

EUT<sup>+</sup>

## EUROPEAN UNIVERSITY OF TECHNOLOGY

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Report "HRS4R phase 2: Benchmark study and evaluation system protocol for researchers in the technology research field"

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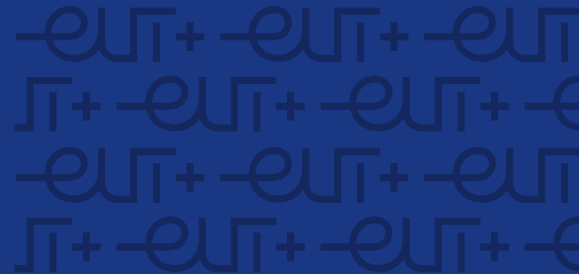
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## Foreword

Academic careers need be thought of in an entirely different way. Evaluation systems should be designed to consider diverse paths and backgrounds, to incentivize transfer activities next to publication of research results and teaching, and to encourage risk taking (in an academic context) and thus be better suited to meet the demands for flexibility and agility of upcoming generations of academics. The crucial point addressed here is the coherence between the actual career incentives and the strategy of an institution.

EUT+ objective is to ensure that careers correspond to the diversity that a truly transformed and transformative European institution needs. It is therefore essential that career assessment be based primarily on the contribution to the development of the institution, to risk-taking, to the consolidation of resources and skills and to the provision of new ideas. In other words, a model that considers the contribution to societal and economic development.

In the first part of this report, an extensive comprehensive analysis of the research assessment system in the EUT+ alliance is presented in the context of EU, national, and institutional (university level). Fully understanding the research evaluation methodologies implemented at each university, considering on the one hand the national constraints (laws, regulations) and one the other hand the EU policies and strategies, is of key importance in developing and implementing a new evaluation system. The second part contains the recommendations to develop HRS4R from the Angle of Technological Universities, based on the insights from a survey examining the potential of adapting and implementing the HRS4R within each university. All the proposals and policies should lead to a reliable and scalable proposition allowing academic communities to set goals and actions centered on what we call the “HRS4R phase 2”.



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## Introduction

The research process *per se* is experiencing a digital revolution, becoming more open and collaborative and more interdisciplinary and diverse in its outcomes. Simultaneously, the existing research evaluation systems frequently employ inappropriate and constrained methodologies, often imposed by national regulations, to assess the quality, performance, and impact of research and researchers. Research evaluation comprises the assessment of researchers (for their recruitment and for their career progression), of research proposals submitted to research funding organizations, and of research teams, institutes, and higher education institutions.

The number of publications in journals with a high Journal Impact Factor (JIF) and citations are presently the main measures for quality, performance, and impact. The competition for publications – the so-called *publish or perish* culture – comes at the expense of quality, integrity, and trust in research but it has the advantage of being easy to use and quantify, and is engrained in the academic culture, conferring prestige to authors and their institutions. A reformed system of evaluating individual researchers for recruitment and career evaluation should be based on qualitative assessment with an emphasis on peer review, supported by the responsible use of quantitative indicators where it is appropriate. Such assessments should consider the full range of research output and processes, reflect the diversity of research-related activities such as mentoring, leadership roles, outreach and social interaction, and reflect the diversity of individual career paths. Research units should not only be evaluated based on their research output, but also based on their relative contribution to the research mission. Research evaluation by multidisciplinary research, interdisciplinary research, and research that contributes to innovation for society should be recognized and appreciated more explicitly. Research evaluation systems need to reward open science practices in terms of open collaboration and early knowledge and data sharing, leading to increased quality, efficiency, impact, and trust. In principle, rResearch evaluation is based on a combination of systems usually connected to

universities and national regulations. In most cases, there are different evaluation criteria that are creating obstacles in the researcher's career path.

This deliverable proposes a new evaluation system protocol to evaluate careers based on new needs. The main insight and recommendation is that: Academic careers need be thought of in an entirely different way. Evaluation systems should be designed to consider diverse paths and backgrounds, to incentivize transfer activities next to publication of research results and teaching, and to encourage risk taking (in an academic context). These improved systems would thus be better suited to meet the demands for flexibility and agility of upcoming generations of academics, and to EUT+ specificities. As a University of Technology, the "third mission", which is transfer of technology, as well as the objective of EUT EXTRAS to service society, this reflection is even more important. The crucial point addressed here is the coherence between the actual career incentives and the strategy of an institution, whether the member universities, or EUT+ as a to-be single institution in transformation.

Considering the above stated ideas, this deliverable is structured into two main parts. A first extensive analysis, with a first section of research assessment, the existing systems and proposals, and a second dedicated to the implementation challenges of The Human Resources Strategy for Researchers at the level of EUT+ alliance. Based on the analysis and insights gained from the state-of-the-art of good practices, as well as the analysis of practices concerning recruitment and evaluation in each campus of EUT+, a survey has been designed. The second part presents the results examining the potential of adapting and implementing the HRS4R within each university, and thus the recommendations to develop HRS4R from the Angle of Technological Universities.

## 1 Research Assessment

This section presents a state of the art and analysis of practices of the strategies, first on the European level and second, at the national level of the Member States in which the EUT+ alliance partners are based. To recall, the EUT+ partners' countries are:

- + University of technology of Troyes (UTT), France,
- + Darmstadt University of Applied Sciences (h\_da), Germany,
- + Riga Technical University (RTU), Latvia,
- + Technological University Dublin (TU Dublin), Ireland,
- + Technical University of Sofia (TUS), Bulgaria,
- + Cyprus University of Technology (CUT), Cyprus,
- + Technical University of Cartagena (UPCT), Spain,
- + Technical University of Cluj-Napoca (UTCN), Romania.

### 1.1 EU Activities Regarding Research Assessment

Over the past years, there have been various activities at the level of the EU focusing on the assessment of research activities. They have given rise to numerous initiatives and reports. Hereafter, is an overview of what was drawn as relevant for analysis in our EUT EXTRAS:

- + The [Horizon 2020 Policy Support Facility](https://ec.europa.eu/research-and-innovation/en/statistics/policy-support-facility)<sup>1</sup> (PSF) carried out, in 2017, has produced a [Mutual Learning Exercise](https://ec.europa.eu/research-and-innovation/sites/default/files/rio/report/MLE%2520OS_Final%2520Report_0.pdf)<sup>2</sup> between 13 European countries on incentives and rewards for researchers to engage in open science activities, and on the use of alternative (i.e. non-traditional) metrics. It is important to assess how research is actually being

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<sup>1</sup> <https://ec.europa.eu/research-and-innovation/en/statistics/policy-support-facility>

<sup>2</sup> [https://ec.europa.eu/research-and-innovation/sites/default/files/rio/report/MLE%2520OS\\_Final%2520Report\\_0.pdf](https://ec.europa.eu/research-and-innovation/sites/default/files/rio/report/MLE%2520OS_Final%2520Report_0.pdf)

used. Alternative metrics (i.e. altmetrics) measure usage or online mentions of research outputs in databases, news media, blogs, Wikipedia, policy documents. The main benefit of altmetrics is to track dissemination in real-time under the umbrella of open scholarship. Altmetric providers are Altmetric.com, Plum Analytics or Impact Story (the last one is free). Other instruments are to be found at <http://www.metrics-toolkit.org/>, <https://snowballmetrics.com/metrics/>.

Examples of altmetrics are citations (clinical, patent, policy), usage (clicks, downloads views, library holdings, video plays), captures (bookmarks, code forks, favorites), mentions (blog posts, comments, reviews, wikipedia references, news media), and social media (shares, likes, tweets). Altmetrics are driven by answering the question "What is a research output?". Considering that research output is more than articles, Plum ANalytics has identified 67 artifact types that might act as research output. These artifacts include, among others, datasets, cases, clinical trials software, editorials, events, government documents, guidelines, media files, online courses, press releases, reviews, standards, theses/dissertation.

- + The Commission recommended in 2018 that Member States set and implement clear policies to reward a culture of collaboration and of sharing of knowledge and data ([Commission Recommendation \(EU\) 2018/790 of 25 April 2018](#)<sup>3</sup>).
- + The [Open Science Policy Platform](#)<sup>4</sup>, consisting of 25 major stakeholder organisations, recommended in 2020 that institutions have a career and reward structure for all researchers, and particularly for early career researchers, which values and promotes – without using the Journal Impact Factor (JIF) as a proxy for quality – a

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<sup>3</sup> <https://op.europa.eu/en/publication-detail/-/publication/2ea66d3f-649a-11e8-ab9c-01aa75ed71a1>

<sup>4</sup> <https://openscience.eu/open-science-policy-platform-final-report>



diverse range of outputs, activities, and career directions, also enabling mobility between academia and industry or between national jurisdictions.

- + The [Commission Communication on a new European Research Area for Research and Innovation set out in 2020](#)<sup>5</sup> as a strategic objective the improvement of the research assessment system, and the Council Conclusions on the new European Research Area of 1 December 2020 reiterated the 2018 Commission Recommendation and encouraged the Commission, Member States, and stakeholders to support and implement open science practices in their assessment systems and to strengthen their European coordination.
- + [The Council conclusions on the European Universities initiative](#)<sup>6</sup> of 17 May 2021 acknowledged that European Universities Alliances should be guided to explore new and attractive ways for the recruitment, reward, assessment and professionalisation of teachers, staff and researchers, working towards a better recognition and balance between educational, research, managerial and entrepreneurial achievements, thus fostering good practices for recruitment and career development, while respecting a work-life balance, and developing a renewed appreciation and valuation of performance. The Council conclusions on attractive and sustainable researchers' careers and working conditions of 28 May 2021 underlined that research assessment being an integral part of attractive and productive careers, should focus on excellence and impact, and that more talent-based and diversity-sensitive quality measurement should be explored. Member States, Research Funding Organisations, Research Performing Organisations and the Commission, are expected to work together towards a revised system for research assessment.

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<sup>5</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A628%3AFIN>

<sup>6</sup> <https://data.consilium.europa.eu/doc/document/ST-8658-2021-INIT/en/pdf>

The Council adopted in November 2021 a [Recommendation on a Pact for Research and Innovation in Europe](#)<sup>7</sup>, as a first key achievement of the new European Research Area (ERA), identifying common values and principles, including one focusing on research assessment, and indicating areas where Member States will jointly develop priority actions. The [ERA Policy Agenda 2022-2024](#)<sup>8</sup>, annexed to the Council Conclusions on the future governance of the European Research Area of 26 November 2021, includes a priority action to reform the assessment system for research, researchers and institutions, in order to improve their quality, performance and impact. Among the main values and principles and recommendation can be mentioned:

- + Geographical, intersectoral and interdisciplinary mobility of researchers and other R&D personnel is a core dimension of the "New ERA". The EU and Member States should strive for brain circulation to address the unbalanced flow of researchers;
- + Brain circulation depends on adequate framework conditions, interoperable and attractive research careers and the overall quality and attractiveness of the research system;
- + Member States are encouraged to improve the quality of the research and innovation systems with adequate framework conditions, including sufficient R&I investment and implementation of reforms as needed;
- + Impact of mobility on research careers development is highly relevant in the earlier stages of careers, as researchers are more likely to search for suitable positions, mentoring, progress on their career, better remuneration and employment conditions, wellbeing, and work life balance as well as by the quality of research ecosystems;

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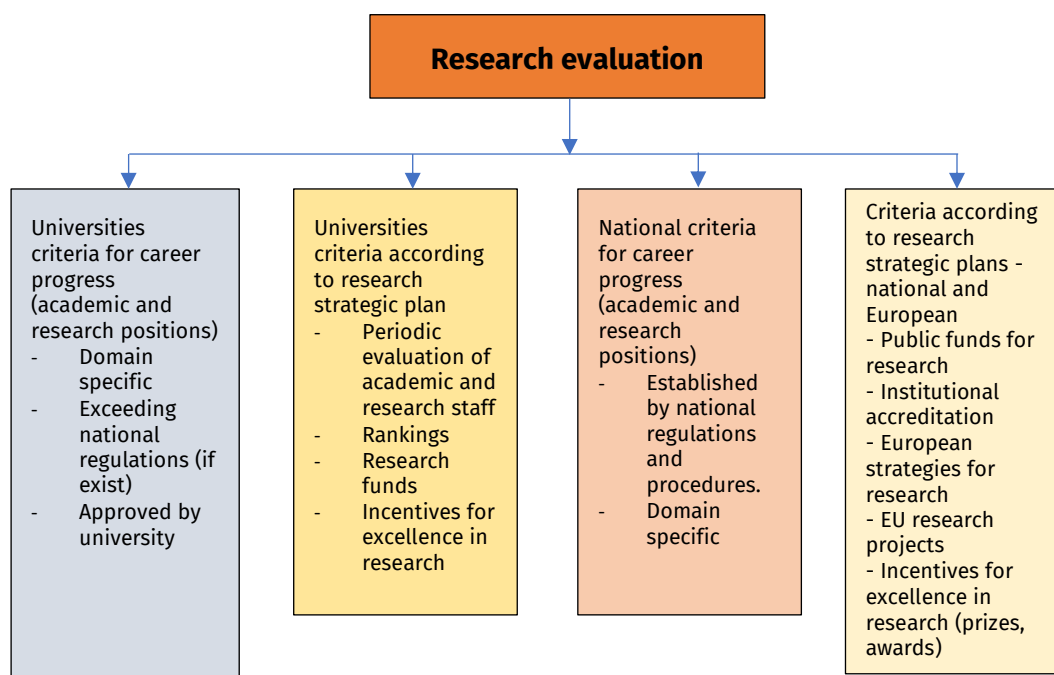
<sup>7</sup> <https://www.europeansources.info/record/proposal-for-a-council-recommendation-on-a-pact-for-research-and-innovation-in-europe/>

<sup>8</sup> [https://research-and-innovation.ec.europa.eu/system/files/2021-11/ec\\_rtd\\_era-policy-agenda-2021.pdf](https://research-and-innovation.ec.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf)

- + Fair recruitment and competition for talent between institutions and systems, are essential elements to improve attractiveness of research systems;
- + There is a need to invest in national and local research systems and create appropriate and fair working conditions for career development, with the goal to remove a major barrier for the flows of researchers within the internal market and beyond;
- + Uneven flows of researchers and brain circulation needs to be addressed not only at national level, but also at European level through policy measures and instruments, whereby requiring comparable data from different countries;
- + The Commission must develop instruments and measures to attain this aim, such as through the ERA Hubs and ERA4You, the Widening Actions and support instruments to design and implement reforms in the national R&I systems, including with the support of the Horizon Policy Support Facility.

## 1.2 Research Evaluation in the EUT+ Alliance

One objective of this work package is to identify how the research evaluation systems are organized at the level of EUT+ alliance partners, to find the common points and the hurdles and proposing a suitable evaluation system for researchers. This new system would be designed to take into account diverse paths and backgrounds, to incentivize transfer activities on top of publications and teaching, and to encourage risk taking (in an academic context), therefore more suitable to meet the demands for flexibility and agility of upcoming generations of academics. The crucial point we will address is the entity who establishes and/or quantifies the research results are presented, i.e., the coherence between the actual career incentives and the strategy of an institution. In the diagram below, the main criteria used for evaluation systems from the point of view of the universities is shown.



Thus, we identified two main actors that establish the rules of research evaluation. Firstly, **the universities** act by imposing their criteria for employment of new researchers and academic staff, career development, strategic research plans, periodic evaluation of the staff performance, participation to rankings, attracting the research funds, incentivize the excellence in research. Secondly, acting takes place at **governmental level** including national quality standards for career advance, national and European research strategies, institutional accreditation and audit, participation in EU research projects and incentives for excellence in research (national prizes and awards).

### 1.3 Criteria According to European Strategic Plans for Research

The differences in research performance evaluation among the EUT+ members are determined by several factors such as national strategies and priorities, the infrastructure available, human capital and skills, and obtained funding.

### 1.3.1 European Strategies for Research Assessment

The [Coalition for Advancing Research Assessment \(CoARA\)](#)<sup>9</sup> is built around ten commitments:

1. Recognize the diversity of contributions
2. Favour qualitative research assessment
3. Abandon inappropriate uses of Journal Impact Factor and h-index
4. Avoid the use of rankings of research organisations for assessing researchers
5. Commit resources to reforming research assessment
6. Develop research assessment criteria, tools and processes for both institutions and researchers
7. Raise awareness and transparency of research assessment reform
8. Exchange practices and experiences to avoid fragmentation
9. Demonstrate and communicate progress made
10. Evaluate research on evidence from research on research and make data openly available.

CoARA's approach is to

- + Consider the full range of research outputs (e. g. publications, data, software, models, methods, theories, algorithms, protocols, workflows, exhibitions, strategies, policy contributions), and to
- + Reward open science practices (e. g. early knowledge and data sharing, open collaboration within science, collaboration with societal actors).

Greater diversity in carrier paths should be enabled. “Research on research” should be encouraged. Narrative CVs are encouraged as an alternative to traditional list-based research CVs. Drawbacks of current assessment are signalled (e. g. negative findings remain

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<sup>9</sup> <https://coara.eu/>

unreported). An action plan has been issued in 2023 (<https://coara.eu/agreement/action-plan/>) that might be adequate to follow in the context of EUT+.

The [Research and innovation strategy 2020-2024](#)<sup>10</sup> states 7 objectives and the result indicators are aligned with these objectives. Some indicators included are the number of full-time equivalent jobs involved in Horizon projects, international (non-EU) co-publications, the share of female researchers (targeting 45% in 2024). The [Commission Communication on a new European Research Area for Research and Innovation set out in 2020](#)<sup>11</sup>. European Research Area (ERA) aims at creating a single market for research. To remove geographic barriers and fragmentation the [European Charter for Researchers and a Code of Conduct for the Recruitment of Researchers](#)<sup>12</sup> has been created (in July 2023, 1.444 organisations have endorsed the charter). To support open science, the [European Open Science Cloud](#)<sup>13</sup> (EOSC) has been launched (in July 2023, there have been more than 300 content providers).

Still, the public EU R&D investment is far from the 3% target (2.19% of GDP in 2008). The business R&D investment (1.45%) is lower than other actors (3.64 %, in South Korea, 2.59% in Japan, 2.05% in US, or 1.69% in China). Discrepancies of science quality do exist across the Member States. Innovation has different performance across the EU. Few signs of reducing the disparities are shown by the [European innovation scoreboard](#)<sup>14</sup>. Widening participation and strengthening ERA or Recovery and Resilience Facility aim to support less performing Member States. For states behind average EU performance, the target is to increase their total investment in R&D by 50% in the next 5 years. To promote researcher

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<sup>10</sup> [https://research-and-innovation.ec.europa.eu/document/download/03c65795-5c04-4feb-a701-30bc7ea9dc4b\\_en](https://research-and-innovation.ec.europa.eu/document/download/03c65795-5c04-4feb-a701-30bc7ea9dc4b_en)

<sup>11</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A628%3AFIN>

<sup>12</sup> <https://euraxess.ec.europa.eu/jobs/charter>

<sup>13</sup> <https://eosc-portal.eu/>

<sup>14</sup> [https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard\\_en](https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard_en)

mobility across EU and between sectors, ERA4You has been prepared. To keep pension arrangements while changing countries, researchers can opt for the [RESAVER](#)<sup>15</sup> pension fund, mentioned within the [ERA Policy Agenda for research careers](#)<sup>16</sup>.

The [Recommendation on a Pact for Research and Innovation in Europe](#)<sup>17</sup> (26 November 2021) encourages member states to update their national targets to reflect the UE aim to invest 3% of Union GDP in R&D. Values and principles for research are stated on three dimensions:

1. **Upholding values:** ethics and integrity (including guarding against biases, shortcuts, reacting to misinformation and pseudoscience), freedom of research, gender equality and equal opportunities;
2. **Working better:** free circulation (*inter alia* sharing knowledge, data, and tools as early as possible, research circulation among EU, exchange between academia and industry, open the research infrastructure), pursuit of excellence (including verifiable and reproducible results, recognition of the importance of fundamental research), value creation;
3. **Working together:** coordination

The [Commission Communication on a European strategy for universities](#)<sup>18</sup> aims at supporting universities to adapt and to contribute to EU resilience and recovery. To enhance cooperation **four flagships** are proposed:

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<sup>15</sup> <https://www.resaver.eu/>

<sup>16</sup> [https://www.charm-eu.eu/sites/default/files/2022-03/European Strategy for Universities and Innovation. Karamali.pdf](https://www.charm-eu.eu/sites/default/files/2022-03/European%20Strategy%20for%20Universities%20and%20Innovation.pdf)

<sup>17</sup> <https://www.europeansources.info/record/proposal-for-a-council-recommendation-on-a-pact-for-research-and-innovation-in-europe/>

<sup>18</sup> <https://education.ec.europa.eu/sites/default/files/2022-01/communication-european-strategy-for-universities.pdf>

1. European Universities initiative
2. Joint European degree
3. An eventual legal statute for alliances
4. Generalised use of the European Student Card initiative

Reskilling and upskilling are addressed by the proposal for a [Council Recommendation on a European approach to micro-credentials](#)<sup>19</sup>. To stimulate pedagogical innovation, the creation of “living labs” has been promoted. To reinforce the role of universities in local innovation ecosystem, ERA hubs have been enacted. To open university campuses to communities, the instrument of green villages has been promoted. To provide evidence on the progress of a European Higher Education Sector, an Observatory will be provided. The Observatory will combine existing EU data tools such as the [European Tertiary Education Registry](#)<sup>20</sup>, [U-Multirank](#)<sup>21</sup>, DEQAR, [Eurostudent](#)<sup>22</sup>, [Eurograduate](#)<sup>23</sup>, Bologna implementation reports data and [Mobility Scoreboard](#)<sup>24</sup>, Eurostat, [Education and training statistics](#)<sup>25</sup> and [R&D statistics](#)<sup>26</sup>, [JRC KT Metrics Platform](#)<sup>27</sup>.

### 1.3.2 Research Evaluation for Applications for EU Research Projects

The [Science Europe Study on Research Assessment Practices](#)<sup>28</sup> (27 December 2019) investigates the current practices used: (1) to select research proposal in competitive funding programmes and (2) to promote researchers within organisations. The study

<sup>19</sup> <https://data.consilium.europa.eu/doc/document/ST-9237-2022-INIT/en/pdf>

<sup>20</sup> <https://www.eter-project.com/>

<sup>21</sup> <https://www.umultirank.org/>

<sup>22</sup> <https://www.eurostudent.eu/>

<sup>23</sup> <https://www.eurograduate.eu/>

<sup>24</sup> <https://national-policies.eacea.ec.europa.eu/mobility-scoreboard/higher-education/scoreboard-indicators>

<sup>25</sup> <https://ec.europa.eu/eurostat/web/education-and-training/overview>

<sup>26</sup> <https://ec.europa.eu/eurostat/web/science-technology-innovation/overview>

<sup>27</sup> <https://publications.jrc.ec.europa.eu/repository/handle/JRC120716>

<sup>28</sup> <https://www.scienceeurope.org/media/fmdihqy/se-study-on-research-assessment-practices-report.pdf>



collected answers from 36 either funding organisations or research performing organisations regarding: (i) the approaches to select proposals and researchers (ii) challenges during assessment and (iii) current developments.

