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MS 5. SURVEY AND ANALYSIS OF BEST HR STAFF DEVELOPMENT PRACTICES AND INDICATORS

Work done under T4ERI WP3 THE BEST CAREERS FOR THE
BRIGHTEST MINDS

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WP3: The best careers for the brightest minds

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INTRODUCTION

In the Framework of the Transform for European Research and Innovation project (T4ERI), the University of Silesia, together with the University of Trieste and the University of Alicante, co-leads the WP3, entitled "The Best Careers for the Brightest Minds". In December 2021, the concept and methodology of the work packages' tasks execution were accepted by the T4ERI alliance authorities. This enabled the task team to design and prepare the research activities focused on the diagnosis phase. This milestone summarises the work carried out so far under tasks 3.1, 3.2, and 3.4 and indicates further activities planned for implementation according to the project's adopted work schedule.

SWOT RESULTS

SWOT analysis in the R&I staff development concept has been made via an online survey for the specialists/experts of HR departments, the science departments, or the related units at the Transform 4 Europe universities. The invitation to the survey was sent on the 30th of September 2022, and the last respondent submitted the survey on the 21st of November 2022.

The result of the conducted analysis was identifying the best practices, gaps, and critical points in the area of R&I staff development that could be recommended to implement in the alliance's joint strategy and shape the future cooperation between the allied universities.

Based on the survey conducted among the universities' representatives – experts from personnel departments, science departments, and the related units, we would like to compare and contrast definitions of visions and missions and strategic goals of these universities in the R&I staff development area.

The presented analyses were created as a result of the respondents' statements being divided into problem areas. From the interviews' analysis, the main aspects appeared to be: (1) the best practices regarding the R&I staff development, and (2) the gaps and critical points. It is important because the study covered not only the academic staff but also non-academic research and innovation staff.

Survey completed all seven universities partnered in T4E alliance.

1	The Estonian Academy of Arts (EKA)
2	Sofia University St. Kliment Ohridski (UNISOFIA)
3	The University of Trieste (UNITS)
4	Saarland University (USAAR)
5	University of Alicante (UA)
6	University of Silesia in Katowice (USIL)
7	Vytautas Magnus University (VMU)

The results show the BEST PRACTICES in the area of R&I staff development at partnered universities.

THE BEST PRACTICES

1	<p>High mobility among research staff and R&I supporting staff, via Erasmus+ programme, EKA's research fund and other projects – staff exchange, conferences, workshops etc.</p> <p>Good Teaching Seminar programme once a month – also for the research staff – various topics</p> <p>All-day-seminar for project managers and coordinators once per semester, organised by R&D Office – best possibility to get to know, share experiences, best practices and learn, also set common goals.</p>
2	<p>Sofia University “St. Kliment Ohridski pointed successful application for HR excellence award and launching of an Action Plan for implementation of the principles of the Charter and Code and the OTM-R guidelines in the university;</p> <p>Availability of EURAXESS center well integrated in the EURAXESS network and supporting the university with the knowledge and skills in the area of career and mobility of researchers;</p> <p>Launching of Career Development Centre for support of researchers, with particular emphasis on PhD students and young researchers;</p> <p>Development with EU support of the GATE (Institute Big Data for Smart Society) which already successfully recruits well-know and young researchers;</p> <p>Establishment with support of the government of the INSAIT (Institute for computer science, artificial intelligence and technologies) which started to attract young talents mentored by prominent Bulgarian scientists from all over the world.</p>
3	<p>The strategy for covering the needs</p> <p>The estimate of the evolution of personnel needs was carried out in relation to the needs operated on the basis of the digitization of processes, of their re-engineering, of the outsourcing or internalization, of the divestment of services and the need to activate new ones.</p>
4	<p>Leadership programme quality assurance system for young researchers (being developed)</p>
5	<p>STRATEGIC -UA new Rectoral team renewed its commitment in fostering research, making clear from the very beginning its willingness to potentiate (even more) research. As one of the main results, the previous Vice Rectorate for Research (and Technology Transfer) was split into two VRs, so the research and innovation processes are now strongly boosted. The VR for Research has been potentiated, by the creation of two focus areas: Research Resources and Research Structures. – The University has been awarded by the European Commission with the HRS4R seal of excellence. – University of Alicante's Open, Transparent and Merit-based Researcher Recruitment Policy is fully in place. – Set up and operation of the Research Institutes that are devoted to scientific, technical and artistic research. – The ongoing modernization of UA researchers' support services to provide all Rs with the best conditions to carry out</p>

