey for mapping the research human potential and issues in WBC universities". The survey has been developed by the Re@WBC project and customized by the university.

We sent invitations to all researchers using central emailing list. Also in some cases departments helped us in this process. We did not customize initial draft of this survey. The third phase was focused at the development of the initial action plan for improving the current situation in HR management at the university. The action plan was developed as a result of a gap analysis that concerned the outputs of the desk research and researchers' survey data, as well as the collection of good practices acquired during the university staff study visits to EU universities.
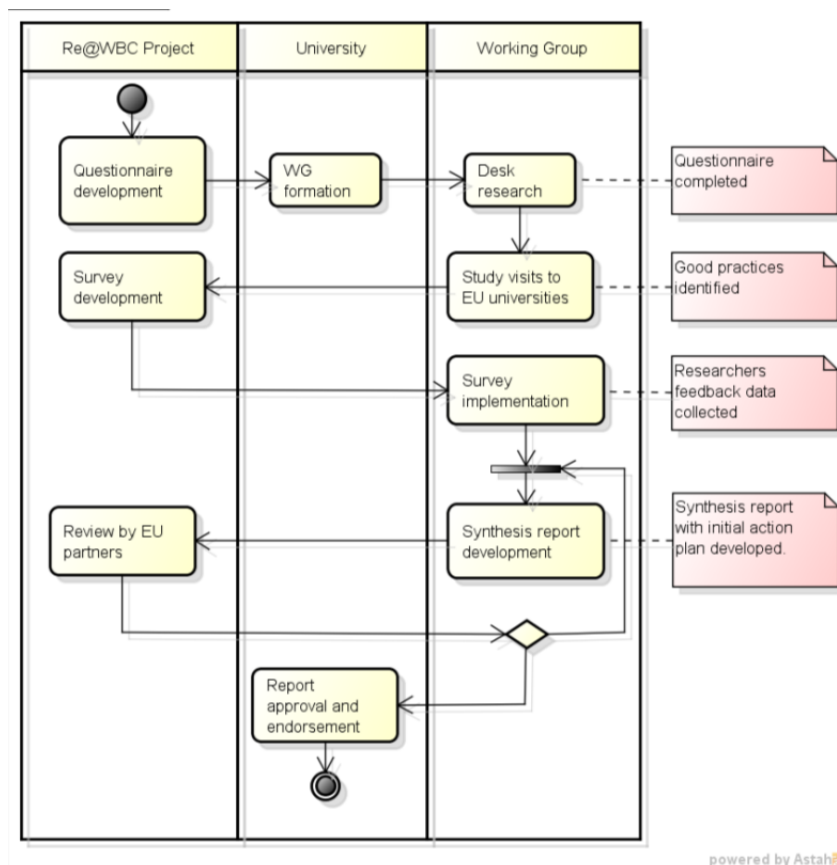

Figure 1. Workflow for developing this report

Information and data sources

The following documents were used in the development of this report:

- Law on Higher Education of Republic of Srpska
- Law on Science-Research Activities and Technological Development
- Statute of the University of East Sarajevo
- Rulebook on the Procedure and Conditions of Selection of Academic Staff at the University of East Sarajevo
- Code on Professional Ethics at the University of East Sarajevo
- Self-Evaluation Report of The University of East Sarajevo

Outline of the report

The report covers the most relevant topics, covering the principles of the European Charter and Code, namely, employment and career development, ethics, working conditions, accountability and public responsibility, training and research projects and collaboration.

Research potential in the university

When considering the research human potential, University of East Sarajevo is moderately sized university, with relatively balanced distribution of researchers among scientific disciplines. Lack or inaccessibility of funding opportunities is considered as a major problem for the further development of research human potential in the university; currently, Bosnia and Herzegovina allocates only 0.03% of GDP on the research.