First, the established approaches to select proposals and researchers primarily use multi-stage and multi-step assessment, external single blind review, and panel reviews. Transparency has become an important feature in all stages of the assessment: prior assessment (e.g., assessment criteria, process description, actors), during implementation (e.g., rebuttal phase), or after the assessment (e.g., feedback, constructive reviews).

Second, the challenges include: (a) handling potential biases (e.g., gender, discipline, affiliation, seniority) by forming reviewer panels with diverse profiles; (b) distinguishing between proposals or candidates of similar quality; (c) cost and efficiency of assessment, (d) finding the right reviewers in the context of growing “fatigue” among researcher serving numerous funding/promotion bodies.

Selecting among similar quality proposals or candidates is approached as a (i) discussion until agreement (e.g. Spain), (ii) clustering the proposals and then common agreement (e.g., ERC), (iii) possibility to resubmit (e.g., Germany). In case of high costs for assessing and answering complaints, a solution might be the use of a rebuttal phase (as it has been already used by several funding agencies – FWO, NWO, UKRI, UEFISCDI). Measures to incentivise reviewers have been implemented (e.g keeping history of peer review (e.g., Publons), but their importance for the candidate is moderate to low.

Thirdly, the current development of alternative methods: (a) most organisations favour qualitative assessment against quantitative ones with some discouragement for the use of metrics (b) pilot programs such as double blind review (Slovak Research and Development Agency, FWF), sandpits, drawing lots, altmetrics. Drawing lots are used when equally good proposals cannot be differentiated objectively, e.g., Austria Public research funder FWF in its 1000 ideas programme or largest private funder, in Germany, i.e., Volkswagen Foundation. Their rationale is to prevent subconscious biases such as background,

interdisciplinarity, readiness to take risks. During a sandpit workshop, interdisciplinary consortia are stimulated, and they compete to obtain funding for their research proposals. Some programs also aim to assess non-academic impact and significance of the research or additional research achievements: awards, conference papers, keynote speeches, important research projects, research data, software, codes, pre-prints, exhibitions, knowledge transfers, science communications, licenses or patents.

Under the [Artificial Intelligence Act](#)<sup>29</sup> (AIA) (voted by European Parliament on 14 June 2023), AI systems used in education are considered high risk (since they may affect the educational as well as the professional path of the learner). As high-risk systems, they require a certification from a third party. This might affect the anti-plagiarism systems that do incorporate AI technologies.

#### 1.4 Criteria According to National Strategic Plans for Research

In the countries of the alliance members, different rules and criteria are in place for assessing research on an institutional level.

##### 1.4.1 National Strategies for Research Assessment in Romania

The [National Strategy for Research, Innovations and Intelligent Specialization 2022 - 2027](#)<sup>30</sup> lists a set of research indicators including publications in Web of Science, most cited publications, citations, public-private co-publications, national-international co-publications, open publications, PhD. Thesis, international researchers working in Romania, open datasets, and spin-offs.

Research is regularly evaluated for distributing public funds to state universities. The National Council for Higher Education Funding (CNFIS), as a national advisory body of the

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<sup>29</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52021PC0206>

<sup>30</sup> [https://www.poc.research.gov.ro/uploads/2021-2027/conditie-favorizanta/sncisi\\_19-iulie.pdf](https://www.poc.research.gov.ro/uploads/2021-2027/conditie-favorizanta/sncisi_19-iulie.pdf)

Ministry of Education, develops principles and methods for distributing public funds to state universities in Romania. The role of the Council is mainly to elaborate proposals to the Minister of Education regarding the future financing needs of higher education, as well as regarding the annual distribution of budgetary funds by state higher education institutions in Romania. Thus, CNFIS proposes annually the methodology for distributing to universities the budget allocations intended for institutional financing. The methodology sets a series of indicators that are calculated based on research assessment of individual researchers and centralized at the universities' level, resulting in a ranking and the corresponding additional financing of each university. The main indicators are based on:

- + Total score obtained by professors, associate professors, and equivalents (researcher grade I, grade II) according to national standards established by the National Council for the Attestation of University Titles, Diplomas and Certificates (CNATDCU);
- + Hirsch indices (h-index) calculated on the following platforms: Google Scholar, Web of Science, Scopus;
- + Nominal citations in specialized publications and reviews in the written press – for artistic creation activity (artistic field);
- + Nominal citations of sports activities in specialized publications and chronicles in the written press, honorary titles or specialized publications, made at the request of a representative specialized body – for sports performance activity (sports science and physical education field);
- + Articles published in journals / indexed volumes (ISI Red (Q1), Yellow (Q2), White (Q3/Q4) or from the category ISI Arts & Humanities, ISI Emerging Sources Citation Index, ISI Proceedings, IEEE Proceedings or ERIH+) and patents obtained at national, European, international or triadic level;
- + Realization/participation in individual, group and collective projects, respectively nominations/awards obtained - for artistic creation activity (artistic field);

- + Author books, edited collective volumes, chapters in collective volumes published by prestigious publishing houses internationally/nationally recognized.

Research assessment is furthermore part of institutional accreditations. One component in the Romanian universities periodical (re)accreditation is the scientific research activity from the point of view of permanent certification of quality standards or excellence in scientific research, monitoring the development of research projects, internal approval of results and elimination of practices that do not comply with ethics, such as reproduction without permission of results obtained by other researchers, plagiarism, non-compliance with bioethics rules, etc.

Research is capitalized through publications for teaching purposes, scientific publications, technology transfer through consulting centers, science parks or other capitalization structures, development of new products, etc. The teaching and research staff carries out scientific research activities capitalized through publications in specialized journals or publishing houses in the country or abroad, scientific communications presented at conferences, symposiums, seminars from the country and / or abroad, research contracts, expertise, and consultancy. Research institutes are also evaluated based on technical and scientific productivity and other results of research and development such as new/modernized products, new/modernized technologies, prospective and technological studies, achievements in terms of innovation and technology transfer and visibility of research-development-innovation activity.

As incentivation for excellence in research, prizes and awards are granted. Through the National Research, Development and Innovation Plan, the Romanian Ministry of Education awards every year the excellence in research, with prizes for the best researchers. The criteria are based on publications in highly ranking journals indexed in Web of Science Core Collection or Arts & Humanities Citation Index. The amounts allocated for awards are differentiated according to the rank of the journal within a scientific subfield, calculated

according to the impact factor (JIF) or the influence score (AIS - "article influence score") of the journal. The classification of journals by subdomains and quartiles (Q) is done according to JCR Clarivate. The following prizes are awarded: 1.400 € for an article published in a journal found in quartile Q1 of the respective subdomain; 500 € for an article published in a journal found in quartile Q2 of the respective subdomain. Excellence awards in sum of 8.000 € are awarded for an article published in Nature or Science journals; 2.000 € for an article published in the journals located in the quartile Q1, on the first place in the corresponding subdomain.

#### 1.4.2 National strategies for research assessment in France

The French national research and technological development policy aims at

1. Increasing knowledge
2. Sharing scientific, technical, and industrial culture
3. Promoting the results of research for the benefit of society.
  - + To this end, it strives to develop innovation, technology transfer where possible, expertise and support for associations and foundations recognised as being in the public interest, and public policies designed to meet societal challenges and social, economic, and sustainable development needs and
4. Promoting French as a scientific language.

The French government is defining a global policy of scientific and technological exchange and cooperation, particularly in Europe, with a view to establishing mutually beneficial links with developing countries. In particular, this policy aims to create centres of excellence in developing countries to strengthen their scientific communities and contribute to their sustainable development.

A [national research strategy](#)<sup>31</sup>, including a multi-annual programme of resources, is drawn up and revised every five years under the coordination of the Ministry for Research in consultation with civil society. This strategy aims to respond to scientific, technological, environmental, and societal challenges by maintaining a high level of fundamental research. These programmes mobilise both budgetary appropriations and other resources contributed by public research bodies, university laboratories, national companies, research centres and private companies around major objectives of national interest selected by the Government. It includes the exploitation of research results for the benefit of society. To this end, it ensures the development of innovation, technology transfer, expertise and support for public policies and for associations and foundations recognised as being of public interest. Scientific, technical and industrial culture is part of the national research strategy and is considered in its implementation.

Priorities are set after consultation with the scientific and academic community, social and economic partners and representatives of associations and foundations recognised as being of public interest, the ministries concerned and local and regional authorities, in particular the regions. The Minister for Research shall ensure that the national strategy is consistent with that drawn up within the European Union, with the national health strategy, the low-carbon strategy, the national biodiversity strategy, and that sensitive information of a strategic nature for competitiveness or the defence of national interests is preserved.

The national research strategy and the conditions for its implementation are the subject of a biennial report by the “[Office parlementaire d'évaluation des choix scientifiques et technologiques](#)<sup>32</sup>” which includes an analysis of the effectiveness of public support for private research. Every three years, the “Office parlementaire d'évaluation des choix

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<sup>31</sup> <https://www.enseignementsup-recherche.gouv.fr/fr/priorites-ministerielles-50357>

<sup>32</sup> <https://www.senat.fr/travaux-parlementaires/office-et-delegations/office-parlementaire-devaluation-des-choix-scientifiques-et-technologiques.html>

scientifiques et technologiques” carries out an analysis of the effectiveness of public, budgetary or fiscal expenditure granted by the State to research conducted in the private sector, including partnership research involving public and private structures.

The national policy is complemented by regional policies. Within the framework of regional planning and institution location plans, the regions define and develop regional technology clusters. It determines multi-annual programmes of regional interest. The regions are involved in drawing up national research and technology policy. Each region has a regional consultative committee for research and technological development, which reports to the regional council (UTT is in the [region “Grand Est<sup>33</sup>”](#)). Any multi-annual programme of regional interest must be submitted to it for its opinion, as well as the allocation of public research funding; it is informed of their use.

Public research is organized in public services, in particular "public scientific, cultural and professional institutions" (like UTT) and other public institutions of higher education, public research institutions (like CNRS) and health institutions. The objectives of public research are: a) The development and progress of research in all areas of knowledge; b) Putting research results to work for society, through innovation and technology transfer; c) The sharing and dissemination of scientific knowledge, giving priority to open access formats; d) Developing a capacity for expertise and support for associations and foundations recognised as being in the public interest, and for public policies designed to meet societal challenges and social, economic and sustainable development needs; e) Training in and through research ; f) The organisation of free access to scientific data.

Research and higher education activities financed in whole or in part from public funds, carried out by public or private operators, are subject to periodic evaluation procedures, which cover all the objectives and missions, on the basis of objective criteria adapted to

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<sup>33</sup> <https://www.grandest.fr/en/the-regional-council/>



each of them and inspired by international best practice. The evaluation is provided by an independent public authority: the “Haut Conseil de l'évaluation de la recherche et de l'enseignement supérieur” (High Council for the Evaluation of Research and Higher Education) – Hcéres. Its reports specify strengths, weaknesses and are accompanied by recommendations. Assessing the quality of research covers staff, teams, programmes and results. The High Council for the Evaluation of Research and Higher Education (Hcéres) is defined in the French Research Code, Articles (law) [L114-3-1<sup>34</sup>](https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000044588937) to L114-3-6.

As incentives for excellence in research, lecturers and “Professors” (Assistant Professor, Associate professor, Professor), civil servants, may, depending on their status and position, receive additional remuneration composed of an index and an indemnity, as follows:

- + “Professors” (Assistant Professor, Associate professor, Professor) may, under certain conditions, receive an Indemnity Scheme for “Professors” and Researchers (RIPEC) composed of a statutory part, a functional part and an individual bonus according to the Ministerial and UTT Human Resources Management Guideline;
- + Secondary school teachers assigned to higher education may, under certain conditions, receive the Higher Education Premium (PES);

Contract professors can be remunerated in two distinct ways:

- + “to the index” in reference to the remuneration scale of civil servants carrying out permanent missions of the institution, and for which the institution wishes to allocate a permanent position, on State support which is intended to be occupied by incumbents;

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<sup>34</sup> [https://www.legifrance.gouv.fr/codes/article\\_lc/LEGIARTI000044588937](https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000044588937)



- + "lump sum" whose contract provides either a flat-rate hourly or monthly rate basis and possibly under certain exceptional conditions a variable part defined in a letter of measurable and quantifiable objectives.

#### 1.4.3 National Strategies for Research Assessment in Germany

The German Higher Education system and in conclusion subsequent research assessment is characterized by comprising different actors who focus on different areas or types of research. On the one hand the German system has different extra-university organizations, such as Leibniz, Fraunhofer, Helmholtz and Max-Planck Society. On the other hand, different types of universities such as public and private universities, universities for arts and music, technical universities, and universities for applied sciences are given. These institutions focus in varying degrees on research – ranging from basic to applied research – and education and adhere to different funding schemes and guidelines. Therefore, the following focuses solely on the laws and guidelines important for h\_da, a Hessian University of Applied Sciences.

As the German Basic Constitutional Law guarantees freedom of research and teaching (Art. 5 (3) Grundgesetz), governmental bodies will not directly dictate the content of topics for research. They can admittedly offer incentive to foster research in certain areas of (public) interest by offering additional, competitive funding opportunities.

Universities are mainly governed and financed by the respective state (Land) in which they are located. Hence, the h\_da underlies the Hessian law for universities, the “Hessisches Hochschulgesetz (HessHG)” which states the general regulations and guidelines for the Hessian universities. The HessHG confers to the Basic Constitutional Law but declares that organizational measurements for research etc. are legitimate as long as they do not interfere with Art.5 (3) (see §33 (1) HessHG) and fosters the formation of research clusters and cooperation, as well as interaction with persons and/or institutions for professional

practice (§33 (2) HessHG). This law states also that professors have a duty for research and teaching (§67 HessHG).

While the HessHG sets the frame for the general structure and governance of the Hessian universities, details are recorded in two additional, regularly renewed documents. The State of Hesse and the Hessian Universities formulate a so called “Hochschulpakt”, the Hessian higher education pact that is valid for five years. This general document is backed up by so called “Zielvereinbarungen” which are target agreements between the Hessian Ministry of Higher Science and the Arts and the individual universities. This contract is negotiated and determines individual strategic goals over the period of five years. Therefore, it might also determine aims related to research assessment such as increasing the number of doctoral candidates etc. However, the major factor for direct funding by the state of Hesse is the number of students.

Research at h\_da is assessed with regard of the aims determined in the “Zielvereinbarungen”. The development of research-related third-party funding is regularly reported in the appendix to the annual financial statements of the Hessian universities. The executive board of h\_da also reports on the development of these figures every year to the Hessian Ministry in its activity report. In addition, the amount of third-party funding is a central component of the state of Hesse's budget plan, so that the acquisition of research projects is rewarded by the state. Other quantitative indicators that are stated in the reports by h\_da regarding research are among others the number of research projects, students and doctoral candidates. In addition, the universities have the opportunity to highlight qualitative achievements in the respective texts, i.e. mentioning researching successes.

For employment, h\_da has to take also other (national) laws into account: The German labour law regulates work in general and gives guidance with regard of for example work time, education, working youth, holidays, sick leave etc.

The “Wissenschaftszeitvertragsgesetz”, which translates to being an academic fixed-term contract act, regulates the employment of researchers. h\_da can only offer temporary

contracts to those, working in projects or in a qualification phase with a defined timeline. Similarly, the “Teilzeit- und Befristungsgesetz” regulates fixed-term and part-time contracts for non-scientists who can be temporarily employed as substitutes, for example in case of maternity leaves and in projects.

The tariff law regulates the pay scale. Here, h\_da has to follow the Hessian guidelines. The “Hessische Entgeltordnung” gives further details for the pay scale.

#### 1.4.4 National Strategies for Research Assessment in Spain

In Spain there is no single national strategy for the “assessment of research” as such. On the other hand, a series of indicators for evaluation is defined in the current [Spanish Strategy for Science and Technology and Innovation<sup>35</sup> \(ECTI; 2021-2027\)](#) and [Spanish State Plan for Scientific and Technical Research and Innovation<sup>36</sup> \(PEICTI; 2021-2023\)](#), as well as the criteria established by the Spanish Agency ANECA (National Agency for Quality Assessment and Accreditation of Spain) to evaluate the different university teaching staff. A general overview of research assessment strategies in Spain can be found in the article [Research, Teaching, and Knowledge Transfer Assessment in Spain: Strategies and Results<sup>37</sup>](#).

The [Spanish State Plan for Scientific and Technical Research and Innovation<sup>38</sup> \(PEICTI; 2021-2023\)](#) includes a set of monitoring and evaluation indicators aligned with its objectives to strengthen the internationalisation of the SECTI (Spanish Science, Technology and Innovation System) by means of joint programming instruments and actions that encourage

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<sup>35</sup> <https://www.ciencia.gob.es/Estrategias-y-Planes/Estrategias/Estrategia-Espanola-de-Ciencia-Tecnologia-e-Innovacion-2021-2027.html>

<sup>36</sup> <https://www.ciencia.gob.es/Estrategias-y-Planes/Planes-y-programas/PEICTI.html>

<sup>37</sup> <https://www.frontiersin.org/articles/10.3389/frma.2022.817031/full>

<sup>38</sup> <https://www.ciencia.gob.es/Estrategias-y-Planes/Planes-y-programas/PEICTI.html>

Spain's participation and leadership in the *European Research Area* and collaboration with other countries in R&D&I:

- + Spanish return rate in Horizon Europe;
- + Number of Spanish entities participating in activities funded by Horizon Europe;
- + Percentage of publications in international collaboration;
- + Percentage of Horizon Europe projects led by Spanish entities.

To promote the generation of quality scientific and technical knowledge through the financing of both non-oriented research projects that advance the frontier of knowledge and projects oriented towards the challenges of our society:

- + Percentage of publications in first quartile (Q1) journals at national level, by type of institution and by institution;
- + Percentage of publications among the top 10% most cited in the world.

Facilitate the transfer of knowledge through actions that eliminate existing barriers between the different actors in the academic and business spheres:

- + Patent applications filed at the European Patent Office;
- + Companies cooperating with research centers;
- + Number of PCT patent applications per million inhabitants;
- + Number of patents licensed per million inhabitants (SICTI);
  - + Number of spin-off companies created;
  - + Percentage of patents, utility models and plant varieties in co-ownership, according to the population framework of public institutions.

At a national level, ANECA is to evaluate the different university teaching staff. ANECA is the body responsible for the assessment, certification and accreditation of the Spanish university system with the aim of its continuous improvement and adaptation to the

European Higher Education Area (EHEA). ANECA was created by the Organic Law of Universities 6/2001, of 21 December, as a Foundation attached to the Ministry of Education, and its functions were extended in 2007 (LOMLOU 4/2007, of 12 April). Law 15/2014, of 16 September, on the rationalisation of the Public Sector and other administrative reform measures, gave it its definitive status as an Autonomous Body of the General State Administration, attached to the Ministry responsible for universities. Within its sphere of competence, ANECA is responsible for assessing:

- + The teaching leading to the award of university degrees of an official nature and valid throughout the national territory.
- + The merits of candidates for university teaching and contract teaching staff.
- + The teaching, research, knowledge transfer and management activities of the teaching and research staff of the Universities and of the career civil servant research staff of the Public Research Bodies.
- + University institutions and centres.
- + Foreign university degrees through homologation or equivalence procedures.
- + Correspondence to the levels of the Spanish Qualifications Framework for Higher Education (MECES) of national university degrees prior to RD 1393/2007.

Furthermore, within its sphere of competence, ANECA is responsible for the guidance, assessment, certification and accreditation of the merits of applicants to civil servant teaching bodies (professorships and senior lecturers) and of contracted teaching staff at universities (doctoral assistants, contracted doctoral students and private universities). The agency carries out this function both for contracted staff and civil servants. Here (<https://www.aneca.es/en/accreditations>) you can find (in English) the accreditation guides with the different sections where the evaluation criteria of the different variables of the procedure are specified, in accordance with [Royal Decree 1312/2007, of 5 October](#), which establishes the national accreditation for access to university teaching bodies. Evaluation criteria are set [in this guideline](#).

In Spain there is no regulation at state level as the funding of Spanish public universities is provided by the Autonomous Community or Regional Government. This system is different in every region of Spain. In the Region of Murcia, we have the so-called *contract-programme* to finance universities according to their performance at different levels, including performance in research and knowledge-transfer, which includes the various lines of action and indicators. For research excellence that crosses borders these are:

- + Number of researchers leading their own research project in the last two years;
- + Number of current research projects carried out in collaboration with international research groups or companies;
- + Exploit the synergies originated by EUT+ and identify the number of European projects applied for with one or more partners of the alliance in the last two years;
- + Number of articles published, where at least one author belongs to a foreign or international university, center or company;
- + Number of research projects carried out in the field of the priority areas of the RIS3mur smart specialisation strategy in the last five years, including 2023;
- + Number of articles published in impact journals in the priority areas of the RIS3mur smart specialisation strategy in the last five years, including 2023;
- + Number of projects applied for in international calls for proposals;
- + Funds raised by university research groups in international calls in the last two years;
- + Number of articles published by the research groups in international journals with JCR or SJR impact in the first quartile based on the latest scale of published journals;
- + Percentage of articles published in open access by UPCT researchers and included in WoS by 2023.

For assessing and the valorisation, knowledge transfer and entrepreneurship:

- + Number of contracts and agreements in force between research groups and companies with economic contribution;
- + Total income from transfer contracts;
- + Number of industrial and intellectual property titles granted: patents, utility models, software and other intellectual property registrations;
- + Number of EBTs (spin-offs) created by university researchers;
- + Number of active business Chairs at the university in 2023;
- + Total resources raised or settled by the Entrepreneurship Chairs Network in 2023;
- + Number of grants funded in the Business Chairs Network in 2023.

The Internal Quality Assurance System based on the AUDIT International Model, which incorporates a quality assessment criterion for R&D&I and knowledge transfer, has been implemented for public universities in Spain for institutional accreditation and research assessment as a part thereof. The state's Sub-programme for Institutional Strengthening of the [Spanish State Plan for Scientific and Technical Research and Innovation<sup>39</sup> \(PEICTI; 2021-2023\)](#), with its [Severo Ochoa<sup>40</sup>](#) and [María de Maeztu<sup>41</sup>](#) calls for proposals could be another way of accreditation of an institution and also, the accreditation of research laboratories.