THE BEST PRACTICES

	<p>research and technology transfer, not allocating high efforts to bureaucracy, thus maximizing their possibilities of attracting funds and making research in their fields flourish. – The participation of researchers with different profiles at the governing bodies of the university is ensured by the Law and University Statutes. OPERATIONAL – Full set of e-tools for external candidate to apply for job offers. Job offers are widely disseminated via press, social media, the institutional website, Euraxess, etc. In addition, there are specific job offers whose target can be only external candidates. – Candidate minimum administrative burden for selection processes: UA is requesting exclusively the mandatory documentation as established by law. No additional documentation is being requested since in this case one of UA priorities is to avoid any unnecessary submission of documentation that could discourage candidates. – Gender dimension: within our institutional Equality Plan, there is a special procedure in which in the case of obtaining the same evaluation, the least represented gender in this specific job category has selection priority. – Continuous improvement of all Rs working conditions is a major focus especially when welcoming new Rs (Welcome Manual). – Researchers’ Portal has been launched. It is a space for Rs that provides access to all information related to their research activities, a crucial advancement in terms of institutional data integration and benefit for all Rs that now have at their disposal high quality data (projects, publications, other research activities, etc.) in the same place. – Teaching reductions: wide teaching reduction policy in line with national regulations. – With the intention of providing better support to Rs at later stages of their career (mainly R2), a major improvement has been applied to the already existing Doctoral School that now has the feature of being “international” (EIDUA). Thanks to this, the support and training services of the International Doctoral School are being potentiated to UA international Rs. This is being done with the aim of creating a flourishing and dynamic node where UA Rs can benefit from advice, training, mobility and other beneficial options for their careers. As a first step in terms of widening training to foreign Rs, all PhD horizontal modules materials are now available in English. – UA Industrial Research Agent supporting Rs when implementing their research outside academia and to foster funds attraction (synergies with the private sector are cornerstone for the socio-economic development). This Agent also supports in terms of development of agreements with the private sector and the PhD project. We also have an industrial mention for the doctors that are focusing their research on industry.</p>
6	<ol style="list-style-type: none"> 1. Internal programme of scientific excellence dedicated to both academic and non-academic staff, for R&I staff “KADRA TECH” – an open call for internal projects, strengthening the competences for scientific communication 2. Training and programmes for data stewards and science communicators; strengthening the competences for scientific communication, data management and promoting an open science 3. Cooperation between technology brokers (TTO) and academics 4. Technology transfer office – business cooperation; matching/ partnering business' needs to scientific project, solutions etc. 5. SPIN–places – SPIN-US; SPIN-LAB; SPIN-ART; SPIN-place – creating space for young academics, innovators, scientists, and artists,
7	<ol style="list-style-type: none"> 1. Staff development system: career opportunities, staff position system. 2. Selection for positions, qualification requirements for positions. 3. The university has a researchers motivation system, researchers are motivated not only for the highest level of science and art, but also for other scientific activities. 4. Researchers have excellent opportunities to improve their qualifications: Erasmus+ programme, VMU Research fund, and other projects – staff exchange, conferences, workshops etc. 5. Based on the monitoring results, the university organizes activities such as psychological education, and personal development training.

Some of the BEST PRACTICES in the area of R&I staff development were recommended to adopt or transfer at the alliance level.