In 2016, the overall number of researchers with employment contract, working at the university was 763. Figures below show the distribution of the number of researchers in scientific areas (OECD Frascati classification) and positions.
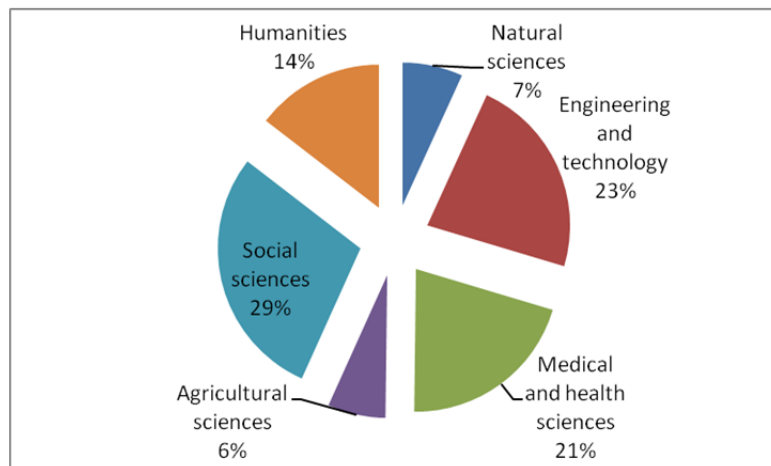

Figure 2. Distribution of number of researchers among scientific areas
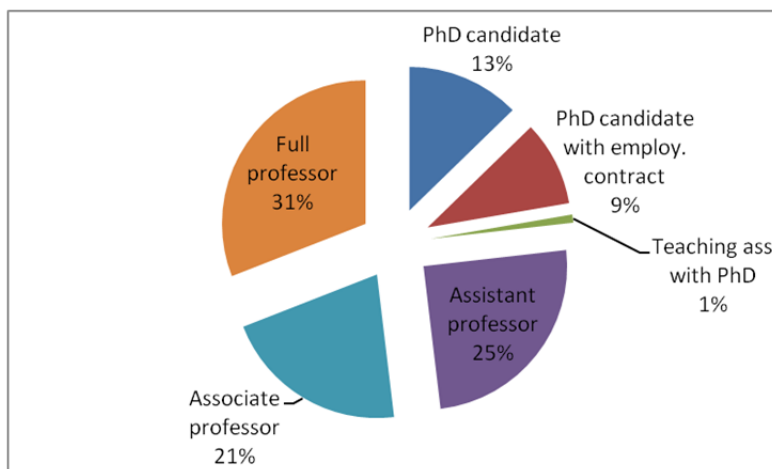

Figure 3. Distribution of number of researchers among positions

There is a large number foreign researchers working at the University of East Sarajevo, with full or permanent contract. Most of these researchers come from Serbia, based on very tight cultural and political relationships of Republic of Srpska with Serbia. Currently, there are 258 of researchers from abroad working at the university (33% of a total number). There are 204 of researchers with temporary contract, 31 with full contract and 22 with PhD grants. In medical and health sciences, majority of researchers working at the university are from abroad (60%).

Overall number of PhD students in the university is 97. Figure below illustrates the distribution of this number of students among scientific disciplines.
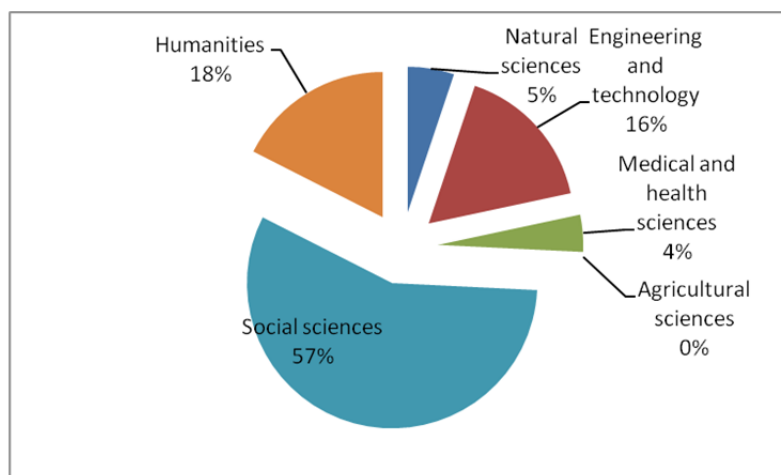