In Spain, within the SECTI (Spanish Science, Technology, and Innovation System), in 1989, a bonus for the research productivity of tenured professors and researchers, measured at fixed time intervals of six years (sexenio de investigación), was introduced by law and is

<sup>39</sup> <https://www.ciencia.gob.es/Estrategias-y-Planes/Planes-y-programas/PEICTI.html>

<sup>40</sup> <https://www.aei.gob.es/convocatorias/buscador-convocatorias/centros-excelencia-severo-ochoa-unidades-maria-maeztu-2023>

<sup>41</sup> <https://www.aei.gob.es/convocatorias/buscador-convocatorias/centros-excelencia-severo-ochoa-unidades-maria-maeztu-2023>

currently managed by ANECA. This incentive has been maintained to date and has had a positive impact in terms of national research performance. Researchers may apply for it every six years with a limit of six research periods (36 years); if granted, it is forever. Besides, the evaluation of knowledge transfer, and innovation activities undertaken by university faculty and researchers of public research organizations began to be regulated at the end of 2018. It was launched as a pilot project, with a new salary component called transfer sexennial (*sexenio de transferencia*), counting for a six-year period. This new payment led to a complementary process to the one that takes place for the 6-year research period. Together with the “*quinquenio de docencia*” (five-year teaching period), assessment of universities’ triple mission was completed encompassing research, teaching, and knowledge transfer.

In the [Resolution of 21 November 2022, of the National Commission for the Evaluation of Research Activity<sup>42</sup>](#), which publishes the specific criteria approved for each of the fields of [evaluation](#). In the field of Engineering and Architecture there are:

- + Patents in exploitation, demonstrated by means of a sales contract or licensing contract, and patents granted by the *Spanish Patent and Trademark Office* through the prior examination system. The extent of patent protection (national, European, international) will be considered, with the most extensive protection being valued more highly. Patents in operation with an international extension will be considered as very relevant contributions.
- + Scientific papers published in journals of *recognised* value, being accepted as such those included in the list corresponding to their scientific category in the “Journal Citation Reports (JCR), Science Edition”. The JCR of reference for the evaluation will be that of the year of publication of the article. For articles published in the year of the

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<sup>42</sup> [https://www.boe.es/eli/es/res/2022/11/21/\(1\)](https://www.boe.es/eli/es/res/2022/11/21/(1))



call, it will be the last JCR published. Excluded from this point are those contributions that, although published in these reputable media, are not of a minimum length, such as notes or discussions of other articles.

- + Books and book chapters that include the results of scientific or technological research, in which a quality equivalent to that required for articles published in journals of recognised prestige can be found. In any case, the contributions will be published by publishers of recognised prestige, especially international, and with a selective procedure for the acceptance of originals, according to systems outlined in the Scholarly Publishers Indicators (SPI). Likewise, publishers that have obtained the seal of Quality in Academic Publishing (CEA-APQ) may also be considered. The number and nature of citations received, reviews and criticisms in specialised journals, the prestige of the collection, the prestige of the person responsible for the edition, translation into other languages, inclusion in academic bibliographies independent of the author and his/her environment and, in any case, the criteria required in the appendix of this resolution will also be taken into account. Conference papers published in a book of proceedings will be specifically excluded from this point.
- + Important technological developments involving innovative aspects and recognised as such by the scientific-technical community. The degree of innovation will be taken into account by means of its technological maturity level (TRL), which must be higher than 5.

Among the contributions to be evaluated for the incentive for transfer activities, preference will be given to:

- + Transfer through researcher training including activities and projects that promote, on the one hand, the training of researchers and, on the other hand, the entrepreneurial culture, through the creation of "start-ups or spin-offs". The contributions to be considered will be the number of people hired under R&D&I projects and contracts

during the evaluated period, the industrial and/or business theses directed and the people trained in entrepreneurial culture: number of people in "Start-ups and Spin-offs".

- + Transfer of own knowledge through activities with other institutions. This section will assess and evaluate the contractual formulas that are legally valid and appropriate, for example, as in the case of secondments, special services or leave of absence according to secondments, special services or leave of absence, depending on the state, regional and university regulations in force. The contributions to be considered will be periods of leave of absence/commission for special services/services in the period evaluated and membership of committees of high relevance in the field. Contributions in this block will include temporary contracts in external entities.
- + Transfer generating economic value. This block aims to identify those indicators which, due to their impact, generate greater wealth to the territory or within the community to which they are addressed, (e.g., in terms of turnover of intellectual or industrial property rights in the different fields of knowledge: science, heritage, technology, arts, etc.) The contributions to be considered will be invoicing for royalties. Patents, utility models, software registrations, plant varieties and any other registered knowledge in exploitation will be considered. Annual turnover data would be requested. In some areas, the relevance of the contributions may be determined not so much by turnover per se, but by the relevance and social impact of the transfer next to the participation in contracts and projects with companies and other institutions. Participation in research contracts or agreements with companies, entities and public administrations that invest funds, public administrations that revert funds to the university or research centres contracted through the usual regulatory systems (in the case of the University, the so-called article 83). Consideration will be given to the type of participation in the contract/agreement of the applicant (principal investigator, trainee researcher), its duration, evidence of the quality of the transfer carried out, the results of the project and its economic impact. The number of partnering of active spin-offs aims to assess

the entrepreneurial initiative of the not only in terms of creation but also in terms of operation and turnover levels. It is also important to specify whether their business plan is based on new products or processes or, on the contrary, on services. Finally, the number of patents (and other proprietary knowledge) owned or co-owned and type. Patents or other forms of industrial or intellectual property protection (registration of plant varieties, plant models, etc.) will be valued, as evidenced by a sales contract or licensing contract, or patents granted by the Spanish Patent and Trademark Office.

- + Transfer generating social value including those activities that benefit civil society and its different interest groups. Aspects related to the external projection and the consolidation of the university's public image will be valued. The contributions to be considered will be for one the participation in agreements and/or contracts with non-profit organisations or public administrations for activities of special social value. It will be considered the type of participation in the contract/agreement of the applicant (principal investigator, trainee researcher), its duration, the indications of the quality of the transfer carried out, the results of the project and its social impact. Furthermore, dissemination by publications (books, book chapters or articles), research dissemination activities in audiovisual media, and professional dissemination is considered. This section also includes preparation of reports for social agents, protocols, clinical guidelines, products, codes of practice, translations, participation in the drafting of laws and regulations as well as creative or cultural products.

In addition, the Regional salary supplement established by the autonomous community (different in each Spanish region) and [The National Research Awards and the National Research Awards for Young People](#) can be drawn on.

#### 1.4.5 National Strategies for Research Assessment in Bulgaria

One of the strategic objectives of the [National Strategy for Development of Scientific Research in the Republic of Bulgaria 2017 – 2030 \(Better Science for Better Bulgaria\)](#)<sup>43</sup> is the provision of high qualification and effective career development of the scientists, based on high level scientific research. One important aspect for this objective is Activity 1.1 related to the introduction of minimal national criteria for scientific degrees and academic positions for different scientific areas<sup>44</sup>.

A key prerequisite for ensuring a high level of research and high competence of scientists in Bulgaria is the development of a single national mechanism for monitoring the career progression of scientists and for obtaining scientific degrees, which must meet the same minimum criteria for all scientific organisations in the country. As a result of this Act on the Development of Academic Staff has been developed, adopted and implemented. It defines the minimum requirements for the acquisition of scientific degrees and the holding of academic posts in the Republic of Bulgaria, considering the specificities of the different scientific fields and professional fields. As a result of this purely scientific approach, criteria are higher for researchers working in scientific institutes, at the expense of criteria related to educational activities in higher education institutions.

For the evaluation of research evaluation in Bulgaria for distributing public funds to state universities the introduction of an effective research evaluation system is a component of any modern scientific policy. This system makes it possible to monitor the absorption process, the level of execution of scientific tasks and programmes and the results of

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<sup>43</sup> <https://epluse.ceec.bg/wp-content/uploads/2018/09/20170910-06.pdf>

<sup>44</sup> Minimal national criteria for scientific degrees and academic positions for different scientific areas –

<https://dv.parliament.bg/DVWeb/showMaterialDV.jsp?sessionId=ADBB9AF42C560311D544FAC721B4922?idMat=128226>

scientific work. The evaluation allows the country to analyse how effective scientific policy is and to identify measures to optimise it based on comparability and co-measurement of the quality of research with global and European standards. To achieve high scientific output, these collectives must be encouraged, which carry out high-quality scientific work. The scientific achievements of higher education institutions and research institutions are mapped periodically (on an annual basis) and the best of them are stimulated by the state. At the same time, it is necessary to ensure that these incentives do not only reach out to the institutions, but to scientific collectives and individual scientists, which must be done by means of periodical appraisal of scientists in scientific units and linking remuneration to scientific results:

- + Development and implementation of a periodical attestation system for research organisations and higher education institutions financed from the State budget. The system is based on internationally accepted nouconimetric indicators (referenced scientific works, citations, patents, projects, etc.), with specific criteria to be developed for each occupational strand and group of sciences.
- + Conducting an independent international evaluation of scientific organisations - the institutes of the Bulgarian Academy of Sciences and Rural Pandemic Academy, scientific institutes attached to ministries and agencies and research universities - in line with established international practice and experience gained in the European Commission's bodies.
- + Development of a ranking model for research organisations and universities (including the Rating System) based on the quantity and quality of scientific results according to internationally agreed noucometric indicators, accompanied by the corresponding dedicated funding.
- + A statutory obligation for research organisations and higher education institutions financed from the State budget to adopt and apply internal rules for the attestation

of both their individual units and scientists on the basis of the assessment criteria of the institution.

The introduction, from 2019, of public agreements with research organisations and higher education institutions to implement internal institutional strategies, including at faculty level, to enhance the quality of research, enhance scientific potential and transfer results and knowledge is based on the principles of the European Charter for Researchers and a Code of Conduct for the Recruitment of Researchers; the principles for intellectual property management in knowledge and technology transfer activities and Code of Practice as well as Open science and open access principles.

#### 1.4.6 National Strategies for Research Assessment in Ireland

The Irish National Strategy in relation to R&I is based on the document ‘[Impact 2030](#)’<sup>45</sup>. In relation to the development of more modern, fit-for-purpose research assessment ‘Impact 2030’ states to:

“develop a more comprehensive understanding of, and approach to, research assessment. Improved data collection and analysis will be central to this and the Department of Further and Higher Education, Research, Innovation’s Evidence for Policy Unit will play an important role in this regard. The new Department’s relationship with other Government Departments and R&I performers equips it well to progress this priority at the level of the R&I system. We will work with all stakeholders, including performers and funders, to ensure that their approaches reflect this more inclusive perspective on driving and monitoring R&I impact”.

While ‘Impact 2030’ specifically identifies DORA and the Leiden Manifesto as being what we aspire to, recent developments in relation to the Consortium on Advancing Research

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<sup>45</sup> <https://www.gov.ie/en/publication/27c78-impact-2030-irelands-new-research-and-innovation-strategy/>

Assessment have gained favour. Most Irish HEI's, RFOs and RPO are signatories of CoARA either directly or through representative agencies and a National Chapter of CoARA is about to be established with them aim of hosting a national dialogue leading to a national research assessment framework based on the CoARA principles.

#### 1.4.7 National Strategies for Research Assessment in Latvia

Research policy in Latvia is developed in accordance with the national Guidelines for Science, Technology Development, and Innovation and the [Law On Scientific Activity](#)<sup>46</sup>. The Latvian research system is developed in line with [ERA](#)<sup>47</sup> to synchronize the Latvian research system with the research systems of other EU member states, increase research results to EU standards and strengthen the capacity of scientists in Latvia to solve global societal challenges. Research policy in Latvia is developed in accordance with the [Latvian Research and Innovation Strategy for Smart Specialisation](#)<sup>48</sup> (RIS3) to strengthen Latvia's research and innovation capacity and stimulate social and economic transformation towards higher added value and resource-efficiency. This goal is approached by increasing investments in research and innovation and reducing institutional barriers. On the governmental level this encompassed preparing and submitting national research development strategic plans for approval in the parliament; approvals of national research programs, and to ensure cooperation between ministries and the implementation of the regulatory framework. The Ministry of Education and Science ensures the development and implementation of science policy; organizes the financing and evaluation of scientific institutions; coordinates international research cooperation at the national level; and is responsible for the planning, coordination, implementation and monitoring of science policy in higher education and

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<sup>46</sup> <https://likumi.lv/ta/en/en/id/107337>

<sup>47</sup> [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_1749](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1749)

<sup>48</sup> <https://www.izm.gov.lv/en/smart-specialisation-strategy-ris3>

research institutions. The Ministry of Economics is responsible for developing innovation policy in relation to the development of entrepreneurial competitiveness.

For the development of the research and innovation system, the Ministry of Education and Science provides funding from the State budget, attracts funding from European Union funds and assists in attracting funding from international research programmes and financial instruments. An overview of the research funding system in Latvia is outlined in the research “The Latvian Research Funding System” (2017) carried out by European Commission’s Policy support facility.

Research institutions in Latvia are research institutes, universities, companies and other organizations that are established to carry out research and development of scientific qualification, and are registered in the National Register of Research Institutions. In 2023 there are 64 research institutions registered in Latvia, 22 of them are public research institutions funded by the government. Public research institutions in Latvia are the universities (one of them is Riga Technical University), the universities of applied sciences, public research institutes, and the academies of arts.

Since 2016 Latvia has joined the European Strategy Forum on Research Infrastructures (ESFRI). The Latvian research institutions are members in seven European Research Infrastructure Consortia (ERIC) and an upcoming partner in one ERIC that are all included in the ESFRI Road map:

- + BBMRI-ERIC (Biobanking and Biomolecular Resources Research Infrastructure);
- + INSTRUCT-ERIC (Europe’s research hub for structural biology);
- + EU-OPENSREEN-ERIC (European Infrastructure of Open Screening Platforms for Chemical Biology);
- + EATRIS-ERIC (European Advanced Translational Research Infrastructure in Medicine);



- + JIV-ERIC (Joint Institute for Very Long Baseline Interferometry in Europe);
- + CLARIN-ERIC (Common Language Resources and Technology Infrastructure);
- + ESS-ERIC (European Social Survey);
- + MIRRI (Microbial Resource Research Infrastructure).

The [Latvian National Space Strategy 2021 - 2027](#)<sup>49</sup>, outlines the Ministry of Education and Science and Ministry of Economics visions for Latvia among which are to develop “recurring products and services that have great export potential” and generate “the world-class knowledge in space and related science disciplines”. For science communication, the Ministry of Education and Science organizes various activities to promote science and research for the public and policy makers, as well as to develop the culture of science communication in the national academic and research community, such as the V World Congress of Latvian Scientists “Research Latvia” 2023, the calendar “Latvian scientists”, science for policy, science meets Parliaments and the 4th World Congress of Latvian Scientists 2018.

The Latvian Council of Science (LCS) is a key institution responsible for research funding and policy in Latvia. It has been involved in the development and implementation of research assessment methodologies, grant allocation processes, and promoting high-quality research. LCS since July 1st, 2020 is an institution of direct administration under the supervision of the Minister for Education and Science. LCS operates in accordance with the Cabinet of Ministers Regulations No. 408 of June 30, 2020 “Regulations of the Latvian Science Council”, which have been issued in accordance with the Law on Scientific Activity. Areas of Activity of LCS are:

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<sup>49</sup> <https://www.izm.gov.lv/en/media/6419/download?attachment>

- + Strategic implementation of science policy and strategic communication of science;
- + Planning and implementation of scientific research programs;
- + Providing scientific expertise for the public and private sectors;
- + Promotion and coordination of international scientific cooperation.

The research landscape in Latvia is intricately structured to align with national and EU directives, aiming to enhance scientific capabilities, innovation, and societal impact. This includes comprehensive research policies, collaborative governance involving the government and key ministries, and a robust system of research institutions and infrastructure. Furthermore, Latvia's commitment to space science, science communication, and high-quality research is facilitated through institutions like the Latvian Council of Science, which plays a pivotal role in advancing research funding and policy while fostering international cooperation and scientific excellence.

## 1.5 National Criteria for Career Progress

For the assessment of academic and research positions themselves differ in the EUT+ partner countries. The criteria are described in detail in respective sub-sections below.

### 1.5.1 National Criteria for Academic and Research Career Development in Romania

The National Council for the Attestation of University Titles, Diplomas and Certificates (CNATDCU<sup>50</sup>) is an advisory body, without legal personality, of the Ministry of Education of Romania. The members of CNATDCU are university teachers and researchers, having at least the title of associate professor or scientific researcher or equivalent titles obtained abroad, members of the Romanian Academy and of cultural institutions, appointed by the Minister

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<sup>50</sup> <http://www.cnatdcur.ro/>

of Education and Research. The council has, from the perspective of research evaluation, the following main attributions:

- + proposes specific quality standards for doctoral theses (number and quality of publications in scientific databases) and evaluates the documents for awarding the title of doctor;
- + proposes a set of minimum standards necessary and compulsory for participation in competitions for occupying the university teaching positions of associate professor, respectively full professor and for granting professional degrees of scientific researcher grades I and II;
- + proposes a set of minimum standards necessary and mandatory for conferring the quality of doctoral supervisor, evaluates the habilitation theses and proposes to the Minister of Education the granting of the habilitation certificate;
- + analyses and decides on the complaints of non-compliance with the standards of professional ethics, including the existence of plagiarism;
- + proposes the methodology of periodic evaluation of doctoral supervisors;

Most of the criteria for doctoral degrees and higher academic positions in engineering are based on evaluation of research activity by counting the publications number and their quality (e. g. impact factor), number of citations and their relevance (e. g. h-index) and participation to the research projects as principal investigator (director of the project) or member in the research team. The research grants are also evaluated based on granted sum or number of years of research activities. A synthesis of research evaluation criteria for different engineering domains is presented in the Table 1.

Table 1 Criteria for career assessment in engineering in Romania

| Domain / research evaluation criteria | Minimum requirements for associate professor/researcher (grade 2) |           | Minimum requirements for full professor/researcher (grade 1) |           |
|---------------------------------------|-------------------------------------------------------------------|-----------|--------------------------------------------------------------|-----------|
|                                       | Papers/Articles                                                   | Citations | Papers/Articles                                              | Citations |
|                                       |                                                                   |           |                                                              |           |

|                                                      |                                                                  |                     |                                                                             |                     |
|------------------------------------------------------|------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------|---------------------|
| Materials engineering                                | 10 (5 in ISI journals with impact factor >1)                     | 10                  | 15 articles (10 in ISI journals with impact factor >1)                      | 30                  |
| Chemical engineering                                 | 10 articles as main author in ISI journals (min 2 in ISI Q1)     | 50                  | 20 articles as main author in ISI journals (min 4 in ISI Q1)                | 120                 |
| Civil engineering                                    | 5 articles (2 in ISI journals with IF>0.5)                       | 8                   | 8 articles (4 in ISI journals with IF>0.5)                                  | 15                  |
| Electrical engineering                               | 7 articles (2 as main author)                                    | 7                   | 10 articles (4 as main author)                                              | 10                  |
| Energetical engineering                              | 7 articles (as main author) 4 in indexed journals                | 4                   | 10 articles (as main author) 4 in indexed journals                          | 8                   |
| Electronics and telecommunications engineering       | 6 articles, 1 in ISI Q1 or Q2                                    | 10                  | 15 articles, 3 in ISI Q1 or Q2                                              | 25                  |
| Aerospace, automotive and transportation engineering | 6 articles in indexed databases (ISI)                            | 20                  | 11 articles in indexed databases                                            | 20                  |
| Computer science and information technology          | 6 articles, 1 in ISI Q1 or Q2                                    | 10                  | 15 articles, 3 in ISI Q1 or Q2                                              | 25                  |
| Industrial and management engineering                | 8 articles (3 in journals, 3 as main author) from last promotion | 10 / authors number | 11 articles (4 in journals, 4 as main author, 1 Q1, Q2) from last promotion | 10 / authors number |
| Mechanical engineering                               | 5 (in journals with impact factor and 3 as main author)          | 10                  | 10 (in journals with impact factor and 6 as main author)                    | 25                  |
| Environmental engineering                            | 15 (6 as main author in ISI journals with impact factor >1)      | 60                  | 25 (10 as main author in ISI journals with impact factor >1)                | 100                 |

Additionally for teaching positions didactical activities are quantified through teaching materials (books, lab works etc). It can be noticed that the general principle of evaluation is mainly based on the “publish or perish” culture and the use of JIF (Journal Impact Factor) as a proxy for quality. There are some discrepancies even between the engineering domains and different criteria when comparing with sciences or architecture.

### 1.5.2 National Criteria for Academic and Research Career Development in France

The national body responsible for organizing the careers of professors in France is the National Council of Universities (CNU). It is a French advisory and decision-making body responsible, at the national level, for individual decisions concerning the qualification and career development of Assistant and Associate Professors, Professors and lecturers. This body is composed of 2/3 of professors and researchers. The principles of freedom of higher education and autonomy of research have led to the granting of specific statutory guarantees to professors and, in particular, a form of collective self-management in terms of careers. The work of the (scientific) sections of the CNU is generally carried out on the basis of a “dossier” – a file containing the relevant elements and criteria to be evaluated. Qualification sessions take place only once a year, usually in winter (as a reminder, to apply for a position as a Professor or Assistant Professor, civil servant or contractor, one must first obtain the qualification from the CNU). Career management sessions (promotions and CRCT - Thematic Retraining Leave) take place in the spring. The sections of the CNU are responsible for evaluating applications for Doctoral and Research Supervision Grants (PEDR).

### 1.5.3 National Criteria for Academic and Research Career Development in Germany

Several agencies offer programs and funding opportunities for young researchers: The “Zukunftsstrategie Forschung und Innovation”<sup>51</sup>) of the Federal Ministry of Education and Research postulates higher ranking (political) aims for science, research and innovation with regard to frameworks and processes but also missions, such as for example improving health.