THE BEST PRACTICES RECOMMENDED TO TRANSFER

1	We would recommend staff exchange mobility and common seminars for project personnel on various topics related to R&I management
2	Involving leading researchers for attracting young talents.
3	The definition of the teaching and research staff needs of the Departments of the University of Trieste is primarily based on: - on the analysis of the trend of indicators relating to the recruitment of teaching staff and the organization of the staff - on the need to reduce the costs of contract teaching and to implement scientific excellence for the purposes of research quality assessments
4	Quality assurance system (defined processes for support, formal documents for monitoring etc.)
5	Any of the above depending on the national contexts plus the following (due to space reasons not included in the previous answer text box): - UA Delegation Unit for links with the Society that, in strong coordination with relevant VR at UA, such as the one for Students and the one for Research, is fostering the UA Alumni programme. It is focused on, among others, being in contact with excellent UA researchers with views on possible coaching activities, collaboration, retention, attraction, etc. - UA Senior programme, focused, among others, on providing a connection between retired research staff with the new generations (all Rs) to contribute to the continuous strengthening of coaching for research activities. - Institutional Funding Programme, UA grants financial support for congresses, seminars, courses, publications, international proposals/project, etc. depending on each R group's performance.
6	<ol style="list-style-type: none"> 1. Minimum one joint development programme for R&I staff - strengthening the competences for scientific communication 2. Training and programmes for data stewards and science communicators; strengthening the competences for scientific communication, data management and promoting an open science 3. Cooperation between technology brokers (TTO) and academics on the alliance level 4. Technology transfer office - business cooperation; matching/ partnering business' needs to scientific project, solutions etc. 5. SPIN-places - SPIN-US; SPIN-LAB; SPIN-ART; SPIN-place - creating space for young academics, innovators, scientists and artists,
7	Institutional Funding Programme: VMU competitive funding for significant scientific activities for congresses, seminars, courses, publications, and other. VMU has a researchers' salary promotion system which could be applied within the framework of the alliance. VMU has a Research management system (VMU CRIS). This is the infrastructure of services and means for the collection, management, preservation, dissemination, and assessment of scientific output created by the University community. CRIS is a suitable tool for extracting business intelligence indicators for decision-making purposes at institutions. VMU CRIS could be applied within the framework of the alliance too.

Apart of best practices mentioned above the GAPS and CRITICAL POINTS indicate some issues for further consideration on the alliance level.

THE GAPS AND CRITICAL POINTS

1	<p>The greatest gap at EKA on this field is that we don't have a holistic strategy for the staff development of the R&I supporting staff</p> <p>HR department is responsible for the development of the academic staff, but the R&I supporting staff is the responsibility of the Research and Development Office.</p> <p>There are separate trainings and some periodical events and practices, but no overall strategic plan.</p>
2	Difficulties to attract talents and young researchers in the area of STEM;

THE GAPS AND CRITICAL POINTS

	Lack of resources to support researchers' mobility and access to engineering scientific databases (e.g. ACM, IEEE) as well as publishing in open science databases; Not sufficiently attractive research infrastructure, and lack of state-of-the-art technologies.
3	The impossibility by national law of transferring / exchanging personnel between European universities
4	Networking opportunities across disciplines information on career opportunities outside academia
5	<p>Career development progression: in terms of career development prospects, UA is depending on the regulation for the National replacement rate regulation, included within the national budget drafted on yearly basis.</p> <p>Language accessibility: there is room for improvement in terms of language accessibility, where online recruitment related content is available, in some cases, only in the two official national/regional languages (Spanish and Valencian).</p> <p>Teaching & Research duties: according to national regulations, research staff at Spanish HEIs has also teaching duties. They have a contract with a specific percentage of dedication of their time to teaching tasks and another percentage of dedication to be devoted to research. This causes sometimes an overburden for them.</p>
6	<ol style="list-style-type: none"> 1. Limited resources/ resources allocated in a wrong way 2. High risk of brain drain
7	<ol style="list-style-type: none"> 1. Establish and consolidate research institutes to focus on research capacity and research infrastructure, and more efficient funding of research activities in priority fields; 2. Develop joint interdisciplinary study programs, in particular by promoting joint doctoral training with universities in Europe and beyond; 3. Strengthen inter-institutional and interdisciplinary cooperation and networking.

The universities' experts also stressed the GAPS in the area of R&I staff development which should be taken into account when we are thinking to build a joint strategy of R&I staff development at the alliance level.

THE GAPS

1	It would be very important to set very real and manageable goals and have a very well thought through programme for the R&I staff, considering common themes and topics which all partners share (for example Open Science and DMPs, Research ethics, GDPR influence on research, Intellectual Property etc.)
2	Difficulties to attract talents and young researchers in the area of STEM; Not sufficiently attractive research infrastructure, and lack of state-of-the-art technologies.
3	The impossibility by national law of transferring / exchanging personnel between the European universities
4	Networking opportunities across disciplines, information on career opportunities outside academia
5	<p>National legislation. At present, the number and type of publications are considered one of the most relevant criteria for merit judgement and its assessment is based on internationally recognized journal rankings. This is due to mandatory regulations at national, regional and institutional level.</p> <p>The stability of employment is fully guaranteed by UA with the exception of the national limitations defined by the Government restrictions in terms of general national budget ("tasa de reposición") on yearly basis.</p> <p>Need for more research training offer in English.</p>

THE GAPS

6	<ol style="list-style-type: none"> 1. Limited resources/ resources allocated in a wrong way 2. High risk of brain drain 3. Cultural differences and different approach to the alliance's goals
7	<ol style="list-style-type: none"> 1. Establish and consolidate research institutes to focus on research capacity and research infrastructure, and more efficient funding of research activities in priority fields; 2. Develop joint interdisciplinary study programs, in particular by promoting joint doctoral training with universities in Europe and beyond; 3. Strengthen inter-institutional and interdisciplinary cooperation and networking

The experts were asked about the CRITICAL POINTS in the area of R&I staff development.