Figure 4. Distribution of number of PhD students among scientific areas

Gender balance

The gender balance at the University is not as fair as it should be; even there is notable growth in the involvement of female gender in the overall structure, especially if we take into the concern demographic trends of the Bosnia and Herzegovina. Estimated percentage among teaching staff is 61% male and 39% female workers. Regarding scientific excellence, it exclusively depends on the individual engagement of teachers and staff, so its gender neutral.

Call for action: motivate females to apply for positions during public announcements and during selection process taking care about gender balance

Employment and career development

In 2014, university recruited 89 researchers (11.6% of overall number of researchers), out of which 60 on senior positions (level of assistant professor and higher). 8 researchers were retired in the same period. Thus, overall growth of the human capacity in the given period was 10.6%. When considering the scientific disciplines, the growth (increase in the number of researchers in 2014) is significant in all disciplines, but especially in Humanities (18%), Engineering and Technology (14.4%) and Natural sciences (13.5%). Decrease in number of researchers is not registered in any of the disciplines.

Open positions are advertised in the "Official Gazette" of the Republic of Srpska and at the web page of Employment Institute of the Republic of Srpska [1]. Open positions are advertised only in local language. The duration of the ad is quite short, only 8-15 days.

Call for action: put the effort to publish open positions from 2017 at EURAXESS portal, on English

Call for action: consider the possibilities to increase the duration of the ad

While the maximum duration of contracts for the teaching assistants is 4 years, and for assistant professors, associate professors and full professors is five years. However, in reality, typical duration of contract for a teaching assistant is 4 years, assistant professors and associate professor is 5 years. T**hey can stay one more election period (4 and 5 years in same position**)-after this period they are loosing job. For full professors duration of contract is permanent. For career advance, following criteria factors are taken into account: previous working experience at the faculty where the person is employed; published papers, books and results of their own research; projects; mentoring; publicly presented forms of artistic activities from the time of last promotion, same as evaluation of teaching skills in the framework of University's quality system; improvement of the structure of teaching staff; contribution to the culture development and arts in academic and wider community.

The key actor in the employment process is evaluation committee. Evaluation committees are nominated by the Faculty's/Academy's Council. The committees are consisted of at least three researchers, working in the scientific field for each position is advertised, and at least one has to be from the specific scientific/artistic area. At least one member of the committee should not be employed at the University of East Sarajevo, meaning that he/she must be working at some other higher education institution. Members of the committee must have same or higher title from the candidate, and they can't be related to the candidate.

The Senate employs or elects academic staff based on the open competition. Announcement on open position is made by the University, on the proposal of the Academic Council of the faculty of the University. The main factor for rendering such decision is the requirement to organize educational process in high quality, rational and efficient manner.

Process of the candidate selection consists of the following steps:

- The call is published in the media, for specific scientific or artistic field
- The Council of the faculty names the commission for review of the competition materials, make an interview with candidate and writing the report
- The Council of the faculty reviews the report of the commission and proposes the candidate to the Senate
- Before the final decision, the proposal is reviewed by the vocational council of the Senate.
- Decision on the candidate selection is made by the Senate, on the suggestion of the Council of the faculty and it cannot be amended.
- In the case that the Council of the faculty does not decide on the proposal of the candidate, technical service of the faculty in written form informs candidates who applied for the position

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[1] www.zzzrs.net

> **Call for action:** introduce standard evaluation reports

> **Call for action:** consider the possibility to introduce interviews with candidates as very important part of selection process (now is organized in very formal way).