Moreover, this ministry offers several programs from which young researchers can benefit such as the Excellence Initiative or tenure track programs. However, these are often not

<sup>51</sup> [https://www.bmbf.de/bmbf/de/forschung/zukunftsstrategie/zukunftsstrategie\\_node.html](https://www.bmbf.de/bmbf/de/forschung/zukunftsstrategie/zukunftsstrategie_node.html)

catered towards UAS. The State Hesse offers different programs such as LOEWE or ZIM, which allow the application for research funds in certain research fields. The “Hochschullehrerbund”<sup>52</sup>, an initiative by and for professors and those offers advice for persons who are interested in a professorship. The project “HAW- Professur”<sup>53</sup> that is jointly funded by the States and the Federation, aims at advertising the career path towards an UAS professorship and connecting UAS. The Deutsche Forschungsgemeinschaft (DFG)<sup>54</sup>, the major funding agency in Germany, has several opportunities for researchers, ranging from stipends to the funding of entire research clusters. However, UAS just recently start to access these programs. These programs do not enlist clear criteria or guidelines for the assessment of academic or research careers. However, it seems that classic, quantitative indicators such as third party funding or publications seem to still be widely applied. The DFG template for CV asks for examples for a listing of (peer-reviewed) publications (see [https://www.dfg.de/formulare/53\\_200\\_elan/index.jsp](https://www.dfg.de/formulare/53_200_elan/index.jsp)).

#### 1.5.4 National Criteria for Academic and Research Career Development in Spain

The recently approved [Spanish Law on the University System](#)<sup>55</sup> (so called LOSU) sets an agreement on the need to modernise evaluation, but there is not a shared vision about how to do it. In alignment with the European agreement, the law recognises the importance of new university missions and opens options for a more plural evaluation of their contributions. However, it maintains the core elements of the existing focus on individual assessment by external agencies. Although, the law also introduces (but as yet does not deploy) the possibility of institutional accreditation. Currently, it still is the Spanish Agency ANECA who establishes the general framework for the assessment of research and teaching activity. There are also accreditation agencies at regional level in some Spanish regions

<sup>52</sup> <https://www.hlb.de/>

<sup>53</sup> <https://haw-professur.de/>

<sup>54</sup> <https://www.dfg.de/>

<sup>55</sup> <https://www.boe.es/buscar/act.php?id=BOE-A-2023-7500>

(there is none in the Region of Murcia). ANECA evaluates the different university teaching staff establishing criteria and indicators that should be considered. Criteria are established in accordance with Regulation [Royal Decree 1312/2007, of 5 October](#)<sup>56</sup>, establishing national accreditation for access to university teaching bodies. ANECA is the body responsible for the assessment, certification and accreditation of the Spanish university system with the aim of its continuous improvement and adaptation to the European Higher Education Area (EHEA). Within its sphere of competence, ANECA is responsible for assessing the teaching, research, knowledge transfer and management activities of the teaching and research staff of the Universities and of the career civil servant research staff of the Public Research Bodies. ANECA is also responsible for the guidance, assessment, certification and accreditation of the merits of applicants to civil servant teaching bodies (professorships and senior lecturers) and of contracted teaching staff at universities (doctoral assistants, contracted doctoral students and private universities) as laid out in the Annex 2 of [Royal Decree 1312/2007, of 5 October](#)). The agency carries out this function both for contracted staff (assistant professor) and civil servants (associate professor and full professor). These criteria are assessable merits:

#### 1. Research activity

- + Quality and dissemination of the results of research activity: scientific publications, professional artistic creations, congresses, conferences, seminars, supervised doctoral theses (if they are not claimed as merits of teaching activity);
- + Quality and number of competitive projects and research contracts with verifiable results;
- + Mobility: stays in research centres with verifiable results;
- + Other research merits.

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<sup>56</sup> <https://www.boe.es/eli/es/rd/2007/10/05/1312/con>

## 2. Teaching activity

- + Teaching dedication: breadth, diversity, intensity, responsibility, cycles, type of university teaching, doctoral theses supervised (if not claimed as research activity);
- + Quality of teaching activity: positive evaluations of the activity, production of original teaching material, teaching publications, teaching innovation projects with outstanding results;
- + Teaching training;
- + Other teaching merits.

## 3. Academic background (only for accreditation of associate professor and full professor)

- + Quality of pre-doctoral and doctoral training: grants, prizes, other qualifications, etc.;
- + Doctoral thesis: extraordinary doctoral prize and other prizes, European or international doctoral mention, mention of quality or excellence of the doctoral programme;
- + Quality of post-doctoral training: grants or post-doctoral contracts;
- + Other academic training merits.

## 4. Knowledge transfer and professional experience

- + Patents and products with intellectual property registration, knowledge transfer to the productive sector, involvement in technology-based companies, etc.;
- + Quality and dedication to professional activities in companies, institutions, public research bodies or hospitals, other than teaching or research;
- + Contracts for the transfer or provision of professional services with companies, public administrations and other institutions;
- + Other merits of knowledge transfer and professional experience.



## 5. Experience in educational, scientific and technological management and administration

- + Holding single-person positions of responsibility in university management included in the statutes of the universities, or which have been assimilated to them; or in public research bodies;
- + Holding positions in the educational, scientific or technological environment within the General Administration of the State or of the autonomous communities (regional government);
- + Other management merits.

### 1.5.5 National Criteria for Academic and Research Career Development in Bulgaria

In Bulgaria it is a requirement that the criteria for teaching and research positions at universities are the same as the national criteria for academic and research career development (cross ref. p. II.2.6. – explained in detail). The only difference existing thereof is that regarding the position of professor where TUS has the specific requirement for having to have at least two high impact factor publications (Q1 or Q2).

### 1.5.6 National Criteria for Academic and Research Career Development in Cyprus

In Cyprus there is an evaluation system for the upgrade of academic staff (PTR). The evaluation is conducted by a Special Committee which also consists of internal as well as external independent members and which considers the teaching, research and administrative work of Permanent Teaching and Research Staff {UCY Regulations (Election, Assessment and Upgrade of Academic Staff) 1996-2015; Code for the Composition of Special Committees for the Upgrade of Academic Staff (2021).

### 1.5.7 National Criteria for Academic and Research Career Development in Ireland

In Ireland academic career development is, depending on the type of institution, an autonomous activity controlled by the university or, in the case of the Institutes of

Technology and the Technological Universities (TU), subject to a range of national agreements between the relevant trade unions and the Department of Further, Higher Education, Research, Innovation and Science. Currently, work is progressing in updating the academic workload model and the career progression models for the Tus. In relation to the career development of ESR and post docs, within a national framework there are very strict regulations about how this is progressed and these regulations will form the basis of local processes and procedures.

#### 1.5.8 National Criteria for Academic and Research Career Development in Latvia

In Latvia, the criteria for academic and research career development are governed by several legal documents, including the [Law on Institutions of Higher Education](#)<sup>57</sup>, the [Law on Scientific Activities](#)<sup>58</sup>, and specific regulations issued by the Cabinet of Ministers. These regulations outline the necessary qualifications and procedures for the professional development of educators, including associate professors, lecturers, and assistants. The key points related to academic and research career development in Latvia are the Law on Institutions of Higher Education which establishes criteria and procedures for the appointment and evaluation of academic staff, including professors, associate professors, lecturers, and assistants. The evaluation of the scientific and pedagogical qualifications of professor and associate professor candidates is carried out by the Council of Professors of the respective field. For candidates for the position of lecturer or assistant, their qualifications are assessed by the faculty council or institute council. The scientific and pedagogical qualifications of professors and associate professors are assessed at least once every six years.

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<sup>57</sup> <https://likumi.lv/ta/id/37967-augstskolu-likums>

<sup>58</sup> <https://likumi.lv/ta/id/107337-zinatniskas-darbibas-likums>

In the case of current professors or associate professors, the assessment is conducted no later than six months before the expiration of their employment contract if they wish to continue in the position. The university has the right to initiate a review of a professor's or associate professor's performance at least once every two years. The Law on Scientific Activities outlines the qualifications for scientific activities, including the requirement of a Ph.D. degree for recognition as a scientist. The Ph.D. degree is awarded by the Council for the Award of Doctoral, and its equivalence to foreign degrees is determined based on international agreements binding to Latvia. The official abbreviation for the Ph.D. degree in Latvia is Ph.D., and it is granted for life. Habilitated doctors have the rights of a doctoral degree in the relevant field. The Law on Scientific Activities in Latvia outlines the responsibilities and rights of researchers, which are fundamental to the national criteria for academic and research career development.

One of the primary responsibilities of researchers, as defined in the Law on Scientific Activities, is to continuously improve their scientific qualifications. This means that researchers are obliged to engage in lifelong learning, stay up-to-date with the latest developments in their field, and contribute to the advancement of knowledge through their work. Additionally, researchers have the responsibility to participate in the training and mentoring of new scientists, thereby nurturing the next generation of researchers. Furthermore, researchers are expected to actively participate in the ongoing development and improvement of the educational system's scientific aspects. This involvement ensures that the education system remains aligned with the latest scientific advancements and best practices. However, researchers have the right to participate in open competitions to secure funding for the enhancement of their qualifications. These competitions provide researchers with opportunities to access resources for further research and professional development. Researchers have the right to engage in scientific activities within Latvia and internationally. This includes conducting research, presenting their findings at conferences, and collaborating with colleagues from other countries. This international dimension is vital for the exchange of knowledge and the growth of a researcher's professional network. These

rights and responsibilities, as outlined in the Law on Scientific Activities, are in alignment with the national criteria for academic and research career development in Latvia. They emphasize the importance of continuous learning, mentoring future researchers, and active participation in the scientific community, both at the national and international levels. By adhering to these principles, researchers in Latvia can contribute to the advancement of their fields and the overall development of the country's academic and research landscape.

In Latvia, academic and research career development is governed by laws and regulations, such as the Law on Institutions of Higher Education and the Law on Scientific Activities. These establish stringent criteria and evaluation procedures for educators and researchers, ensuring their qualifications and competence. The focus on continuous improvement is evident through the requirement of a Ph.D. degree for recognition as a scientist. Researchers have the rights to participate in funding competitions and engage in scientific activities both domestically and internationally, fostering a culture of excellence, lifelong learning, and collaboration within Latvia's academic and research community.

## 1.6 Universities Criteria for Career Progress

Criteria for research evaluation of academic and research positions are established by the universities of the EUT+ alliance and represent the minimum achievements required in terms of research for career advance, including the necessary criteria for entry level research or academic positions. Institutional regulations are formulated in accordance with national regulations or laws, they can be identical or exceed the minimum national requirements (if any). Here following, the specific criteria for each university from the EUT+ are detailed to get an overview of possible harmonization and to identify the differences and hurdles that must be dealt with by a new evaluation system for the European Research Institutes inside EUT+.

### 1.6.1 Criteria for Teaching and Research Positions at UTCN

In UTCN there are internal regulations to occupy open positions in teaching and research. The methodology includes and is in accordance with the education law, minimum national standards required and compulsory for conferring the academic titles in higher education, the professional degrees in research and development, obtaining of doctoral supervision (i.e. habilitation).

Only candidates who meet the minimum and mandatory standards will enter the competition to occupy teaching and research positions in higher education in UTCN. The methodology describes the minimum standards for the following teaching and research positions: (a) university assistant employed for an unlimited/fixed term period; (b) university lecturer/lecturer; (c) associate professor; (d) full professor; (e) research assistant hired for an unlimited period; (f) scientific researcher; (g) scientific researcher grade III; (h) scientific researcher grade II; (i) scientific researcher grade I.

The Technical University of Cluj-Napoca cannot overwrite through its own methodology the minimum standards by criteria or indicators different from those set out in national minimum standards. The scientific field of the position open for competition is determined exclusively by the subjects in the curriculum. The advertising of the open positions shall be published at least two months before the date of the first competition. The contests are open in nature and may be attended by persons who meet the conditions for entering the competition, without any discrimination, according to the law.

The conditions for entering the competition for occupying a teaching position are:

- + For the position of assistant professor employed for an unlimited period, cumulatively requires: (a) holding the doctor's degree (PhD); (b) minimum 5 published scientific papers; scientific papers published in ISI indexed journals will be multiplied as follows: ISI Q1 by 4, ISI Q2 by 3, other ISIs with 2; (b1) For the Faculty of Architecture and Urbanism: architectural or urbanism projects that have been

awarded within the competitions of national and international solutions recognized by professional organizations, as well as the projects or works carried out nominated or awarded at regional, national or international awards galas, organized or recognized by professional organizations, are assimilated to scientific works; (b2) For the Faculty of Letters: the sole author of at least 4 scientific papers (articles/chapters in books/books) indexed in internationally recognized databases (for articles) or (for chapters/books) published at publishing houses nationally recognized; (c) a certificate of knowledge of a language of international circulation; (d) holding the graduation certificate of the Specialty Department with Psycho-Pedagogical Profile.

- + For the positions of university lecturer/lecturer, are cumulatively required: (a) holding the PhD. diploma; (b) author or co-author at least one specialized volume, including electronic (application guide/didactic manual/book), published in a publishing house recognized at national level, for one of the subjects of the open position. For candidates coming from outside UTCN or not from higher education, this condition is equivalent to studies, projects or other experimental achievements; (c) minimum 15 scientific papers published in national recognized journals or volumes of national or international conferences indexed in databases; scientific papers published in ISI (Clarivate Analytics) indexed journals will be multiplied as follows: ISI Q1 by 4, ISI Q2 by 3, other ISIs with 2; (c1) For the Faculty of Architecture and Urbanism: architectural or urbanism projects that have been awarded within the competitions of national and international solutions recognized by professional organizations, as well as the projects or works carried out nominated or awarded at regional, national or international awards galas, organized or recognized by professional organizations, are assimilated to scientific works; (c2) For the Faculty of Letters: sole author of at least 8 scientific papers (articles/chapters in books/books), indexed in internationally recognized databases (for articles) or (for chapters/books) published at publishing houses nationally recognized; d) member of research teams; e) holding a certificate of knowledge of a language of

international circulation; f) holding the graduation certificate of the Specialized Department with Psycho-Pedagogical Profile or to be enrolled in its courses, being obliged to complete the courses in the first two years after the employment;

- + For the position of associate professor are cumulatively required: a) holding the Doctor's degree; b) the fulfilment of the national minimum standards for the occupation of teaching positions, specific to the teaching position of associate professor, approved by order of the education minister; c) holding the graduation certificate of the Specialized Department with Psycho-Pedagogical Profile or to be enrolled in its courses, being obliged to complete the courses in the first two years after the employment;
- + For the position of professor are cumulatively required: a) holding the PhD. degree; b) holding the quality of doctoral supervisor; c) the fulfilment of the national minimum standards for position of university professor, approved by order of the education minister; d) holding the graduation certificate of the Specialty Department with Psycho-Pedagogical Profile; e) obtaining a minimum average score according to the TUCN internal evaluation system in the last three academic years; f) PhD. supervision (i. e. habilitation) and proof of affiliation to the doctoral school; g) candidates must include at least 3 names and contact addresses of personalities in the research field from abroad, who have agreed to draw up letters of recommendation regarding the professional qualities of the candidate.

Verification and certification of the declared information by any candidate is made prior to the competition by an internal commission (domain specific) nominated at faculty level, and then by the evaluation commission nominated by university's senate.

The evaluation committee assesses the candidate in the light of the following aspects: a) the relevance and impact of the candidate's scientific results; b) the candidate's ability to mentor students or young researchers; c) the teaching competences of the candidate; d) the candidate's ability to transfer knowledge and results to the economic or social



environment or to popularize scientific results; e) the candidate's ability to work in a team and the efficiency of his/her scientific collaborations, depending on the specificity of the candidate's field; f) the candidate's ability to lead research and development projects; g) the candidate's professional experience in institutions other than UTCN.

The evaluation committee consists of 5 members, including its president, specialists in the field of the advertised position or in close fields. Decisions of the evaluation board shall be taken by secret vote of the members. A decision of the committee is valid if it has obtained the vote of at least 3 members. The members of the committee may be from inside or outside the higher education institution, in the country or abroad. It is recommended that the members of the competition committee recruited from abroad to be part of the European University of Technology - EUT+.

The competition for the position of associate professor/scientific researcher grade II and professor/scientific researcher grade I consists in analysing the candidate folder and holding a public lecture on the plan for the development of the university career, both from the didactic point of view and from the point of view of research activities. For candidates who do not come from higher education, a lecture shall also be given in the presence of the evaluation committee.

#### 1.6.2 Criteria for Teaching and Research Positions at UTT

At UTT, the terms and conditions, eligibility criteria and recruitment procedures for tenured teaching and research positions are described in a recruitment vademecum.

The human resources policy foresees that the annual recruitment campaign is the human resources translation of the development strategy defined by the university for the coming years, combined with the external constraints that we have to anticipate and take on board. The strategic areas validated by the governing bodies as part of our strategic plan are therefore a guide for prioritising posts, favouring disciplines and areas where there is a shortage. In terms of recruitment, UTT's strategy is to promote the recruitment of



researchers or "professors" with significant experience outside the institution. For a recruitment, it seems reasonable to ask candidates to meet a certain number of objective criteria of scientific excellence. For Assistant and Associate Professor (MCF in France), the application is examined in particular regarding international mobility (mobility in at least 2 different institutions, 18 months' experience (doctorate or post-doctorate) outside the UTT. This is to ensure greater diversification of recruitment within the institution, but also to ensure that each new Lecturer-Researcher (or researcher) is of a level to be able to apply for the ERC. This policy is also accompanied by a proactive policy to make the institution more attractive again. As far as senior staff (Professor -PR in France- level or equivalent) are concerned, a less drastic policy is needed to keep the best people in the institution but also to recruit new management potential to develop the institution, especially in the context of the European changes that are taking place. To achieve this, if an Assistant professor position becomes available, consideration will be given to redeploying the post, in line with the institution's strategy.

The recruitment criteria differ based on the round of selection. The eligibility criteria for the recruitment of Assistant Professor under the first competition foresees that candidates are recruited through open competitions at UTT: they must belong to one of the following categories:

- + Be registered on a qualification list for the positions of *maître de conférences* (MCF means Assistant or Associate Professor, civil servant) or *professeur des universités* (PR means Professor). The qualification is awarded by the *Conseil national des universités* (CNU) (see II.4.2). A decree of 16 July 2009, as amended, relating to the procedure for registration on the qualification lists for lecturers and university professors sets out the conditions to be met for registration on the qualification list. A qualification session is organised each year. The schedule of qualification procedures is published annually on digital portal for candidates for qualification and recruitment as MCF;

- + Be a "professor" at a level equivalent to that of the post to be filled, in a higher education institution in a country other than France. In this case, the Board of Directors, sitting in a formation restricted to "professors", decides on the level of the candidates (and therefore on any exemption from qualification) based on a report drawn up by two specialists in the discipline concerned, one of whom is from outside the UTT;
- + If candidates are already MCF (applying for a transfer): they must have been in active employment for three years on the closing date for applications or, if this condition is not met, they must provide the agreement (or *exeat*, i.e., authorisation to leave the institution) of the head of the institution;
- + Belong to one of the categories referred to in article 40-21 of the decree of 6 June 1984 and have been an established member of their original body or employment category for at least three years on the closing date for applications (application on secondment).

The eligibility criteria for the recruitment of MCF under the 2nd, 3rd and 4th competitions foresee:

- + The second competition is open to tenured secondary school teaching staff who have been working in this capacity in a higher education institution for at least three years as at 1st January of the year of the competition, and who are qualified for the post of MCF (or PR). This competition is also open to boarders of French schools abroad and former boarders of these schools who have completed their schooling less than two years before 1st January of the year of the competition, and who have, on this same date, at least three years' seniority as a boarder, and who are qualified for the functions of MCF (or PR).
- + The third competition is open to candidates with at least four years' actual professional experience in the preceding seven years on 1 January of the year of the competition, and to full-time associate teachers in post on 1 January of the year of

the competition or who have ceased to be in post less than one year before that date.

- + The fourth competition is open to tenured teaching staff at the *École nationale supérieure d'arts et métiers* who have been working in this capacity in a higher education institution for at least three years as of 1 January of the year of the competition and who are qualified for the position of MCF (or PR).

The eligibility criteria for the recruitment of university professors under the 1st competition include that candidates are recruited in all disciplines through open competitions at UTT. They must belong to one of the following four categories:

- + Be registered on a list of qualifications for the functions of PR ;
- + Be a "professor" at a level equivalent to that of the post to be filled, in a higher education institution in a country other than France. In this case, it is the faculty academic councils, sitting in a formation restricted to "professors", which decide on the level of the candidates (and therefore a waiver of qualification where applicable) on the basis of a report drawn up by two specialists in the discipline concerned, one of whom is from outside the institution;
- + If you are already a PR (applying for a transfer): you must have been in active employment for three years on the closing date for applications or, if you have not been in active employment for three years, you must provide the agreement (exeat) of the head of institution;
- + Belong to one of the categories referred to in article 58-12 of the decree of 6 June 1984 and have held a permanent position in their original body or employment category for at least three years on the closing date for applications (application on secondment).

In addition, there are special recruitment procedures and admissibility criteria for the recruitment of university professors through the second competition. Thereby, up to a

maximum of one ninth of the posts available for competition in all disciplines, competitions are reserved for lecturers fulfilling the conditions defined in 1° of article 44, who have completed five years of service in higher education on 1st January of the year of the competition or have been entrusted, for at least four years on 1st January of the year of the competition, with a mission of cultural, scientific and technical cooperation in application of law n° 72-889 of 13th July 1972. In addition, the persons concerned must either be assigned to a higher education institution other than that in which the post is open, or they have completed a period of mobility as a lecturer or assistant lecturer of at least two years under the conditions provided for in the third paragraph of article 39.

Eligibility criteria for the recruitment of university professors under the third or "long track" competition encompass three conditions for entry (as of 1 January of the competition year). One must have completed five years' service as a full or probationary lecturer. These five years may have been spent on a full-time or part-time basis. Service as a full professor must have been in an active position (CRCT, delegation or leave position as provided for in article 34 of title II of the general status of civil servants: annual leave, sick leave, long-term sick leave, long-term leave, maternity leave, etc.). It is also necessary to have worked for at least five years as a tenured or probationary teacher or researcher, or as a non-tenured or part-time teacher or researcher: these services must have been performed either in a higher education institution located in France, in another country of the European Union or in one of the States party to the agreement on the European Economic Area (EEA); or in a higher education institution located in any other country, if the services were performed within the framework of cultural, scientific and technical cooperation in application of law no. 72-659 of 13 July 1972. Candidates do not need to be registered on the qualification list (CNU).

In accordance with article 49-3 of the 1984 Decree, the competitions provided for in 3° of article 46 are conducted in the same way as other recruitments. The relevant section of the CNU takes note of the ranking list drawn up by the institution and examines the applications proposed to it. After hearing two rapporteurs appointed by its bureau for each application,

it issues an opinion on each of them. When, in the order of the ranking list proposed by the institution, a candidate receiving an unfavourable opinion from the competent section of the CNU is ranked higher than a candidate receiving a favourable opinion from the same section, the section draws up a reasoned report. The highest ranked candidate who has received a favourable opinion from the relevant section of the CNU is appointed in the order of the ranking list proposed by the institution.