THE CRITICAL POINTS

1	Critical point could be that it is difficult to get the research staff to participate in the trainings and seminars because of the high workload.
2	Ensuring the sustainability of STEM research and education due to ageing and brain-drain of R&I staff, and lack of interest among young people to start R&I career.
3	Enhance the skills of administrative and research staff in the design, management and reporting of the European, international and national funding;
4	All stakeholders should be informed about planned measures (partly long process), transparent communication is needed
5	Despite the fact that R1 are supported and oriented, room for improvement has been detected in terms of expanding such advisory service to, at least, R2.
6	Knowledge of foreign languages, barriers in communicating in a foreign language
7	A critical point could be that it is difficult to get the research staff to participate in the research projects. Need for more research training and seminars offered in English.

Some of CRITICAL POINTS in the area of R&I staff development should be taken into account when we are thinking to build a joint strategy of R&I staff development at the alliance level.

THE CRITICAL POINTS

1	The activities in the strategy should be very clear, practical and high quality in order to get R&I staff and supporting staff - who are all extremely busy and engaged - to participate.
2	Ensuring the financing to attract researchers
3	Enhance the skills of administrative and research staff in the design, management and reporting of the European, international and national funding;
4	Taking into account needs from different faculties and disciplines and long processes until measures are fully implemented

THE CRITICAL POINTS

5	Despite the fact that R1 are supported and oriented, room for improvement has been detected in terms of expanding such advisory service to, at least, R2.
6	Knowledge of foreign languages, barriers in communicating in a foreign language – intensive courses and trainings should be implemented
7	1. Constantly changing legal system. 2. Excessive state interference in the details. 3. Competition for funding. 4. Searching for funding takes a lot of time.

REPORT 1

Survey and analysis of barriers in flexibilising researchers' careers at all stages (R1–R41) – report 1 prepared by Mateusz Paliga.

The study aimed to investigate the relationships between the perceived barriers to career advancement, people management, personal career resources, work engagement, and career satisfaction in the light of the job demands-resources theory (Bakker & Demerouti, 2007; Bakker & Demerouti, 2017). The study was conducted among 542 academic staff from seven universities partnered in the "Transform 4 European Research and Innovation" (T4ERI) project.

The online self-report survey was distributed among all academic teachers of seven universities partnered in the "Transform 4 European Research and Innovation" (T4ERI) project. The survey was available online via a link from the 30th of March 2022 till the 26th of April 2022.

Results show that people management positively correlates with personal career resources and work engagement. This suggests that people management (HR practices), as an example of job resources, can create a positive environment for workers, who can use their personal resources to take advantage of the circumstances and utilize whatever helps them achieve work goals and self-develop (Bakker & Demerouti, 2007).

The participants' scores indicate moderately low to moderate levels of people management facets. The results of the Kolmogorov-Smirnov normality test were significant in all cases ($p < .001$), indicating a non-normal distribution of the variables (see Table 2).

¹ According the EU regulations research profile descriptors <https://euraxess.ec.europa.eu/europe/career-development/training-researchers/research-profiles-descriptors>

Table 2. Descriptive statistics for people management (job resource)

Variable	M	SD	Min-Max	Skewness (SE = 0,11)	Kurtosis (SE = 0,21)	K-S Test	Cronbach's α reliability
People management - Supportive HR practices	2.57	.98	1 - 5	.26	-.57	.07***	.89
People management - Implementation of tailor-made arrangements	3.15	.96	1 - 4,33	-.01	-.35	.10***	.56
People management - Support of employees' commitment	2.94	1.22	1 - 5	-.04	-1.05	.08***	.92
People management - Support of employees' career development	2.84	1.22	1 - 5	.00	-1.05	.11***	.93

Note. *** $p < .001$. Legend. M - Mean, SD - Standard Deviation, SE - Standard Error, K-S Test - Kolmogorov-Smirnov Test.