The competitiveness for a research positions at University of East Sarajevo is relatively low. Number of candidates applying for open positions is between 1 and 5.

University of East Sarajevo does not support transferrable grants.

> **Call for action:** consider the options for supporting transferrable grants

There is no Career Development center, established at the university.

> **Call for action:** consider the options for implementing the Career Development center

Ethics

The main institutional tool for monitoring and solving ethical issues at the university is Ethical committee.

Members of ethical committee are selected by Senate of University. It is consisted of two students, three professors and vice Rector for international cooperation. Representative of legal service is in charge of preparing reports of all meetings. Student members of the committee are selected by student organization. Ethical committee has its bylaw and codex for running different cases. Anybody from the academic community from the University can submit complaint about service or person from the University. Procedure is transparent; when complaint is submitted to the committee, the committee discuss first about the eligibility and completeness of the evidences to run the case. All decisions are brought with consensus. If there is enough evidence committee, is sending request to a person or service as whole, which is the subject of the complaint, to answer on allegation in the complaint. Both sides are also interviewed and final decision is brought and presented by Vice Rector on the Senate, in the form of proposal. Then, senate is voting and taking final decision. Decision can be warning, reprimand or exclusion from teaching process up to one year. Revoking of scientific title was not an option until now. Complainant who submits invalid and unsupported complaint to ethical committee is gets warned. Until now, there were no complaints on the credibility of this procedure.

Members of the ethical committee and other staff involved in this process are not remunerated for their work.

> **Call for action:** consider the possibilities to introduce a fee for this kind of work, especially given the relatively high number of cases, annually.

In average, 5-6 cases are presented by the ethical committee, annually. In average, in half of them, misconduct is established. Typical reasons are plagiarism (articles in scientific papers, books…), personal insults, and non-academic behavior to students.

University is using plagiarism discovery tool (Plagiarismchecker.com, WCopyfind) for checking submitted articles, essays, papers and etc. Also for checking plagiarism Senat is appointing from three to five teachers, who are experts in particular scientific field to make individual evaluation of submitted article, book and etc.

> **Call for action:** when considering the size of the university, this is relatively large number of cases. Introduce more transparency: university wide training on the ethical issues, how to recognize them, how to solve them without involving the committee, etc. Publish the anonymized cases.

The ethical issues arising from the research projects, such as privacy, data protection, animal testing, clinical trials, and others, are not discussed at the university level, by the ethical committee or any other body/workgroup. Instead, they are dealt with at the level of faculties/departments.

Seniority culture and its impact to research freedom

In general, career advance/promotion occurs in relatively old ages. Average age of full professors is 60.8. Average age of associate professors is 53.3.

Currently vast majority of the projects are coordinated by the full professors. Associate professors are coordinators for small number of the research projects (approximately 7).

University of Sarajevo does not have data on the ages and current positions/titles of the project coordinators and mentors.

> **Call for action:** monitor this data and react, if needed. Introduce a centralized HR database with exhaustive information on the researcher careers, skills, references, etc.

Working conditions

EURAXESS Service Centre is not established at the University of East Sarajevo, and there is no contact person. Researchers can use the services of two other centers, established in Bosnia and Herzegovina, one in Banja Luka, and other in Sarajevo.

> **Call for action:** establish a contact person which can directly help researchers in getting information from other services centers in the country

Research activities are part of the overall burden of the teaching staff within their working hours. PhD students are involved in teaching activities, maximum 10 classes per week. Balance between teaching activities and research is 60:40 in theory, but in practice salary of staff involved in research is based on teaching activities and research is performed usually as additional work.

The development of research infrastructure is still not at the satisfactory level, but at the moment, University of East Sarajevo is in the process of developing six research centers. University has a very good cooperation with industries and research organizations, especially in the field of engineering and technology. Among others, Faculty of Electrical Engineering, Production and Management Faculty, Faculty of Mechanical Engineering, Faculty of Transport and Traffic Engineering, and Faculty of

Technology have agreements and excellent cooperation with industries such as oil refineries, hydropower and thermal power plants, automotive industries and others.