The attention of the selection committees and bodies concerned is drawn to the very special nature of this procedure. Since Decree 2014-997 of 2 September 2014, when a competition is open in several sections, candidates may choose which section examines their application. In addition, candidates on a qualification list for university professorships are exempt from having their application examined by the relevant section of the CNU.

The eligibility criteria for the recruitment of university professors under the fourth competition vary from the above. This competition is reserved for:

- + Candidates who, on 1st January of the year of the competition, have completed at least six years of actual professional activity in the preceding nine years. Not considered are teaching activities, research activities in public scientific and technological institution, or activities mentioned in III of article 25 of the law of 13 July 1983 or in article 2 of the decree of 2 May 2007.
- + Full-time associate professors in service on 1 January of the year of the competition or who have ceased to be in service less than one year before that date;
- + Lecturers who are members of the *Institute Universitaire de France*;
- + Research directors, for appointments as first-class university professors, who have completed at least two years of teaching service in a higher education institution on 1st January of the year of the competition.

Furthermore, the eligibility criteria for the recruitment of university professors under the fifth competition apply for this competition open to lecturers and similar staff who are

involved in activities other than teaching and research and who hold or have held significant responsibilities in a public scientific, cultural and professional institution for at least 4 years in the 9 years preceding 1 January of the year of the competition. The scheme is based on two phases:

- + This qualification will be granted by an *ad hoc* national committee made up of 18 members, including two additional members from the candidate's section appointed by the Minister for Higher Education, half of whom are elected members of the CNU (decree on the composition of the national committee for the current year). There is no limit to the duration of this qualification, which remains valid as long as the candidate fulfils the conditions required for this type of recruitment.
- + Recruitment from within the institutions will be carried out after applications have been examined by a selection committee, whose opinion will then be forwarded to the restricted academic councils of the faculties. The final recruitment proposal will then be submitted to the Board of Governors, which may reject the proposal and give its reasons.

The recruitment procedures encompass several steps. Firstly, it is required to set up the selection committees (COS). Selection committees are set up to fill positions for university professors and lecturers, through competitive examination (articles 22 and 46 of decree no. 84-431 of 6 June 1984), secondment (articles 40-2 and 58-1) and transfer (articles 33 and 51). *The selection committee is the recruitment panel for lecturers and professors governed by the decree of 6 June 1984. It interviews the candidates and ranks them. Its choice is sovereign.* Selection committees are not permanent: a selection committee must be set up to fill each post declared vacant or created. However, the same selection committee may be set up to fill several teaching-research posts, provided that these posts are in the same discipline (generally within the same section of the CNU or, in some cases, within the same group of sections). For this, the regulatory framework for setting up selection committees leads the process. Article L952-6-1 of the Education Code (as at 01/01/2021) article L952-6-1 of the CE as at 01-01-2021: *"The committee is made up of professors and equivalent staff, at*

least half of whom are from outside the institution, of a rank at least equal to that applied for by the person concerned. Its members are proposed by the President and appointed by the Academic Council or, for institutions that do not have an Academic Council, by the Governing Board, sitting in a formation restricted to elected representatives of professors and similar staff. They are chosen based on their expertise, the majority of whom are specialists in the discipline concerned. The composition of the committee ensures a balanced representation of men and women where the gender distribution of the teaching staff in the subject area so permits. The committee is validly constituted if at least half of the members present are from outside the institution". In principle, the committee must include a minimum of 40% of each gender. However, this rule may be waived for the recruitment of PR (High level professors) in certain CNU sections. Committee members may be chosen from among academics and researchers belonging to foreign institutions of a rank at least equal to that for which the candidates are applying.

In addition, specific rules apply at UTT. To establish the composition of the selection committees that will ensure the smooth running of operations throughout the recruitment process, the rules within the UTT are:

- + UTT professors may not be members of a selection committee if they are candidates for a position within UTT;
- + The person whose position is to be replaced is prohibited from chairing and sitting on the selection committee for that position.

The composition of the COS is proposed to the Director of UTT jointly by the head of the UR for which the post is to be filled, the Director of Education and Pedagogy and the Director of Research. Each name submitted must be accompanied by an individual information sheet. Contract teaching and research staff are not assimilated staff who can sit on the COS set up for the posts of Assistant Professor, Associate Professor and Professor civil servant. The Governing Board, in a formation restricted to elected academic staff, deliberates on the names of the members of the COS, including the Chairman and Vice-Chairman, who are proposed by the Director of UTT (Rector).



For the nomination of the winner, the Governing Board proposes the name of the successful candidate or the list in order of preference based on the COS's proposal, which it may not amend. In fact, its sole role is to assess "the suitability of applications for the institution's strategy". This includes the suitability of the job profile (on which it has no opinion to give) and the UTT's strategy if this has already been voted on by the full Governing Board. If it eliminates a candidate from a list, the same applies to all those ranked after. In the event of a decision that does not comply with that of the COS, a detailed statement of reasons is essential, as it is subject to review by the [Conseil d'Etat](#)<sup>59</sup>.

### 1.6.3 Criteria for Teaching and Research Positions at h\_da

As a University of Applied Sciences and member of the EUT+ h\_da fosters research that is application- and problem-solving oriented as well as teaching focusing on a diverse student body. It applies these strategic aims among others on teaching and research positions. Below, the criteria for different positions are discussed.

For teaching positions, h\_da has two main criteria for selecting teaching staff which are the professional and pedagogical qualification. For assuring teaching staff has the required qualifications a stringent selection process is in place. It requires applicants for teaching positions at h\_da to not only submit their formal application but to add work samples and references to proof of their prior experiences. This applies also for the selection of professors, as professors have both the duty to teach and to conduct research (and participate in the academic self-government) at h\_da. Moreover, h\_da can offer teaching positions on a temporarily basis and for special education purposes, hence employ practitioners to offer a state-of-the-art education with focus on problem-solving and practical applications.

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<sup>59</sup> <https://www.conseil-etat.fr/en>



For professorial positions higher level criteria for professor positions are determined by §68 HessHG and comprise among others the eligibility after public services law, a concluded university education and the capability to conduct duties with regard to scientific and artistic work and the pedagogical aptitude. A specific criterion for the h\_da as a University of Applied Sciences (UAS) is that professors have to have at least three years of practical experiences, i.e., outside of academia. This guarantees the – for UAS characterizing – focus on applied research and practice orientations. It means also that in-house appointments are strictly limited and the career paths towards a UAS professorship are less streamlined and differ from those towards “classic” professorships, where the candidates stay mainly in academic research until they are appointed. Positions for professorships are publicly announced and candidates are selected by a so called “Berufungskommission”. This appointment committee consists of three professorial members and two student representatives (compare to §69 (3) HessHG) and can obtain external expertise. Research criteria for professorships are thereby highly individual: While the h\_da has higher strategic aims, such as problem-oriented and applied research with an impact on society, the requirements for each professorial positions are also determined by the needs for teaching and via respective faculties. Appointed professors can negotiate their contract with the president, the chancellor and the dean and can bargain for benefits.

The doctoral centers have a special role in this context. The Hessian Ministry of Higher Education, Research, Science and the Arts has postulated certain criteria, which professors must fulfil to join a postdoctoral center. These are classic indicators such as third-party funding and publications. The evaluation for the doctoral centers distinguishes between technical and non-technical fields and has higher criteria for technical fields.

For postdoctoral positions h\_da being an UAS has only limit funds for postdoctoral positions. This was partly amended in the last “Hochschulpakt”, the Hessian Higher Education Act, during the legislature period 2021-2025 when the Hessian Ministry of Research and Arts offered extra funding for academic staff in the so called “Mittelbauprogramm”. Thus, the h\_da is at the beginning to develop strategies for

postdoctoral positions. Recently, it has developed a program for the awarding of postdoctoral positions funded by this program focusing on fostering young academics. Furthermore, postdoctoral positions are found in third-party funded (research) projects, where the leading scientists determines the criteria for the positions beyond the legal obligations given by general rules or guidelines as well as the funding agencies.

For positions for doctoral studies h\_da offers different pathways towards a doctoral degree for interested master graduates which are all accompanied by h\_da's Graduate School Darmstadt (GSD). Candidates can pursue a cooperative doctorate and enter a respective program with one of h\_da's many partner universities within Germany or world-wide. As the degree is awarded in this case by the partner university the respective guidelines of the partner are applied. In addition, the h\_da has three doctoral centers focusing on i) Applied Informatics, ii) Social Work and iii) Sustainability Sciences and can independently award doctoral degrees in these fields. Candidates with a master degree of at least 2.0 (or better) can apply at the doctoral centers. Candidates have to identify a topic and a potential supervisor, with whom they can negotiate the project and the willingness to support them. Then, they can apply for a stipend for a preparation period during which they can develop their research idea. The potential project as well as information about the academic merit of the candidate and the supervisor are then proposed to a committee consisting of experts from the center of doctoral studies. This committee can grant access to the doctoral program without or with stipulations or refuse admittance, if the project idea and/or the candidate are unsuitable.

Noteworthy, the h\_da is founding member of the Franco-German Doctoral College in Sustainability Sciences, which started in January 2023. It is jointly organized by the Université des Technologie de Troyes and the h\_da. Candidates that are accepted by one of the partner institutions and focus on a thematically fitting project can apply for this program.

Additional constraints might be given by the different funding sources: External fellowship programs might apply certain stipulations, while third-party funded PhD positions in research projects might determine the area of research.

The h\_da internal “Mittelbau-Programm” funds mainly doctoral position (see also passage on postdoctoral positions above). It requires an application by the supervisor preferably jointly with the candidate and takes also the contribution to h\_da’s overall strategy into account. Thereby, the program focuses mainly on the fostering of young researchers. Candidates are selected by a committee of experts from different research areas, the doctoral centers and the Vice President for Research and Sustainable Development.

Other groups, which are involved in research such as engineers within h\_da’s laboratories or technicians are selected via the general guidelines for h\_da staff. The positions are advertised internally and/or externally and suitable candidates are invited for job interviews. These entry interviews are conducted by the supervisors for the positions and can be joint by representatives of the staff council, the representative for severely disabled persons and/or the equal opportunities commissioner.

#### 1.6.4 Criteria for Teaching and Research Positions at RTU

The criteria for academic positions at RTU, including associate professor, lecturer, and assistant professor positions, have been formally established and approved by RTU Senate during its meeting on April 27, 2015 (Protocol No. 589). These criteria serve as the official guidelines for the selection and appointment of academic staff within the university, ensuring a transparent and standardized process for evaluating candidates' qualifications and competencies. The criteria for teaching and research positions at RTU are defined as follows.

For the Position of *Associate Professor* eligible candidates: (i) should hold a doctoral degree in the relevant field; (ii) should have appropriate scientific publications and/or published educational materials; (iii) are expected to conduct research work within the specific

subfield corresponding to the title of associate professor; (iv) have competence to deliver lectures, lead study sessions, and organize examinations within their study program, particularly in foundational courses, is required.

*For the Position of Lecturer:* eligible candidates should: (i) possess a doctoral or master's degree in the relevant field; (ii) have relevant scientific publications and/or published educational materials; (iii) have the competence to deliver lectures, conduct seminars, practical sessions, and laboratory work.

*For the Position of Assistant Professor* eligible candidates should (i) hold a doctoral or master's degree; (ii) should demonstrate competence in conducting practical sessions and engaging in scientific work.

Additional considerations:

- + In cases where practical skills and knowledge are necessary, candidates for associate professor, lecturer, or assistant professor positions may be appointed even if they do not possess a scientific or academic degree, provided they have practical work experience relevant to the subject they will teach;
- + For the role of practical associate professor, a minimum of seven years of relevant practical work experience is required;
- + For the roles of lecturer or assistant professor, a minimum of five years of relevant practical work experience is required. However, if an assistant professor does not have a doctoral degree, they can be appointed to the position no more than two times consecutively;
- + If necessary, RTU Senate may establish specific requirements for academic positions in professional study programs without scientific or academic degrees.

These criteria serve as the foundation for the evaluation and appointment of teaching and research staff at RTU, ensuring that candidates possess the necessary qualifications and competencies to contribute effectively to the university's academic and research activities.

In conclusion, RTU has established comprehensive criteria for academic positions, including associate professor, lecturer, and assistant professor roles. These criteria emphasize the importance of educational qualifications, research expertise, and practical experience relevant to the subject matter. RTU's commitment to rigorous standards ensures the quality and effectiveness of its teaching and research staff, contributing to the institution's academic excellence.

#### 1.6.5 Criteria for Teaching and Research Positions at TUDublin

TU Dublin is required to follow national procedures for recruitment established for the Technological University sector in Ireland. The procedures outline the academic qualifications and professional experience required to qualify for selection.

The basic entry level requirements for an Assistant lecturer will be an appropriate first or second class honours degree or equivalent, together with three years' appropriate experience subsequent to obtaining a first or second class honours degree (or equivalent) in a relevant discipline. A number of other person specification criteria may be outlined for entry roles as desirable including Masters or Doctorate qualifications, and these can be considered in the recruitment process. For higher level/grade teaching roles, the minimum essential criteria may increase in level together with additional relevant experience required. The principal accountabilities for teaching roles are outlined clearly in the candidate information as part of the recruitment process together with reference to national agreed terms as issued by the governing State Department.

The selection process is also set out in a University Governing Body approved standard operating procedures document which outlines the approved procedures for the shortlisting and selection of new academic staff. These standards are outlined to ensure adherence to the principles of equality, diversity, and inclusion, in open competition, including the input on selection committees from other HEI's and business/industry. In addition, the procedures cover career progression opportunities for academic staff.

The procedures include standard contracts describing terms and conditions, duties and responsibilities and a standardized nationally approved salary scale. All academic posts require staff to teach a specified number of hours per annum (as set out in Circular 0052/2016) and carry out other duties including research and academic administration.

Assistant Lecturers will progress to the grade of Lecturer on completion of one year's service after having reached the maximum of the Assistant Lecturer scale subject to a minimum of five years continuous service and meeting TU Dublin progression criteria. An Assistant Lecturer with a Ph.D. and relevant research experience may be considered for progression after three years continuous service.

The University offers support to new appointees through its Learning, Teaching and Assessment unit and the opportunity to pursue a range of postgraduate courses relevant to learning, teaching and assessment in higher education. Within three years of commencing employment all new academic staff appointed to the TU Dublin at Assistant Lecturer and Lecturer grades, who do not currently have a teaching qualification or equivalent will be facilitated to undertake the Postgraduate Certificate in University Learning and Teaching offered by the TU Dublin Learning and Teaching Centre.

#### 1.6.6 Criteria for Teaching and Research Positions at TUS

The internal regulations of TUS for appointing and recruitment of academic staff (assistant, senior assistant professor/chief assistant, associate professor and professor) are in line with the adopted in 2019 *Act on development of the Academic Staff in Republic of Bulgaria*<sup>60</sup>, *Implementing Regulation of Law on the Development of Academic Staff in the Republic of*

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<sup>60</sup> Act on development of the Academic Staff in Republic of Bulgaria – [https://www.tu-sofia.bg/kcfinder-master/upload/files/act\\_on\\_development\\_acadStaff\\_022019.pdf](https://www.tu-sofia.bg/kcfinder-master/upload/files/act_on_development_acadStaff_022019.pdf)

Bulgaria promulgated by the Council of Ministers and follow the general principles and requirements of the *European Charter for Researchers (The Charter)*<sup>61</sup> and the *Code for Conduct for the Recruitment of Researchers (The Code)*<sup>62</sup>. They are based on several strict criteria for the various levels of career development, except for the lowest position – assistant, where each individual faculty defines the specific rules and criteria regarding the specifics of the research field. The national legislation arranges all recruitment procedure unanimously and explicitly for the senior academic positions: *senior assistant professor/chief assistant, associate professor* and *professor*. Nevertheless, still the recruitment procedure for the lowest academic position – assistant, applies the general rules of the Labour Code. Thus, sometimes the evaluation criteria applied do not provide enough clarity to potential candidates. The appointment for assistant is fixed term from two to four years, depending on whether the candidate has started his PhD studies. There is a requirement for the newly assigned assistant professors to complete PhD studies within 4 years of their appointment.

The specific criteria and indicators for selection, appointment and career development are defined by the adopted by Academic Council *Minimum Requirements for candidates in order to have a selection position open for obtaining the academic position of Chief Assistant, Associate Professor, Professor*<sup>63</sup> for various research fields, i.e. Pedagogical Sciences; Natural Sciences Mathematics and Informatics; Technical Sciences (Mechanical Engineering;

<sup>61</sup> European Charter for Researchers (The Charter) – <https://euraxess.ec.europa.eu/jobs/charter/european-charter>

<sup>62</sup> Code for Conduct for the Recruitment of Researchers (The Code) – <https://euraxess.ec.europa.eu/jobs/charter/code>

<sup>63</sup> Minimum Requirements for candidates in order to have a selection position open for obtaining the academic position of Chief Assistant – [https://www.tu-sofia.bg/kcfinder-master/upload/files/Mini%D0%BCum%20\\_requirementsEN.pdf](https://www.tu-sofia.bg/kcfinder-master/upload/files/Mini%D0%BCum%20_requirementsEN.pdf)



Electrical Engineering, Electronics and Automation; Communication and Computer Equipment; Power Engineering; Transport, Shipping and Aviation; General Engineering).

There is a general framework according to which indicators are grouped in 7 groups:

- + For the position of chief assistant professor are cumulatively required: (i) PhD. (obligatory); (ii) to have been appointed as assistant for at least two years; (iii) articles and journals published in scientific journals and/or conference proceedings;
- + For the position of associate professor are cumulatively required<sup>64</sup>: (i) PhD.; (ii) Monograph (Habitation work) or at least 10 scientific publications in referenced and indexed databases WoS/SCOPUS; (iii) Monograph (not part of Habitation); scientific publications in referenced and indexed databases WoS/SCOPUS; Scientific publication in non-referenced journals with scientific reviewing or in edited collective volumes; Published chapter in a collective monograph; (iv) Teaching load of lectures delivered over the last three years at Bulgarian universities accredited by NAAA or at foreign higher institutions established and functioning in compliance with the law of the respective country, in disciplines from the professional field in which the competitive selection procedure has been opened; Scientific publications in journals with impact factor (IF of Web of Science) and/or with impact rank (SJR of Scopus).
- + For the position of professor are cumulatively required<sup>65</sup>: (i) PhD; (ii) Monograph (Habitation work) or at least 10 scientific publications in referenced and indexed databases WoS/SCOPUS; (iii) Monograph (not part of Habilitation); scientific

<sup>64</sup> For more detail see Minimum Requirements for candidates in order to have a selection position open for obtaining the academic position of Associate Professor – [https://www.tu-sofia.bg/kcfinder-master/upload/files/Mini%D0%BCum%20\\_requirementsEN.pdf](https://www.tu-sofia.bg/kcfinder-master/upload/files/Mini%D0%BCum%20_requirementsEN.pdf)

<sup>65</sup> For more detail see Minimum Requirements for candidates in order to have a selection position open for obtaining the academic position of Professor – [https://www.tu-sofia.bg/kcfinder-master/upload/files/Mini%D0%BCum%20\\_requirementsEN.pdf](https://www.tu-sofia.bg/kcfinder-master/upload/files/Mini%D0%BCum%20_requirementsEN.pdf)



publications in referenced and indexed databases WoS/SCOPUS; Scientific publication in non-referenced journals with scientific reviewing or in edited collective volumes; Published chapter in a collective monograph; (iv) Citations or reviews in scientific publications, referenced and indexed in world-renowned databases with scientific information or in monographs and collective volumes; Citations in monographs and collective volumes with scientific reviewing; Citations or reviews in non-referenced journals with scientific reviewing; Reviews of proprietary products of the candidate in specialized publications in the field of architecture or design; Supervision of a PhD student who has successfully defended their thesis; Participation in a national scientific or educational project; Participation in an international scientific or educational project; Management of a national scientific or educational project; Management of an international scientific or educational project; Published university textbook or textbook used in school education; Published university teaching materials or teaching materials used in school education; Published application for a patent or an utility model; Acknowledged application for an utility model, patent or copyright certificate; Management of a scientific or educational project; (v) Teaching load of lectures delivered over the last three years at Bulgarian universities accredited by NAAA or at foreign higher institutions established and functioning in compliance with the law of the respective country, in disciplines from the professional field in which the competitive selection procedure has been opened; Scientific publications in journals with impact factor (IF of Web of Science) and/or with impact rank (SJR of Scopus).

The main difference in requirements between the different academic positions is in the number of points for the publications and citations. For the academic position professor there is a strict requirement of mentoring successfully defended PhD student and participation and management of research projects.

### 1.6.7 Criteria for Teaching and Research Positions at CUT

For permanent academic positions (teaching and research sStaff) the qualifications and minimum requirements are dictated by the CUT Legislation 198(I)/2003 (Qualifications of Academic staff) and relevant amendments<sup>66</sup>. In general, these include:

- + Publications in international scientific journals of established reputation or other publications of acknowledged merit (promising an important contribution to science) e.g. NATURE
- + Publications of monographs or books or recognized publishing companies
- + Indications of international contribution to a certain research field e.g. research reports, invitations for scientific lectures, evaluation of articles, research reports/doctoral thesis, member of committees for publication of scientific journals or participation in organization of seminars
- + Portfolio including acclaimed and/or award-winning work (FAR dep)
- + Personal work in solo shows and/or participation in group exhibitions or international art events (FAR dep)
- + Autonomous teaching or research work (FAR dep)
- + International acclaim of artistic oeuvre (FAR dep)

For the selection procedure CUT complies with the University of Cyprus (Academic Staff) Regulations and the University of Cyprus (Election, Evaluation and Upgrading of Academic Staff) 1996-2001. Usually, there is an open call either for 'Lecturer/Assistant Professor' position or for 'Associate Professor/Professor position'. The calls refer to the evaluation

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<sup>66</sup> <https://www.cut.ac.cy/university/administration/administrative-services/hr/jobs/staff-categories/academic-staff-qualifications/>  
<https://www.cut.ac.cy/university/administration/administrative-services/hr/jobs/staff-categories/exception-mga/>  
<https://www.cut.ac.cy/university/administration/administrative-services/hr/jobs/staff-categories/exception-far/>

criteria per rank, as instructed by CUT Legislation. The deadline for the submission of applications is set to three months by Law. CUT has recently developed an e-recruiting platform and via CUT Website candidates are diverted the platform for the submission of the application.