The respondents evaluated rather low to moderate supportive HR practices, implementation of tailor-made arrangements, support of employees' commitment and support of employees' career development.

Additionally, the academics were asked about the university's offer of professional trainings. The findings are as follows:

1. Does the Academic Institution offer you the professional training needed for professional development?

458 out of 1224 respondents answered YES

395 out of 1224 respondents answered NO

371 out of 1224 respondents didn't answer

2. How many training sessions did you participate in during the last year?

217 respondents participated in 1-2 training sessions

75 respondents participated in 3-4 training sessions

47 respondents participated in more than 5 training sessions

118 respondents didn't participate in any training offered by the university

3. How many foreign research trips (i.e. internships) did you participate in over the last 3 years?

358 respondents didn't participate in any foreign research trip over the last 3 years

249 respondents participated in 1-2 foreign research trips over the last 3 years

128 respondents participated in 3-4 foreign research trips over the last 3 years

117 respondents participated in more than 5 foreign research trips over the last 3 years

REPORT 2

Survey and analysis of the framework condition for the mobility of the career path early career researchers – report 2 made by Yulia Kydoda & Mateusz Paliga.

This study examines how in PhD students' context, study demands and resources are related to engagement in studies and study satisfaction. To a greater extent, the research defined the perceived barriers to career advancement as study demands, while environmental career resources and PhD resources were represented as study resources. Also, students' personal resources, namely academic self-efficacy, were seen as mediators in the relationship between study demands/resources and engagement in studies.

Regarding environmental career resources, respondents evaluated them as moderately low, as depicted in Table 3. The results of the Kolmogorov–Smirnov normality test were significant in all cases ($p < .001$), indicating a non-normal distribution of the variables.

Table 3. Descriptive statistics for Environmental career resources (job resource)

Variable	M	SD	Min–Max	Skewness (SE = 0,23)	Kurtosis (SE = 0,46)	K–S Test	Cronbach's α reliability
Environmental career resources – Career opportunities	2.16	0.92	1–5	0.63	0.20	0.15*	0.88
Environmental career resources – Organizational career support	2.29	1	1–5	0.53	-0.15	0.14*	0.94

Note. * $p < .001$. Legend. M – Mean, SD – Standard Deviation, SE – Standard Error, K–S Test – Kolmogorov–Smirnov Test.

According to the results presented in Table 4, PhD study resources were assessed as moderately high. Also, the Kolmogorov–Smirnov normality test results were significant ($p < .001$), indicating a non-normal distribution of the variable.

Table 4. Descriptive statistics for PhD Study Resources (job resource)

Variable	M	SD	Min–Max	Skewness (SE = 0,23)	Kurtosis (SE = 0,46)	K–S Test	Cronbach's α reliability
PhD study resources	0.68	0.30	0–1	-0.67	-0.64	0.18*	0.73

Note. * $p < .001$. Legend. M – Mean, SD – Standard Deviation, SE – Standard Error, K–S Test – Kolmogorov–Smirnov Test.

CONCLUSIONS

The analysis of the material collected so far shows that the partner universities have a similar approach to the general understanding of good practices regarding staff development. At the same time, the differences concern individual indicators in the area of professional development. Experts indicated that the strengths and good practices are both the high level of staff mobility and the staff's participation in various types of development activities (e.g. internal training programmes, conferences, internships and placements, and networking).

However, the data obtained from the quantitative survey shows that the training offer/staff mobility is not sufficiently visible at the staff level (only 40% of teachers do see the training offered by universities, and more than 30% of teachers do not perceive this training offer). The low rate of participation in training/ staff exchange may be caused not only by the reasons on the part of the organization (universities) but also by a low motivation to learn. At this stage of the research, the data should be treated with little caution due to the study's limitations.

Universities awarded the European HR Excellence in Research logo treat the resulting university commitments as an example of strength. The action plans adopted at these universities have helped to organize many of the internal pro-development activities implemented to date and have initiated several activities contributing to making development programmes more accessible.

At the same time, the results show that the partner universities perceive a high risk of draining highly qualified staff, both academics and non-academics. The level of human capital is inadequate in various disciplines, which contributes to the deepening of competence or generational gaps.

Further work in the project aimed to develop a joint strategy for personnel development at the alliance level requires clarification or adoption of the common indicators for personnel activities, such as HR activities to support employees at all career levels in terms of professional development, trainings and extracurricular activities, professional mobility, internships and others.

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