Sabbatical opportunity is an option at the university under the conditions that it is used: for the purpose of education and training, on the request of the employer or employee, in accordance with the educational program; or for the purpose of education and training within the union, by courses and seminars in the period of its duration. The employee must submit the request for the sabbatical leave with the valid prove that this opportunity exists.

University does not implement a specific award system for extraordinary achievements in science and research except that every year during celebration of the University Day, Rector is giving award to best student researcher, young researcher and senior researcher.

Call for action: consider the possibilities for implementing a specific award system for researchers on systematic way and also to enhance cooperation with industry in all fields.

Accountability and public responsibility

The level of awareness of researchers on the university on the ethical issues and standards in research, related to data protection, privacy, confidentiality, plagiarism and others is considered as satisfactory, on the scale: very low-low-satisfactory-good-very good.

The level of awareness of researchers in the university on the contractual and legal obligations arising from work contracts, laws and by-laws is considered as satisfactory, on the scale: very low-low-satisfactory-good-very good.

For the purpose of reporting to the Management Board semiannual reports are submitted to the Senate of the University of East Sarajevo by the Science, Research and Development Office. These reports include information on scientific research projects such as achieved results, changes in the implementation, financial aspects, but also information on organized conferences, seminars, study visits, published calls, international projects applications, etc.

Typical activities during which scientific results and achievements on the university are presented to the wider public are: conferences, symposiums, scientific meetings, different publications and projects disseminations. These activities mostly targets scientific communities. University organizes also science career promotions in schools. University organizes every year together with Ministry of Science RS Day of Research. During this event, selected staff are presenting different innovations, patents and interesting things to young researchers, community, kids and other possible future researchers.

Call for action: although University has PR department but it should have also a PR strategy, related to communicating scientific results to the general public (not scientific one), including industries (by using Chambers of Commerce), local government, etc. Realization of such strategy includes also tight collaboration with faculties, where contact persons for science promotion could be established.

The University of East Sarajevo has the PR department, with two people employed. Typical activities are: following up with activities on the University and issuing a press release; following up with all official

visits to the University; preparation of articles and columns for the WEB site of the University, and social media[23]; issuing accreditations to the press; assistance on maintenance of the WEB site of the University; cooperation with media, and following up their reporting; making the database of all online publications or printed media on the subject relevant to the management of the University; keeping necessary records on all reports.

Training

Mentoring and supervision

Regarding the capacity of the University to implement the PhD studies, following discussion is made, based on the figures, related to human potential. The largest number of PhD students is registered in Social sciences, where 1 PhD student corresponds to 4 researchers employed in these sciences. The ratios for humanities, natural sciences, engineering and technology and medical and health sciences are, respectively: 6.5%, 10.4%, 10.8% and 39.5% (there are only 7 PhD students in medical and health sciences, studying according to new Bologna approach). In agricultural sciences, there are no PhD students enrolled according to Bologna principle.

> **Call for action:** Discuss about the research strategy for the university, based on the availability of funds from local communities, national funds, industries, EU, etc. Put the effort to make the distribution of enrolled students among the scientific areas corresponding to the distribution of topic among research priorities.

Researcher at the University of East Sarajevo can become a mentor to a PhD candidate under the conditions that:

- he/she is assistant professor, associated professor, or full professor
- he/she is a teacher from the accredited study program
- he/she is the teacher from the partner University, if he/she meets the criteria for mentoring at its home University
- he/she has at least three scientific papers in specific scientific area which is the subject of the doctoral thesis and those must be published or accepted for the publication on SSC, ANS, WOS, or other lists.

The researcher can be a member of the PhD evaluation committee if he/she is a teacher at the University or has a position with scientific references relevant for the scientific area of the topic of doctoral dissertation.