Regarding the composition of the Selection Committee (Special Committee), CUT complies with University of Cyprus (Academic Staff) Regulations and the University of Cyprus (Election, Evaluation and Upgrading of Academic Staff) 1996-2001, and CUT Code of Conduct for the composition of Special Committees for the Election of Academic Staff (Permanent Teaching and Research staff). Based on the above, a suggestion for the composition of the Special Committee is made by the Department Council via the Dean Council for the approval of the Senate. The Committee comprises of five specialists, with internal and external members from at least 2 countries (excluding Cyprus); The members declare potential conflict of interest between themselves and with candidates.

Committee members evaluate all applications and nominate candidates for interview. They prepare and sign a report to justify their decision. Candidates with a minimum of two nominations proceed to interview. The same committee invites candidates for an interview and prepares and signs a report justifying its decision for the selected candidate. The final decision for the selection is taken by the Senate and the University's Council.

For researchers on fixed-term contracts, the criteria are set in CUT Rules depending of the category of the Researchers: Postgraduate Associate/Assistant Researcher A or B, Postdoctoral Researcher, and Special Scientist for Research. For Assistant Researcher A or B (with a University Degree or a master's degree correspondingly) the conducted research and record research results are considered. For Postdoctoral Associates undertaking research documented by draft research proposals (with the assistance of Scientific coordinator) are accounted. For Special Scientists for Research conducting independent research and/or as part of a team in a specialized field of knowledge is of importance. More Senior Special Scientists for research, can be assigned as a Scientific coordinator, contribute to research strategies, share research results in national and international

conferences, prepare research proposals for international and competitive funding announcements, supervise students and/or other junior research staff, and are accountable for the successful completion of research projects.

#### 1.6.8 Criteria for Teaching and Research Positions at UPCT

Faculty careers in Spanish public universities are organized around several categories that can be divided into tenured and non-tenured positions.

- + Tenured positions (in parentheses its name in Spain): (i) Professor or Full Professor with civil servant status (Catedrático/a de Universidad). (ii) Associate Professor: with civil servant status (Profesor/a Titular de Universidad); or without civil servant status (Profesor/a Permanente Laboral)
- + Non-tenured positions (with non-civil servant status): Assistant Professor/PhD Lecturer (Profesor/a Ayudante Doctor)
- + Other positions: (i) Part-time Instructor (Profesor/a Asociado). (ii) Substitute Professor (Profesor/a Sustituto). (iii) Visiting Professor. (iv) Emeritus Professor.

In Spain, candidates must be accredited by ANECA for the position for which they are applying for. At UPCT level, the evaluation criteria for the position of *Assistant Professor* (Ayudante Doctor) are established for the candidates to apply, but the new Law of Universities LOSU has removed the obligation to be accredited for this position. Anyway, *Criteria for teaching and research positions in UPCT* are the ones established by ANECA accreditation procedures stated and mainly based on the evaluation of:

Research experience:

- + Scientific publications with an anonymous peer review process and international patents in exploitation,
- + Books and book chapters,
- + Research projects obtained in public and competitive calls, especially those financed through national, European or other international programmes, and/or

research contracts of special relevance with the public administration or with companies,

- + Other research results, in particular those producing technology transfer and contributing to innovation in the productive sector,
- + Direction of doctoral theses,
- + Contributions presented at congresses, conferences, seminars or other types of meetings of scientific relevance.

Teaching experience:

- + Extent, intensity, degree of responsibility, cycles and type of teaching in their university disciplinary field in regulated and non-regulated education,
- + Evaluations of the quality of their teaching,
- + Speaking at seminars and courses, and participation in congresses specifically aimed at training for university teaching activity,
- + Teaching materials and teaching-related publications ,

Academic background and professional experience

- + Academic background and Professional experience.

Other merits.

## 1.7 Universities Evaluation Criteria according to the Strategic Research Plan

### 1.7.1 Research Evaluation of Academic and Research Staff at UTCN

The research evaluation strategies in UTCN are in close connection with the strategic directions provided in the Research Strategy chapter of the UTCN strategic plan 2020 – 2024, and guided by the national and EU criteria (especially funding related):

- + Obtaining the status of "HR Excellence in Research" university granted by the EC to entities that implement and apply the principles of the code & charter, defined according to the program "[The Human Resources Strategy for Researchers - HRS4R<sup>67</sup>](https://euraxess.ec.europa.eu/sites/default/files/policy_library/HRS4R_Technical_Guidelines_for_Institutions.pdf)", as an institutional commitment to ensure the framework for the development and promotion of highly qualified human resources in research;
- + Establishing a multidisciplinary research institute with the purpose of multiplying, amplifying and capitalizing on good practices, expertise and scientific performances acquired in strategic areas, and ensuring the increase of the university's international reputation and visibility;
- + Supporting collectives participating and/or applying for major projects in priority areas, in line with the EU's Framework Programme for Research & Innovation, Horizon 2020 and/or Horizon Europe 2021-2027 or any other major projects funded at national and/or international level;
- + Developing, and supporting research, technology transfer and innovation directions that can generate a competitive advantage of the university at local, national or international level; improving the institutional framework to increase quality indicators and scientific performance, relevant in national reporting for obtaining additional funding and/or prestigious international rankings;

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<sup>67</sup> [https://euraxess.ec.europa.eu/sites/default/files/policy\\_library/HRS4R\\_Technical\\_Guidelines\\_for\\_Institutions.pdf](https://euraxess.ec.europa.eu/sites/default/files/policy_library/HRS4R_Technical_Guidelines_for_Institutions.pdf)

- + Developing mechanisms to encourage, and support students to co-opt and involve students in high-performance research teams with national and/or international visibility, to acquire research and project management skills and competences;
- + Creating the internal regulatory framework for the development of the entrepreneurial ecosystem to facilitate the institution and support of start-ups among students and recent graduates.

A periodic evaluation of academic and research staff in UTCN takes place. The evaluation system of teaching, research and management activities in UTCN, called SIMAC (Informatic system for the management of research activity), represents an instrument with which the academic management at all levels follows and promotes the implementation of policies to increase the efficiency and effectiveness of the activities carried out by the academic staff, in accordance with the strategic plan and annual operational plans to achieve the proposed objectives and to position UTC-N. Starting from these premises, it was considered necessary to define a system of evaluation of teaching, research and managerial activity to highlight the annual performance of each member of the academic staff. From this perspective, the evaluation system includes 2 levels and 5 modules.

#### Level 1 – basic evaluation

- + Module 1 – is focused on the quantitative evaluation of the work carried out by academic staff during one year and basically includes the elements extracted from the Job Description; Module 2 – presents students' perception of how teaching activities were carried out; Level 2 – performance evaluation
- + Module 3 – this module focuses on qualitative evaluation of the work carried out by a teacher during one year in developing the teaching and institutional component;

- + Module 4 - the module is focused on the qualitative evaluation of the work carried out by a teacher during one year in developing the research component of the university;
- + Module 5 - the module is focused on the qualitative evaluation of the work carried out by teachers with management positions within UTC-N for one year (heads of departments, vice-deans, deans, directors of research centers, directors of departments, vice-rectors, rector).

Performance evaluation in research is made in relation to a set of criteria organized by interest categories. Each interest category represents a major direction for the research in UTC-N. Thus, there are 6 categories of interest:

- + Scientific article (indexed articles and conference proceedings in scientific databases like ISI Web of Science, Scopus, Engineering Village, IEEE).
- + Patents, physical models, and prototypes.
- + Monographs and book chapters.
- + Projects (international, national and projects with industrial environment).
- + Distinctions and awards (member in prestigious organizations like Romanian Academy, awards of recognized international organizations (e.g., IEEE, Computer Society, Communication Society, IFAC, CIRP), citations in highly ranked journals, keynote or invited speaker).
- + Management of scientific activity (member of the scientific board of indexed journal, conferences, reviewer, member in organizing committee of international conferences).

Each interest category comprises several criteria. The criteria within each group belong to an importance class. There are 5 classes of importance: A (most important), B, C, D, E (least



important). To assess the level of involvement in research of a person, personalized for each category of researcher is defined a grid of appreciation.

Incentives for excellence in research in UTCN are part. Considering the university strategy, importance of international rankings, as well as the national funding system of the Romanian universities, there are three main incentives measures for researchers in UTCN, regulated by Administration Council decisions:

- + Decision 57/15.06.2021 - Financial support for publishing in international journals and conferences (including participation costs). All publishing costs are supported by the university for articles published in journals indexed in Web of Science and Scopus. Also, publication and participation at conferences indexed in Web of Science ISI proceedings or IEEE is financially supported by the university. All these articles are recognized by the National Council for Higher Education Funding, therefore influencing the future funding of the university.
- + Decision 135/15.12.2020 - Support grants for research activity: granted for researchers that publish in ISI journals, quartiles Q1 & Q2, international books and patents. These grants are fixed funding amounts for each paper, and the authors can use these funds over a period of two years to support their research work (ex. for material expenses). The value of these grants is between 1.000 and 2.000 euros per article, depending, among others, on criteria such as the journal quartile and co-authorship with international researchers.
- + Decision 11/25.01.2023 (and previous versions) - Support for excellency in research, consisting of salary increases for researchers that publish articles in ISI journals, quartiles Q1 & Q2, or participate in grant calls with a project proposal that gets a high evaluation score. For articles, depending on the quartile, the monthly increase (before taxes) is between 200 and 600 euros / article (if there are multiple authors, the increase is split between them). The increase is typically granted for six months, or 12 months for articles that are published in non-OA journals or have co-authors

from the EUT+ partner universities. Also, to stimulate researchers who write high quality grant proposals (final evaluation score 80-85% of the maximum, depending on the grant call), a 12-month salary increase is granted. The monthly increase is between 200 and 500 euros, depending on the type of call (national or international), with a maximum for Horizon calls that include EUT+ partners on the consortium.

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### 1.7.2 Research Evaluation of Academic and Research Staff at UTT

For academic and research staff civil servants, the evaluation is carried out at the national level (see §II.3.2). The scientific and academic councils of universities are invited to give their opinion on the files of the academic staff evaluated. Career monitoring is carried out 5 years after the first appointment to an academic position or after a change of category (lecturer to professor), thereafter every five years. Career monitoring takes into account all the activities of the teacher-researcher. Institutions take this career follow-up into consideration in terms of professional support.

The recruitment of contractual academic and research staff is accompanied by precise objectives identified on the basis of quantitative and qualitative elements of a different nature, depending on the type of position – lecturer or professor – (e.g. number of articles to be published according to the period, participation in conferences, launching and animation of a new research axis, patents, academic collaborations, partnership etc.). During the first 3 years of the contract, an evaluation will be carried out at the end of the first 18 months. Then, if the contract is permanent, it is recommended that a meeting be held every 3 years with the Head of laboratory. The purpose of these exchanges is to set the objectives to be achieved for a given period and their subsequent evaluation.

### 1.7.3 Research Evaluation of Academic and Research Staff in h\_da

The h\_da focuses on fostering the development of its staff including academic and research staff to excel in research and teaching and to assist the staff members in their individual

career development. Evaluating the academic and research staff plays a rather minor role in comparison. General measures applicable for all staff members of the h\_da comprise the on-going development of a staff development concept. The goal is to bridge different departments of h\_da and aims at creating a mind-set and understanding for the importance of staff development. The staff development supports the entire “Employee Life Cycle“ (ELC) from the on-boarding phase to the retirement.

All staff groups can get individual advice and participate in different measures, ranging from individual coaching, team-building measures, courses focusing on soft skills, such as communication, and digitization, towards leadership courses. Certain courses, which are in high demand or for which the h\_da has the necessary expertise, are offered in house. In addition, external measures can be visited. Here are the offers from the “Arbeitsgruppe wissenschaftliche Weiterbildung – AGWW“ (<https://www.agww-hessen.de>), a joint initiative of the Hessian universities, and the “Zentrale Fortbildung Hessen“ (<https://verwaltungsportal.hessen.de/information/zentrale-fortbildung>), the program by the State Hesse, noteworthy, as their program is catered towards university employees and free of charge.

Moreover, the h\_da is recently developing a certificate program that should serve as guideline for people in leadership positions to obtain the necessary skills. With regard to the rule that those with a leadership rule have to amass a certain amount of further education, this might prove highly useful.

To ensure the quality of teaching, h\_da conducts regularly evaluations and questionnaires based on h\_da’s evaluation rules. These are in turn based on the HessHG (view §14 Hess HG). The systematic survey of students’ feedback towards courses aids to improve the quality of teaching and the further development of learning conditions. The teaching staff is informed about the gathered results and hence, these evaluations can be used for a feedback loop and a discourse between students and teachers. To offer further incentives for high quality teaching, the h\_da has implemented the “Lehrpreis“ in 2018 with a prize money of 12.000€ per year. This award fosters the discussion about excellent teaching and

learning conditions. A jury which consists equally of students and teachers awards this prize for outstanding courses and tutorials, held by students. Teaching staff benefits from the education offered by the h\_da didactic group for example on e-learning techniques or the widespread didactic offers by the AGWW (see above.)

Professors can negotiate benefits when they are newly appointed and upon request after 2,5 years after they have started their position at the h\_da. Otherwise, professors can only negotiate their benefits when they have a valid offer for a position at another university. Criteria are achievements with regard to research, teaching, art, further education or talent management. In addition, professors can obtain benefits for extraordinary efforts in the academic self-management.

Furthermore, researchers receive a bonus from the university budget for acquiring third-party funded projects. This bonus can be used by the professor for teaching and research costs. In addition, they can receive support from the rectorate, for example travel costs, publishing costs etc. These are granted after an individual assessment of the proposed activities.

As a developing staff group at h\_da, postdoctoral staff can benefit from h\_da's expertise in staff development and utilize the mentioned offers for staff in general and with focus on teaching and researchers.

For doctoral staff h\_da offers different pathways towards a doctorate (view II.2.3). Different measures support PHD candidates in their career: Candidates can obtain stipends for a preparation period and/or the time of the doctorate or obtain a contract funded via the so called "Mittelbauprogramm" or be employed via third-party funded projects. The GSD of the h\_da offers various courses catered towards PhD candidates: Those, interested to contact their doctoral studies at the h\_da, can join information events and get support in drafting their exposes. For accepted PhD candidates various courses are held for example in scientific writing. These courses that are open for all PhD candidates are complemented by more specialized events hosted by the doctoral centers such as summer schools or retreats.

In addition, PhD candidates who are members of the h\_da can offer the various courses offered to the h\_da staff (see above).

General support structures for researchers at the h\_da include the Service Centre for Research and Transfer (<https://h-da.de/en/research/our-profile/organisation/service-centre-research-and-transfer-sft>) that supports scientist in obtaining third party funds and in technology transfer projects. H\_da promotes open science and open access, A repository organized by the central library aids to collect publications such as gold open access articles or dissertations and assists the EUT+ repository (<https://opus4.kobv.de/opus4-h-da/home>).

To promote open access, the h\_da finances respective publications and has joint the DEAL contract (2019 Wiley, 2020 Springer). This are contracts between the publishers and the research organisation to foster open access publishing in Germany. In addition, h\_da has also signed transformation contracts with other publishers (2022 Hogrefe and DeGruyter, 2023 Sage):

To manage research data, h\_da participates since 2016 in the project “Hessian Research Data Infrastructure” and has two dedicated persons for research data management, the “Forschungsdatenreferent” and the “Forschungsdatenbeauftragten”, and scientist can obtain advice on how to manage their data from the data management team. The online tool Research DATA Management Organiser (RDMO) offers data management plans. Thereby, researcher can chose between different, pre-existing questionnaires, which aids the development of data management plans. Other tools that might be helpful for research data management are GitLab, OpenStack and Nextcloud. Moreover, a collaboration with the Technical University Darmstadt, TuDataLib, helps scientist to archive and publish their data<sup>68</sup>.

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<sup>68</sup> <https://tudatalib.ulb.tu-darmstadt.de/handle/tudatalib/2547>

EUT+'s Work package 8 has already formulated an Open Research Statement, which asks for a human fair transparent use of indicators. In addition, h\_da has joint the CoARA coalition that works towards the development of novel research indicators and a fairer assessment of research careers. Previously, h\_da was also active in the EUA meetings preceding the formation of CoARA.

#### 1.7.4 Research Evaluation of Academic and Research Staff at RTU

For the evaluation of academic and research staff in RTU functions of the Structural Unit in the Evaluation Process of Academic Position Candidates for Docent, Lecturer, and Assistant are established and approved by [RTU Senate during its meeting on April 27, 2015 \(Protocol No. 589\)<sup>69</sup>](#).

If an academic position candidate has worked as a faculty member at RTU before the elections, the Student Department, in collaboration with the structural unit, organizes student surveys. The survey results are submitted to the faculty council or institute council where the elections will take place.

If an academic position candidate has not worked as a faculty member at RTU before the elections, the head of the structural unit organizes an open lecture (in the case of a docent or lecturer candidate) or practical classes or laboratory work (in the case of an assistant candidate). The proceedings of this event are documented. At the open lecture (practical classes or laboratory work), at least two experts appointed by the faculty council or institute council attend and prepare and submit written reviews to the faculty council or institute council where the elections will take place.

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[https://www.rtu.lv/writable/public\\_files/RTU\\_rtu\\_docentu\\_lektoru\\_un\\_asistentu\\_ievlanas\\_krtba.pdf](https://www.rtu.lv/writable/public_files/RTU_rtu_docentu_lektoru_un_asistentu_ievlanas_krtba.pdf)

All attendees must be informed about the written reviews of the open lecture (practical classes or laboratory work) or the results of the student survey during each stage of the election process.

The suitability of candidates for the academic position is examined and assessed in a meeting of the structural unit's academic staff, with the participation of the candidates. Taking into account the information provided by each candidate regarding their past academic, pedagogical, and organizational work, qualification improvement over the last 6 (six) years, contributions to the methodological support of the teaching process, and the development of material resources, as well as evaluating the list of publications submitted and the expert assessment of the open lecture (practical classes or laboratory work) or student survey results.

Only the academic staff of the structural unit may vote on the overall assessment and recommendations to the faculty council or institute council regarding the appointment of a candidate to the academic position. If the candidate is the head of a department or professorial group, the meeting is chaired by the faculty dean or institute director. If the candidate is the dean or institute director, the meeting is chaired by the Vice-Rector for Academic Affairs. The candidates participate in the meeting without voting rights.

The head of the structural unit submits the results of the student survey or expert reviews, the structural unit's evaluation, and recommendations for each candidate to the faculty council or institute council responsible for the respective position. Before the elections, the head of the structural unit or the person conducting the structural unit's meeting informs the attendees about the expert reviews of the open lecture (practical classes or laboratory work) or the results of the student survey, as well as the results of the discussions and assessments in the structural unit's meeting.

Evaluating academic and research staff within a university setting, such as RTU, constitutes a multifaceted undertaking, encompassing the comprehensive assessment of their performance, contributions, and impact across diverse domains of their professional



activities. The overarching objective of this evaluative procedure is to ascertain the extent to which faculty members are aligning with the institution's established academic benchmarks, contributing to the cultivation of research eminence, and discharging their pedagogical and service obligations.

At RTU, we acknowledge the paramount importance of perpetually refining our evaluation methodologies. In pursuit of this objective, we are presently affecting structural modifications with the intent of enhancing research quality and effectuating a substantial fifty-percent augmentation in funding allocation. These adjustments underscore our unwavering dedication to fostering a vibrant and progressive academic milieu.

Our approach to the evaluation framework is fundamentally premised upon transparency and collaborative engagement. We firmly contend that involving faculty members in the formulation of evaluation criteria and processes is indispensable. This collaborative synergy not only guarantees the maintenance of rigorous standards but also accommodates the heterogeneous strengths and objectives characterizing our academic community.

Furthermore, we attach profound significance to periodic evaluations, viewing them as instrumental in nurturing faculty development. These assessments represent invaluable opportunities for personal and professional advancement, featuring constructive feedback and directional counsel, with the overarching objective of enabling our faculty to realize their maximum potential. Through these meticulously structured processes, we endeavour to empower our academic cadre to excel both in the realm of research and in the sphere of education, thereby synergizing with RTU's mission of establishing itself as a bastion of academic distinction.

Additionally, we are unwaveringly committed to fostering continuous communication and feedback mechanisms. We acknowledge the non-uniform nature of the evaluation process, and its requisite fairness and relevance must be upheld for every academic and research staff member. Routine engagement and unfettered dialogue are instrumental in ensuring

that our evaluation modalities remain efficacious, pertinent, and equitable, all while upholding the unique contributions of each constituent of our esteemed academic fraternity.

In summation, as we embark on these structural adjustments to our evaluation frameworks, RTU remains resolute in its commitment to the pursuit of academic and research eminence. These changes are anticipated to not only elevate the calibre of our research endeavours but also empower our faculty members to continue making substantive contributions toward the advancement of knowledge and the betterment of society.

#### 1.7.5 Research Evaluation of Academic and Research Staff at TU Dublin

A national system for Performance Management and Development (PMDS) operates in the technological higher education sector in Ireland. The University are committed to developing the unique knowledge, skills and behaviors identified for each staff member through the TU Dublin Performance Management & Development System (PMDS). We support staff to develop the competencies required for their current role, for future career progression and to deliver TU Dublin strategic goals and objectives.

The University's PMDS provides an opportunity to create and deliver on a shared vision for the University with the engagement of all staff. It is an opportunity for managers and staff to work together to clarify the University's strategic objectives and the team development plan and to identify the role each staff member plays in delivering these objectives. The University has links to Online Learning on a number of modules which can help both managers and staff prepare for PMDS.

PMDS also supports staff and managers to work together to review the academic staff member's achievements against previously agreed goals and objectives. It is an important opportunity for managers to acknowledge past achievements and successes, to identify areas where staff members need support, and to agree goals and a training and development plan for the coming year.

However, the details and content of evaluation meetings are confidential to the line-manager and academic staff member and while the evaluation may influence duties assigned to the staff member it has no bearing on salary or progression.

There are evaluation / appraisal progression systems in TU Dublin which allow for promotional opportunities for academics from Assistant Lecturer to Lecturer, and Lecturer to Senior Lecturer grades. Part of the criteria is that candidates are evaluated on their research track record, by virtue of their publication record and/or exploitation of research outputs for use in commercial or other societal settings.

While the PMDS will also apply to specific research staff, with regards Evaluation/Appraisal, TU Dublin is signed up to COARA, Coalition for Advancing Research Assessment.

#### 1.7.6 Research Evaluation of Academic and Research Staff at TUS

The evaluation of the academic research of universities is regulated at the national level by Regulation on the conditions and procedure for evaluation, planning, allocation and spending of funds by the State budget to finance the intrinsic research and creative activities in higher education institutions Promulgated SG No 73/16.09.2016 with effect from 01.01.2017, Adopted by Council of Ministers Decree No 233 of 10.09.2016. Based on that document each researcher, faculty and university are evaluated on annual bases. The performance of universities is calculated based on formula, considering the so called “Knowledge Indicators for the Evaluation of Science at State HEIs”:

- + Number of scientific publications in scientific journals represented in global secondary literature (Na),
- + Number of scientific publications published in Web of Science and/or Scopus (Divided to the No of staff),
- + Number of monographs,

- + Number of quotations of scientific publications from the previous three years according to Web of Science and/or Scopus (Divided to the No of staff) data,
- + Number of articles in scientific conference collections published in Conference Proceedings indexed and referenced in WoS / Scopus,
- + Number of Bulgarian and international patents (registered patent applications, patents, patents resulting from contracts concluded with companies).

The Technical University of Sofia is among the seven universities approved by the Council of Ministers on 22.07.2021 with the status of research universities for the period 2022 - 2026. The definition of research universities is based on a system of indicators, distributed in three groups: (1) scientific results; (2) scientific capacity and reproduction of academic staff; and (3) societal and economic impact. TUS was evaluated based on its academic and research staff (individually) according to the following criteria:

- + Indicator 1 is composed of the categories:
  - + Indicator 1.1 - Scientific publications (N) in editions referenced in international databases Scopus and/or Web of Science, taking into account the category of the edition through the system of quartiles (Q) 01.01.2017-31.12.2020,
  - + Indicator 1.2 - Scientific monographs (Nm) and number of book chapters (NBC) visible in the Scopus and/or Web of Science databases 01.01.2017-31.12.2020,
  - + Indicator 1.3 - Independent citations in Scopus and/or Web of Science (NS) received during the evaluated period of publications of researchers from the composition of the organisation as of December 31 of the year preceding the assessment 01.01.2017-31.12.2020,
  - + Indicator 1.4 - Patent applications (NR) filed by the university, published in the official bulletin of the respective Office for International and European patent applications and national patent applications 01.01.2017-31.12.2020.

- + Indicator 2: Academic staff scientific capacity.
- + Indicator 3: Societal and economic impact 01.01.2017-31.12.2020.

TUS has developed rules for periodic evaluation of researchers when applying for internally managed projects, under the recovery and resilience plan (RRP). The evaluation criteria for researchers are grouped into the following three main groups:

- + Group 1 "Publication activity" – formed based on scientific indicators found in WoS and ORCID.
- + Group 2 "Knowledge and Technology Transfer – Relations with Industry" – management and participation in projects, authorship of patents and utility models, innovative solutions implemented in production – data reflected in E-University, NACID, Patent Office, and European Commission websites are reported.
- + Group 3 "Development of scientific capacity and training of scientific staff" – reflects the training of PhD students and young researchers, as well as the formation and the development of scientific groups – the needed data are collected from E-University (internal electronic system of the university) and NACID.

TUS has an internal system for annual evaluation of academic staff. This system is used for quality assessment and attestation. It is based on a group of indicators called *Research activity*, which include: monograph in Bulgarian; monograph in a foreign language; book chapter in Bulgarian (over 20 pages); book chapter in a foreign language (over 20 pages); Q1 scientific publications in journals referenced and indexed in Web of Science and Scopus; Q2 scientific publication in journals referenced and indexed in Web of Science and Scopus; WoS/Scopus referenced and indexed scientific publications; scientific publication in peer-reviewed journals, referenced in national list of NACID; WoS/Scopus scientific journals reviews; international journals' editorial boards membership; national journals' editorial board membership; submitted patent / utility models applications; granted patents / utility

models; citations in Q1 scientific journals; citations in Q2 scientific journals; citations in scientific journals, monographs and collective volumes, referenced and indexed in world-famous databases of scientific information (Web of Science and Scopus); scientific journals editorial board membership (national and international); h-index (excluding self-citation).

The Technical University of Sofia has several established incentives for excellence in research and relevant methodologies for evaluating the scientific activity of the university's academic staff and researchers.

- + Mechanisms have been created to link scientific activity with the remuneration system, and changes have been adopted in the internal rules defining the methodology of staff remuneration.
- + A system for evaluating and maintaining the quality of education and research was developed and adopted by a decision of the AC (Academic Council) from 31.03.2021 (Protocol No. 4/31.03.2021), directly linked to additional remuneration incentives for excellent scientific results. The methodology for reporting the achieved results includes a score system built on the basis of reporting labour achievements according to the following criteria: *published textbook or tutorial manual; class 'A' publications; publications indexed in Scopus or Web of Science; citation of a publication indexed in Scopus or Web of Science; monograph or part thereof indexed in Scopus or Web of Science; monograph or part thereof NOT indexed in Scopus or Web of Science; TUS internal research or applied project management; TUS internal research or applied project team member; registered in the respective year patent inventor; TUS research laboratory head; PhD Student supervision; successful defence of doctoral student; administrative duties/position; membership in university commissions, research forums / events organising committees; project management and attracted project funding.*

This system was successfully piloted in 2021 – 2022 and 2022 – 2023 academic years. As a result of the pilot testing some improvements have been made.

### 1.7.7 Research Evaluation of Academic and Research Staff at CUT

The Evaluation system at CUT is similar to the Election/selection system for academic staff (teaching and research staff). Based on Legislation and UCY Regulations (Election, Assessment and Upgrade of Academic Staff) 1996-2015, the University initiates the assessment procedure with the completion of 3 years at the rank of Lecturers (for upgrade to the rank of assistant professor) and 4 years respectively at the rank of Assistant Professor for upgrade to the rank of Associate Professor. Associate Professors have to ask for the initiation of their assessment for the possibility to be upgraded to the rank of Professor (the number of years at the rank of Associate Professor are not dictated in the Regulation).

The UCY Regulations (Election, Assessment and Upgrade of Academic Staff) 1996-2015 as well as the Code of Conduct for the Composition of Special Committees for the Upgrade of Academic Staff, define the composition of the Assessment Committee. It comprises of 5 members, including internal and external members, experts in the field, from at least 2 countries (except Cyprus). For the ranks of Professor and Associate Professor, there must be 3 external members (Professors) and two internal members. For the ranks of Assistant Professor or Lecturer, there must be 2 external members (Professors) and 3 internal members.

The Departmental Council via the Dean Council suggests the composition of the Committee for the approval of the Senate. The candidate must submit his/her dossier in the electronic e-recruitment platform.

The Committee requests an additional assessment of the dossier by 3 external independent reviewers. The Committee assesses the dossier, the assessment of the 3 independent reviewers and the reference letters received and decides whether the candidate is eligible to proceed to open lecture. In this case, the Committee signs a justified report where it proposes the successful upgrade of the candidate to the next rank or the continuation of employment at the same rank (no upgrade). The Electoral Body consisting of only internal



academic staff (above the rank of the candidate) examines the Committee's proposal and signs a justified report for the approval of the Senate and the Council with their decision.

In the case of no upgrade and continuation of employment at the same rank, Lecturers can request their re-examination /assessment before the completion of 6 years of employment at his/her rank. Assistant Professors can request their re-examination before the completion of 7 years of employment at existing rank. In the case of a second failure for upgrade to the next rank, their employment is terminated. This is not the case with Associate professors, where even with a second failure to upgrade to the rank of professor, their employment is never terminated.

For Researchers on fixed term contract, the appointment/composition of selection committees is included in the relevant CUT Rules. The Project Coordinator appoints the committee for each advertising call which consists of 3 internal members of the Department. The Committee assesses the applications based on the criterial set in the announcement and signs a justified report with a suggestion of the most suitable candidate for the position. The final decision is taken by the Rector's Council.

For the election (recruitment) and upgrade of Permanent Teaching and Research Staff, the criteria are defined by the *CUT Legislation mentioned previously that In general, includes:*

- + Publications in international scientific journals of established reputation or other publications of acknowledged merit (promising an important contribution to science) e.g. NATURE,
- + Publications of monographs or books or recognized publishing companies,
- + Indications of international contribution to a certain research field e.g. research reports, invitations for scientific lectures, evaluation of articles, research reports/doctoral thesis, member of committees for publication of scientific journals or participation in organization of seminars,
- + Portfolio including acclaimed and/or award-winning work (FAR dep),

- + Personal work in solo shows and/or participation in group exhibitions or international art events (FAR dep),
- + Autonomous teaching or research work (FAR dep),
- + International acclaim of artistic oeuvre (FAR dep).

In addition, Permanent Teaching and Research staff need to submit annually their academic performance/portfolio (e.g. patents, awards, presentations, journal publications, chair for conference committees) to the University Research and Innovation Committee and they are evaluated (based on a number of criteria) as well as receive feedback (*CUT Research Activity Policy*). For researchers on fixed term contract (RFT), regular meetings are held between the project coordinator and RFT to discuss the progress of the deliverables and areas of improvement, where feedback is provided. In large research groups, feedback is given from researchers at a higher category (e.g. Special Scientists for Research) to researchers at a lower-level category (postgraduates/postdoctoral) and the final deliverable is approved by the scientific/ project coordinator.

An evaluation of RFT is carried out by the Project Coordinator as well as by the Academic Department and Faculty councils as well as the Rector's Council, in order to decide whether the Researcher can move to a higher researcher category (e.g. Special Scientists for Research). {*CUT Rules for Special Scientists for Research*}. All researchers at the CUT are obliged to publish their portfolio and research activities in the Current Research Information System - KTISIS: <https://ktisis.cut.ac.cy/>

#### 1.7.8 Research Evaluation of Academic and Research Staff at UPCT

Research evaluation at UPCT level is strongly aligned with the strategic directions provided in the Strategic Plan 2021 – 2025 (<https://planestrategico.upct.es/>) and guided by national and EU criteria. Some of the action lines of the UPCT's Strategic Plan 2021-2025 are aimed

at achieving excellence in teaching and research through objectives such as adaptation to national and european r&d&i programmes and with specific actions such as:

- + [DEVELOPMENT of an UPCT R&D&I Support Plan<sup>70</sup>](#) In this Plan, a set of actions are assessed and measured by indicators that are expected to be achieved, such as:

Table 2 Indicators at UPCT for evaluating research and academic staff

| Indicator                                                              | Value            |
|------------------------------------------------------------------------|------------------|
| Development of annual competitive research support calls for proposals | 2-4 per year     |
| Number of competitive projects applied for in international calls      | 5-10 per year    |
| Number of active competitive projects                                  | 50 per year      |
| Number of active competitive projects in RIS3Mur* areas                | 200-250 per year |
| Resources captured competitive projects/professor                      | 4.500 € per year |
| Measures and incentives for contracted research                        | 2-4 in 5 years   |
| Number of contracts and agreements                                     | 350-400 per year |
| Resources raised contracts and agreements /professor                   | 2.500 € per year |
| Number of patents and/or industrial and intellectual property          | 6-8 per year     |
| Research and Transfer Commercialisation Plan                           | 100%             |
| Number of research sexennials obtained/potential                       | 70% / call       |
| Number of transfer sexennials obtained/potential                       | 70% / call       |

<sup>70</sup> <https://planestrategico.upct.es/accion/21>

|                                                                    |                  |
|--------------------------------------------------------------------|------------------|
| Number of papers/articles published in Q1                          | 60-90 per year   |
| Number of papers/articles published in WoS or similar              | 380-400 per year |
| Number of papers/articles published in international co-authorship | 40-80 per year   |
| Number of articles published in <i>RIS3Mur*</i> areas              | 200-250 per year |
| Number of theses per 100 researchers                               | 10-15 per year   |

\**RIS3Mur* is the regional smart specialization Strategy for the Region of Murcia.

A periodic evaluation system of academic and research staff in UPCT as such has not been implemented in UPCT yet. What we do have is an incentive points system (ACI) where criteria for the evaluation of the scientific-technical activity of UPCT research groups are evaluated. It is explained at II.4.8.3. In addition, one of the actions of the *Action Plan* approved for the achievement of the HRS4R seal is precisely the Development of a research activity evaluation system for all types of researcher profiles, but we have not yet started with it. UPCT's research portal (<https://portalinvestigacion.upct.es/investigadores>) contains the information and indicators relating to the research and transfer performance of all the institution's researchers. In this portal you can consult data related to projects, publications, patents, doctoral theses and indicators such as citations received in *Scopus*, *Web of Science*, the *Journal Impact Factor* or the *SCImago Journal Rank*, among others.

At UPCT, an incentive points system (ACI) where *criteria for the evaluation of the scientific-technical activity of UPCT research groups* are evaluated.

This system assesses contributions in terms of publications, theses, research results, six-year research periods and attracting resources (projects awarded, participation as principal investigator, etc.).

## 2 Develop HRS4R from the Angle of Technological Universities

Based on the analysis and insights gained from the state-of-the-art of good practices, as well as the analysis of practices concerning recruitment and evaluation in each campus of EUT+, presented above, the potential of adapting and implementing the Human Resources Strategy for Researchers (HRS4R) is examined.

### 2.1 Status of Implementation of HRS4R in EUT+

The European Charter for Researchers is a set of general principles and requirements to specify the roles, responsibilities, and entitlements of researchers as well as of employers of researchers, to ensure successful performance in generating, transferring, sharing and disseminating knowledge and technological development, and to the career development of researchers. The required steps for obtaining the "HR Excellence in Research" are summarized in the figure below.

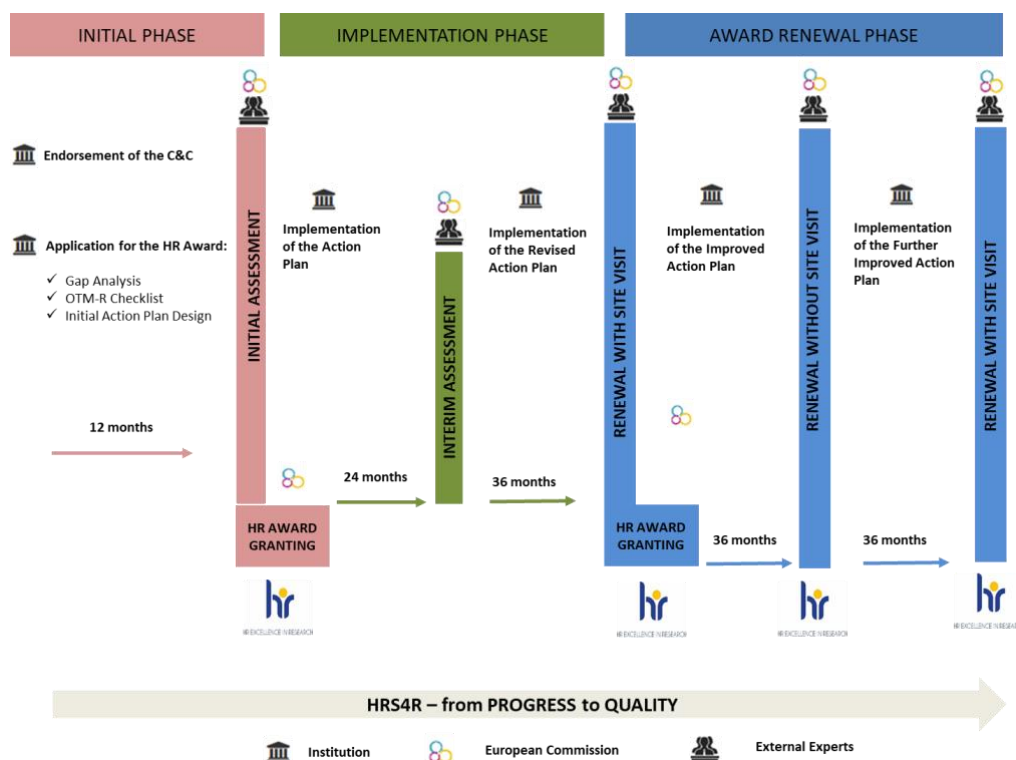


Figure 1 Steps of the HRS4R process

The Charter also recognizes the value of all forms of mobility as a means for enhancing the professional development of researchers (see Dx7.3 for recommendations for academic staff mobility for EUT+ and in a more transferable way). The "HR Excellence in Research" award gives public recognition to research institutions that have made progress in aligning their human resources policies with the principles set out in the "Charter & Code". Universities that have been awarded the right to use the icon can use it to highlight their commitment to implement fair and transparent recruitment and appraisal procedures for researchers.

The implementation status of The Human Resources Strategy for Researchers at the level of EUT+ alliance at the beginning of November 2023 is synthesized hereafter in the table below.

Table 3 Implementaiton status of HRS4R at the EUt+ partners

| University | Initial phase |                 |                            |                                         | Implementation phase              |                                           | Award renewal phase                        |                                                    |
|------------|---------------|-----------------|----------------------------|-----------------------------------------|-----------------------------------|-------------------------------------------|--------------------------------------------|----------------------------------------------------|
|            | Gap analysis  | OTM-R Checklist | Initial action plan design | Initial assessment<br>HR AWARD GRANTING | Implementation of the action plan | Implementation of the Revised Action Plan | Implementation of the Improved Action Plan | Implementation of the Further Improved Action Plan |
| CUT        | X             | X               | X                          | X                                       | X                                 |                                           |                                            |                                                    |
| H_DA       | X             |                 |                            |                                         |                                   |                                           |                                            |                                                    |
| RTU        | X             | X               | X                          |                                         |                                   |                                           |                                            |                                                    |
| TUDublin   | X             | X               | X                          |                                         |                                   |                                           |                                            |                                                    |
| TUS        | X             | X               | X                          | X                                       | X                                 | X                                         | X                                          |                                                    |
| UPCT       | X             | X               | X                          | X                                       | X                                 |                                           |                                            |                                                    |
| UTCN       | X             | X               | X                          | X                                       | X                                 |                                           |                                            |                                                    |
| UTT        | X             | X               | X                          |                                         |                                   |                                           |                                            |                                                    |

## 2.2 Identification of HRS4R Aspects that can be Commonly Improved in the Alliance

Within the EUt+ alliance, there are technical universities with different organisational structure of the research, constrained by different national regulations regarding funding, human resources and research strategies. The Charter has several general principles that must be considered, some of them having increased relevance in technological universities. Implementing these principles requires, in the first step, a clear identification of the hurdles or impediments to be implemented locally in each university but also at the level of EUt+ alliance.

Measuring the relevance of the Charter principles inside EUt+ was considered of strategic importance for developing new initiatives and strategic objectives aligned with



stakeholders' expectations. From the total number of aspects included in the charter the following ones were included in a questionnaire to measure their relevance on the “test bed laboratories” – the European Research Institutes, whether implemented or in development – as they are referred to in EUT EXTRAS (ECTLab+, Sustainability Lab, EUT+ Nano Sciences, Data Sciences Lab) as well as representatives of the research management at each university. The survey was sent to each university (recommended for at least two respondents on behalf of each university), and minimum one representative of each test lab (fully functioning or during preparatory phase).

The focus was put on examining **“How important to you are the following principles or requirements of the European Charter for Researchers the Code of Conduct for the Recruitment of Researchers? Please answer from the perspective of the technical universities / EUT+ alliance.”**

The results are presented in the figure below.

The specifics of each aspect are discussed in the following sub-sections.

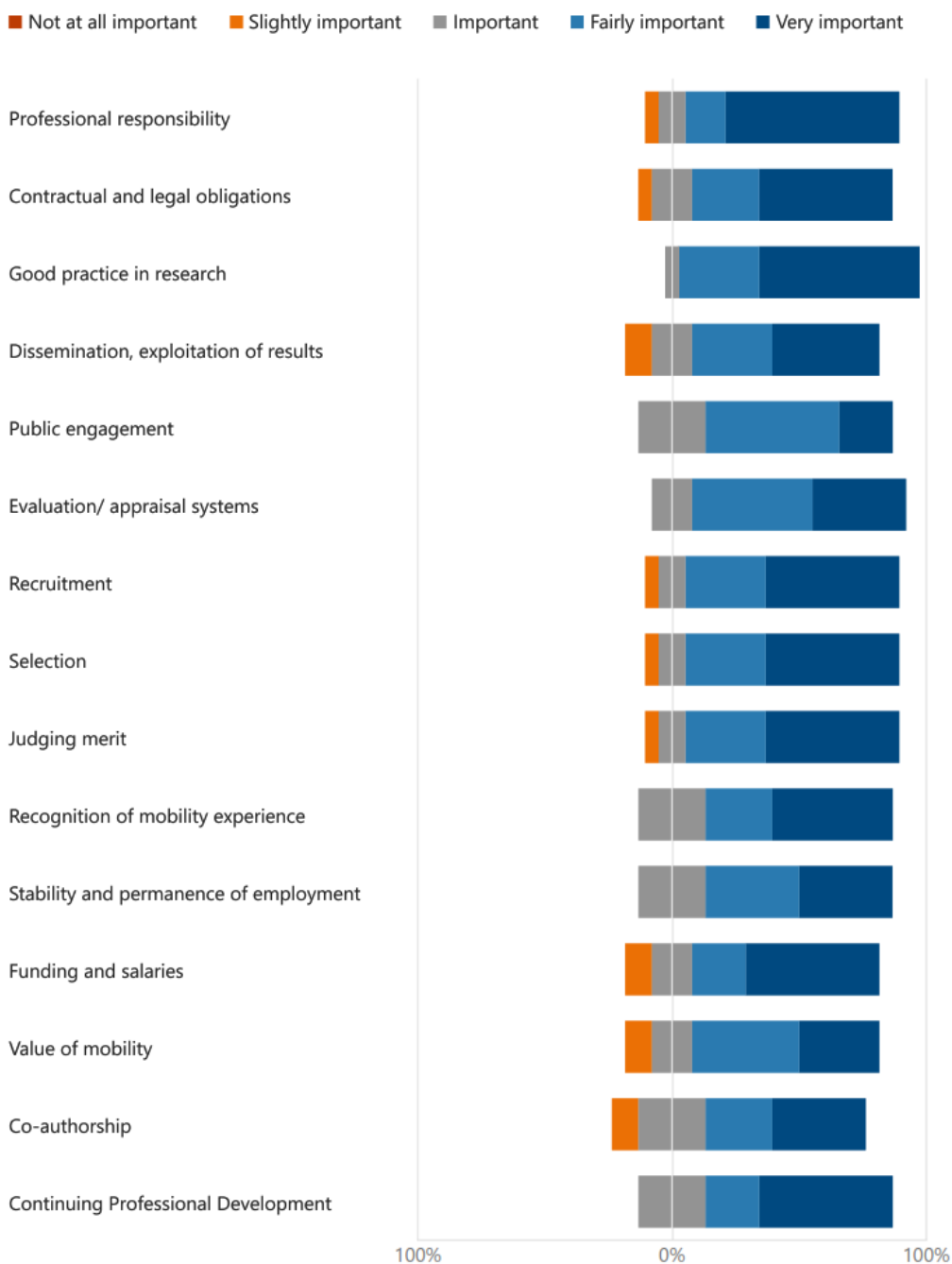
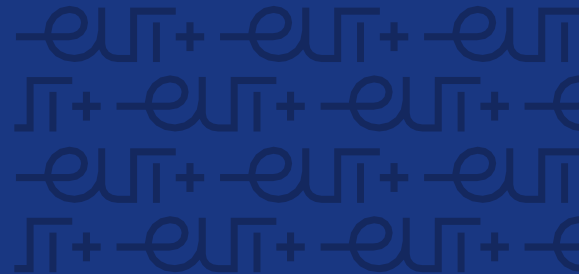


Figure 2 Survey on importance of aspects of HRS4R

### 2.2.1 Professional Responsibility

Researchers should take every precaution to make sure that their work does not duplicate research that has already been done elsewhere. When conducting research in collaboration with a supervisor and/or other researchers, they must adhere to the principle of intellectual property and avoid any kind of plagiarism. As implementation impediments, it was asked **“Have all the universities in the alliance the mechanisms (regulations, procedures, software tools) to control the professional responsibilities in terms of research activities? Which software tools are available? What are the limitations in using software tools to prevent plagiarism?”** The status is presented in the table below.