The candidate proposes the mentor in its application of doctoral dissertation. Then, academic Council forms the Commission for the evaluation of the topic and the doctoral candidate. Commission submits the report. Based on this report the Academic Council approves the topic and the mentor. Finally, the Senate is asked to give an approval to the decision of the Academic Council.

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[2] https://twitter.com/UniversityES
[3] https://www.facebook.com/university.of.east.sarajevo

In case that candidate is not satisfied with the cooperation with his/her mentor, he/she can make the request to change it. The request is submitted to the Academic Council.

Only reporting connected with PhD thesis is done after the dissertation is finished. The report is drafted by the Commission, based on the information given by the mentor and candidate. This report is submitted to the Academic Council and when it is adopted, the Senate needs to give its approval.

Call for action: implement reporting system (regular reports by the mentor AND candidate) which will facilitate quality assurance of PhD studies (including mentorship) and more effective and efficient work.

Mentors are remunerated for the mentoring per student and for whole period of mentoring. Mentor can run maximum 5 candidates at the same time. This is defined by the Regulation on Payments and Distribution of Funding on Doctoral Studies. Members of the PhD evaluation committees are remunerated for their work, and this is defined by the Regulation on Payments and Distribution of Funding on Doctoral Studies.

PhD training

With regard to PhD training, University of East Sarajevo shows very low level of internationalization. University currently does not offer accredited PhD nor master courses in English language, or joint PhD degrees in collaboration with other universities.

Call for action: consider the possibilities to accredit some PhD courses in English, especially in the topics, as defined by H2020 framework research priorities.

Call for action: implement systemic efforts in international cooperation with partnering university; develop this cooperation further in area of "cotutelle".

Taking into account that training and practical work is always part of the PhD studies, students have the opportunities to develop different transversal skills, depending on scientific field in which candidate is working on his/her thesis. Every faculty within the University offers possibility of learning and acquiring different set of skills. Close cooperation with the mentor opens a lot of opportunities, not only for transfer of knowledge, but also for teaching good practices and developing skills.

Call for action: implement more systemic and more centralized professional skills development initiative, for the benefit of reuse of existing efforts and knowledge and experiences sharing

Research projects and collaboration

With regard to research funding, the university is highly dependent on the national research fund, from which 80% of the activities are funded. Additional 15% come from EU programs (university is currently a partner in two H2020 projects[4,5]) and 5% from the collaboration with industry.

Call for action: increase the funding from sources other than national research fund. Systematically promote EU funding opportunities and facilitate the preparation of proposals.

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[4] Mastiha treatment for Healthy obese with NAFLD diagnosis- MAST4HEALTH
[5] Services in support of business and innovation in Republic of Srpska- EUNORS

All projects are tracked in the database of the research projects, managed by the Department for Science, Research and Development of the University. This database is for inter institutional purposes, and does not have an open character.

> **Call for action:** open database partly, especially those projects funded by the national research fund. Establishing electronic research database on the University. This will help in disseminating its results, but it's also responsible, given that university is public institution.

Considering that University has good cooperation with the industry, their representatives are involved in the formal research process. About 10% of all individuals involved in the formal research processes are representatives of the industry. In order for their representatives to be involved in the processes of PhD studies and evaluation committees they must have necessary scientific title.

Activities related to collaboration with alumni and scientific diaspora are carried out at the faculty level. Although there is no alumni association formed at the level of University (quite number of faculties have alumni associations), UES has active cooperation with 4 associations of citizens, which are formed independently for this purpose.

> **Call for action:** establish alumni and scientific diaspora database and strategy for communicating with them on the University level, for the benefit of joint research work, participation in evaluation committees, joint preparation of proposals, etc.

The university has excellent collaboration with other partners. Research teams have established regular communication with the government representatives and NGOs. Given that the university is public institution, collaboration with the public administration is on a daily basis.