Table 4 Mechanisms for observing professional responsibility

| University | Regulation & procedures | Existence of software tools / licences | Software used in the university | Accessible for researchers |
|------------|-------------------------|----------------------------------------|---------------------------------|----------------------------|
| CUT        | x                       | x                                      | Turnitin                        | Yes                        |
| h_da       | x                       | x                                      | Turnitin                        | Yes                        |
| RTU        | x                       | x                                      | Turnitin                        | Yes                        |
| TU Dublin  | x                       | x                                      | Turnitin                        | Yes                        |
| TUS        | x                       | x                                      | Turnitin                        | Yes                        |
| UPCT       | x                       | x                                      | Turnitin                        | Yes                        |
| UTCN       | x                       | x                                      | Turnitin                        | Yes                        |
| UTT        | x                       | x                                      | Turnitin                        | Yes                        |

## 2.2.2 Contractual and Legal Obligations

Researchers at all levels must be familiar with the national, sectoral, or institutional regulations governing training and/or working conditions. This includes Intellectual Property Rights regulations, and the requirements and conditions of any sponsor or funders, independently of the nature of their contract. Researchers should adhere to such regulations by delivering the required results (e.g., thesis, publications, patents, reports, new products development, etc.) as set out in the terms and conditions of the contract or equivalent document. In general across the alliance, contractual and legal obligations of a researcher are presented in various documents across the alliance. In response to **“Do you consider a necessity to harmonize contractual obligations in the EUT+ alliance?”**, it became evident that there are strong limitations to harmonize contractual obligations due to national legal frameworks. Nevertheless, compatibility of contractual obligations in EUT+ is strongly seen as being relevant for the researcher’s mobility (see Dx7.3 for the analysis of hurdles and facilitators).

## 2.2.3 Good Practice in Research

Researchers should always adopt safe working practices, in line with national legislation, including taking the necessary precautions for health and safety and for recovery from information technology disasters, e.g., by preparing proper back-up strategies. They should also be familiar with the current national legal requirements regarding data protection and confidentiality protection requirements and undertake the necessary steps to always fulfill them. Inspired by European Directives implemented in national legislation, through specific institutional regulations, each field has its own best practices that ensure the harmonization of actions to the desired result, through a minimum consumption of actions, material, and human resources. Agreement by all partners has been given to the question **“Do you consider useful to share the institutional regulations of good practice in research**

**across the alliance?”** Thereby, training of EUT+ Community (including researchers) on cybersecurity and protection of scientific data is deemed valuable.

## 2.2.4 Dissemination and Exploitation of Results

All researchers should ensure, in compliance with their contractual arrangements, that the results of their research are disseminated and exploited, e.g., communicated, transferred into other research settings or, if appropriate, commercialised. The importance of support in dissemination is directly reflected in the research activity. The number of publications and participation in national and international conferences, patents and projects define the visibility and prestige of our alliance in international rankings. As a path to overcome implementation impediments it was asked **“How can this activity be supported and encouraged at the level of EUT+ and ERIs?”**. In the figure below the relevant keywords stemming from the answers is depicted as a word cloud.



Figure 3 Wordcloud of keywords for improvements of research results dissemination

Further comments pointed out initiatives undertaken and approaches for new proposals:

- + A professional, dynamic dissemination and exploitation activities planning is critical to succeeding in such a goal. The planning should be designed and applied globally at EUT+.

- + Access to journals is very limited at UPCT. Negotiating subscription fees with editorials at the EUt+ level could help secure access to more resources at a lower price than the (now) 9 institutions are paying individually. This would also help negotiating free open access in Q1 journals. UPCT has this scheme in place, but free open access is rarely available for Q1 journals.
- + Taking advantage of Open Science procedures under implementation (at least in Spain) to make easier the communication flow between universities and EUt+ management.
- + Through the EUt+/ERIs web page. Through the scientific, culture and innovations units or communication services of the different institutions.
- + Devoted and sufficient funding fairly disseminated among the researchers.
- + Through the development of common research dissemination strategy and policies in place. However, we need to make clear distinction between research dissemination and science communication. Please check results from TX.2.2 regarding science communication and public awareness of the impact from research.
- + Provide resources necessary i.e. assist with publishing costs, translations if necessary, covering of travel costs and conference fees etc. - offer services for technology transfer and intellectual property management (compare to EITTO) - fostering of networking among scientists for example via meetings, the laboratories, joint conferences etc. - fostering open science/open access - in addition: fostering of engagement with society -> low key "non-scientific" publications for the broad public, public lectures/talk for citizens, social media
- + They can be supported by organizing seminars, conferences and workshops.
- + Having experts in dissemination who make workshop to accompany researchers on this
- + There should be a minimum requirement for each researcher to have at least one public presentation during an international conference. With the current focus on journals, some researchers lack the exercise of public presentation of their research.

- + The activity also needs to include research outputs which are not papers, i.e. artefacts, digital objects, patents, exhibitions, performances and installation
- + Set up incentives, then constraints if necessary (e.g., count publications or communications in researchers' evaluation files).
- + Financial support in dissemination
- + Collaboration between researchers, mobilities, organisation of international conferences.
- + Within the EUT+ framework, researchers can establish a social network to promote their research, find interdisciplinary opportunities for collaboration, and further develop their work.
- + Co-authorship of publications from partners of EUT+ alliance is very important for visibility and high citation rates.
- + Dedicated appointment of senior researcher to manage research engagement and impact. Open Access Policy.

### 2.2.5 Public Engagement

Communication between the two components (public - researchers) is important for the knowledge and understanding of the role that research plays in the development of a society, with appreciation and support coming as a result. Another aspect worthy of consideration is awakening public interest in the field of research, understanding the whole process, from the perspective of success. To the question **“Do you consider that acting as an alliance at European level will improve public engagement of each university?”** overall agreement was given.

As approaches for good practices to be shared or proposals to act together in this direction, ideas collected are:

- + Annual participation in the Researcher's Night event, where researchers present their research activities and interact directly with the public;
- + Research results are published on the University website and on research project websites and are disseminated to the public through workshops and other various actions, e.g. "Science Cafe" (communicating Copernicus data to the public with the aim of engaging the community in various scientific issues, e.g. environmental issues);
- + Open days, when students from schools can visit a wide variety of research labs and talk to researchers;
- + Visits to schools for awareness for research results and provision of support to students to participate in international/national school competitions;
- + Offer of free support courses (i.e. Mathematics, Computer-Information, Natural Sciences, History, etc.) to children of rural area primary schools, for a smoother transition to secondary school.
- +

#### 2.2.6 Evaluation and Appraisal Systems

Employers and/or funders should introduce for all researchers, including senior researchers, evaluation/appraisal systems for assessing their professional performance on a regular basis and in a transparent manner by an independent (and, in the case of senior researchers, preferably international) committee. Such evaluation and appraisal procedures should take due account of their overall research creativity and research results, e.g. publications, patents, management of research, teaching/lecturing, supervision, mentoring, national or international collaboration, administrative duties, public awareness activities and mobility, and should be taken into consideration in the context of career progression. Regarding the implementation it was asked ***"Is there an integrated system for evaluation of the researchers, including senior researchers?"***



and

**“Is there any possibility to review existing criteria and to have objective assessment, realistic quantified activities and adapted to research fields that have different systems / criteria for research activity?”** together with

**“Are there national regulations and criteria, or is the university setting its own objectives and targets?”**. The table below shows the current status:

| University | Existence of evaluation/appraisal system | National regulation | University regulation | Domain specific |
|------------|------------------------------------------|---------------------|-----------------------|-----------------|
| CUT        | yes                                      | no                  | yes                   | no              |
| H_DA       | yes                                      |                     | yes                   |                 |
| RTU        | yes                                      | yes                 | yes                   |                 |
| TUDublin   | yes                                      |                     | yes                   |                 |
| TUS        | yes                                      | yes                 | yes                   |                 |
| UPCT       | yes                                      | yes                 | yes                   |                 |
| UTCN       | yes                                      | yes                 | yes                   | yes             |
| UTT        | yes                                      | yes                 | yes                   |                 |

Figure 4 Evaluation systems in use

The replies to “**Do you consider a new evaluation system inside EUT+ will be a benefit for your career progress and job opportunities?**” were mostly agreement, however, with a slight tendency towards neutrality on this point.

### 2.2.7 Recruitment

Employers and/or funders should ensure that the entry and admission standards for researchers, particularly at the beginning at their careers, are clearly specified and should also facilitate access for disadvantaged groups or for researchers returning to a research career, including teachers (of any level) returning to a research career. Employers and/or funders should establish recruitment procedures which are open, efficient, transparent, supportive, and internationally comparable, as well as tailored to the type of positions advertised. Advertisements should give a broad description of knowledge and competencies required and should not be so specialized as to discourage suitable applicants. Employers should include a description of the working conditions and entitlements, including career development prospects. Moreover, the time allowed between the advertisement of the vacancy or the call for applications and the deadline for reply should be realistic. The survey revealed that at each partner university there are open documents in which the conditions that must be met for each position (teaching or in research), for each grade and salary level, through specific institutional methodology and legal framework are clearly presented. Furthermore, all free positions available are posted on the EURAXESS platform<sup>71</sup>. In addition, the existence of a recruitment guide at the level of the alliance is considered to be useful for researchers’ mobilities and career planning at all partners. Further comments showed that it was seen as useful to simplify and automate the procedures for selection and upgrade of academic staff via the introduction of the e-

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<sup>71</sup> <https://euraxess.ec.europa.eu/jobs>

recruiting platform, making the application procedure for candidates, referees, selection committee members and administration quicker and easier.

### 2.2.8 Selection

Selection committees should bring together diverse expertise and competences and should have an adequate gender balance and, where appropriate and feasible, include members from different sectors (public and private) and disciplines, including from other countries and with relevant experience to assess the candidate. Whenever possible, a wide range of selection practices should be used, such as external expert assessment and face-to-face interviews. Members of selection panels should be adequately trained. At the level of academics and research, selection is made based on skills and experience in a particular field and of principle of professional competence. The feedback on the question “**Would it be relevant to have the selection committee members from the EUt+ alliance?**” returned half agreement, half neutrality on this point, as it was deemed highly relevant to have a selection committee from EUt+, if they comply with the requirements set by each University Regulations. A policy to introduce selection should be considered inside EUt+.

### 2.2.9 Judging Merit

The selection process should consider the whole range of experience of the candidates. While focusing on their overall potential as researchers, their creativity and level of independence, should also be considered. This means that merit should be judged qualitatively as well as quantitatively, focusing on outstanding results within a diversified career path and not only on the number of publications. Consequently, the importance of bibliometric indices should be properly balanced within a wider range of evaluation criteria, such as teaching, supervision, teamwork, knowledge transfer, management of research and innovation and public awareness activities. For candidates from an industrial background, particular attention should be paid to any contributions to patents, development, or

inventions. Presently, the selection of candidates is made according to some well-defined criteria, the experience in the required field depending on the job position. The survey showed that it is considered only by half of the partners that researchers should be evaluated based on number of publications (bibliometric indices). Instead, there should be other evaluation criteria added. For clarification it was stated:

- + Impact is more complex than bibliometrics, research outputs which are not counted in large databases are excluded,
- + Apart from bibliometric indices - teaching, service to scientific community, organization, etc. (as mentioned above),
- + There could be a minimum of publication defined (ex: 4 journal paper) depending on the discipline (books for philosophers for instance). And everything above the threshold defined for each discipline is not taken into account (if the threshold is set to 4 journal paper for a position, we don't care if the person has published 20 or 300 journal papers),
- + Minimum requirements/criteria are set by Law for academic positions.

The figure below shows in a word cloud the most important other evaluation when considering the EUT+ alliance to be added.



Figure 5 Keywords describing evaluation criteria

In general, these have been commented:

- + No criteria will be perfect. So, I consider that a combination of bibliometric indices and other approaches should be used,
- + Transference capability; leadership of teams and projects,
- + This should be discussed among all partners,
- + For Universities of Applied Sciences practical experience is crucial; other important criteria are technology transfer efforts, teaching, etc.; however, more elaborate criteria are harder to access and to compare,
- + Altimetric,
- + Co-autorship with EUT+ (in my view this is of most importance at this stage of building the alliance) Number of lectures taught at universities within the alliance, but distinct from the base-institution. Research mobilities with the alliance.
- + Knowledge and technology transfer, coordination of projects, and public awareness activities,
- + Experience and results,
- + Teaching, supervision, teamwork, knowledge transfer, management of research and innovation and public awareness activities, and Industry experience/knowledge.
- +

#### 2.2.10 Recognition of Mobility Experience

Any mobility experience, e.g., a stay in another country/region or in another research setting (public or private) or a change from one discipline or sector to another, whether as part of the initial research training or at a later stage of the research career, or virtual mobility experience, should be considered as a valuable contribution to the professional development of a researcher. The exchange of experience inside EUT+, as well as participation in various conferences and events, is seen as a plus for both researchers and the institutions. The question ***“Is the mobility experience recognized in your university?”*** shows that this is the case in the majority and that in job interviews for academic positions,

mobility helps to assess the quality of the candidate without being an eliminating or quantifiable condition.

### 2.2.11 Stability and Permanence of Employment

Employers and/or funders should ensure that the performance of researchers is not undermined by instability of employment contracts and should therefore commit themselves as far as possible to improving the stability of employment conditions for researchers, thus implementing and abiding by the principles and terms laid down in the EU Directive on Fixed-Term Work. As an implementation impediment, in a competitive market economy, research also suffers in terms of stability and sustainability, as well as individual security. The figure below shows the suggestions how the EUT+ alliance can support this essential factor to the researchers?



Figure 6 Key words relevant to researcher recruitment

In support of these suggestions, it was added:

- + There is a large percentage of temporary teachers. These should be replaced by permanent or tenure track positions open to international applicants;
- + Internal research grants;
- + It is difficult, since it can depend on national regulation. The EUT+ alliance could support stability by encouraging the publication of job offers with a minimum time span and indicating that all offers should clearly indicate the possible promotion, the potential extension of the contract, or similar.

- + EUT+ should look for funding to hire people for long periods of time or look for the tools to get permanent jobs after a test bed period.
- + Appropriate selection of experts and unbiased continuous evaluation;
- + Again with common policies and procedure agreed by all members.
- + Sufficient contracts to cover a qualification period for example the PhD, realistic project planning.
- + By improving the stability of employment environment.
- + This is a big subject in research with too much uncertainty for young researchers.
- + Employment instability affect family, as the researchers should be able to build families. The current employment on 3-year period raises challenges to make long term private plans or commitments.
- + By having fixed contracts for researchers and encouraging early career researchers to participate in research by giving them the time.
- + Job opportunities in EUT+ alliance countries;
- + The development of a common procedure or common standards in this direction.
- + By developing uniform regulations to be followed in terms of employment, such as establishing a post-project employment support fund, etc.
- + More research projects could improve stability.
- + Programme role contracts whereby researcher move from project to project within a defined programme of work. This allows for longer term contract durations. Guidelines for moving to academia to combine teaching/research in longer term contracts.

However, at the universities there are some measures to ensure stability of the work contracts in the research. Researchers on a Fixed Term Contract (RFT) are appointed on a project basis. According to the EU legislation, these researchers work under the same terms and conditions of employment as members with an open-ended contract. The principle of non-discrimination applies. In some partners, project coordinators have the opportunity to

renew the contract of the RFT, either for the same project or another project. All vacant permanent positions are published through the web pages of the university and other advertising means and online national and international platforms and therefore all the researchers have an equal opportunity to apply for a permanent status.

## 2.2.12 Funding and Salaries

Employers and/or funders of researchers should ensure that researchers enjoy fair and attractive conditions of funding and/or salaries with adequate and equitable social security provisions (including sickness and parental benefits, pension rights and unemployment benefits) in accordance with existing national legislation and with national or sectoral collective bargaining agreements. This must include researchers at all career stages including early-stage researchers, commensurate with their legal status, performance and level of qualifications and/or responsibilities.

Salaries and funding are a determining and deciding factor in attracting human resources, which has fluctuated greatly over time especially in the Eastern European countries. The salaries are according to the national level, which define intervals for the salary of each researcher / academic position. As a collection of suggestion as to how can this significant barrier of the researcher's mobility inside EUT+ alliance be overcome, it was given:

- + By offering higher salaries as established at a European level;
- + Providing mobility grants (scholarships);
- + All salaries should be announced together with the life cost in the target area. Even in the same country, the life cost could be greatly different. In any case, it is true that could be an issue for mobility. Mobility should be always possible to be done by funding extra cost for travel and subsistence. If the researcher has to pay for the stay, probably he/she could refuse to it if it is not strongly needed (promotion, for instance). A great add would be that extra money is offered for a mobility program



in which the whole family of the researcher could move, since this an important barrier.

- + It is a problem because the cost of living in Dublin is very different to Sofia for example. Maybe EUT+ should look for supplementary funds to encourage the mobility.
- + This problem is hard to solve as long as EUT+ can't form a joint legal entity.
- + The salaries should be balanced against international levels of such positions.
- + By giving fellowships to some researchers or having projects with specific funding for the mobility of the "poorest" researchers
- + Some measures might compensate the inequalities: (1) assuring accommodation within the university (with small fees) infrastructure for young researchers (2) organising more conferences/workshop/summer school at eastern European universities (where the fees will be smaller), thus reducing the participation barrier.
- + Career pathways are needed going from assistant professor to full professorships.
- + Create a pooled aid fund to help researchers whose salary in the country of origin does not allow them to live decently in the host country. The problem is not only the difference in standard of living but also how to cover expenses in two countries when mobility is temporary (and the family remains in the country of origin for example).
- + A realistic scale of salaries and funding for all EUT+ alliance universities;
- + With additional external funding.
- + Standard salary funding/salaries for each level of researcher (R1-R4) and adjusted for individual countries using standard EU co-efficient rates (eg Marie Curie grants)?
- + Salary and benefits of Permanent Teaching and Research Staff are defined by National Legislation.
- + In regard to funding, all researchers (permanent teaching and research staff) have equal opportunities to receive internal (i.e. Research Activity Funding, Start-up funding etc) and external research funding (i.e. EU funds, national funds).

### 2.2.13 Value of Mobility

Employers and/or funders must recognize the value of geographical, intersectoral, inter- and trans-disciplinary and virtual mobility as well as mobility between the public and private sector as an important means of enhancing scientific knowledge and professional development at any stage of a researcher's career. Consequently, they should build such options into the specific career development strategy and fully value and acknowledge any mobility experience within their career progression/appraisal system. This also requires that the necessary administrative instruments be put in place to allow the portability of both grants and social security provisions, in accordance with national legislation. Collaboration between academia and the private sector is important, as the two can be real sources of support for each other through the contributions made by each partner. Portability of grants and mobility of researchers in an industrial project are important issues that must be addressed at EUT+ level. The survey showed overall agreement to the question ***“What role does the mobility of researchers play in your career path or getting a higher position in your university?”***.

### 2.2.14 Co-authorship

Co-authorship should be viewed positively by institutions when evaluating staff, as evidence of a constructive approach to the conduct of research. Employers and/or funders should therefore develop strategies, practices and procedures to provide researchers, including those at the beginning of their research careers, with the necessary framework conditions so that they can enjoy the right to be recognised and listed and/or quoted, in the context of their actual contributions, as co-authors of papers, patents, etc, or to publish their own research results independently from their supervisor(s).

Collaborations can only be beneficial, as they are often a real support for future projects or for those who lack experience but have obvious potential and can make a significant contribution to research and innovation. The survey showed that across all partners

colleagues identified collaboration opportunities with similar research groups inside EUT+ alliance. The potential results of these future collaborations (ex. co-authorship, common research proposals, common coordination of PhD students, sharing of specific infrastructure, etc) are shown below for the example of ECT Lab+:

- + Common research proposals - 1 Erasmus+KA203 funded (Ethico); 1 Erasmus+ KA220 funded (Aesthico); 1 MSCA SE funded (Espiteam); 4 Erasmus+ KA220 under evaluation.
- + Post Doc: - 1 position in ECT Lab+ for a researcher (Post Doc) from any university within EUT+ (competition in 7.09.2023) with an initial 12 months funding from TU Dublin.
- + PhD: any university within EUT+ can allocate 1 PhD to ECT Lab+, starting with the next academic year. They will benefit from the ECT Lab+ facilities (spaces, research projects, coordination - including co-supervision).
- + Co-authorship: 2 ECT Lab+ conference proceedings; 1 book (work in progress).
- +

#### 2.2.15 Continuing Professional Development

Researchers at all career stages should seek to continually improve themselves by regularly updating and expanding their skills and competencies. This may be achieved by a variety of means including, but not restricted to, formal training, workshops, conferences, and e-learning. The desire to constantly evolve and the concerns related to this are a necessity in the field of research. There is no evolution, no innovation without a permanent study of progress worldwide. This field has a dynamic that makes the researcher to be continuously active and to be up to date with all new developments in the field. The figure below shows the keywords given in response to ***“Which strategy we must adopt at the EUT+ level to support the professional development?”***.



Figure 7 Keywords for suggestions for supporting professional development

For deepening these ideas, it was commented:

- + Researchers should choose the best strategy for them (not the contrary), hence, a wide range of options should be provided so that the researchers can choose what is best for their career and development.
- + Funding needs to be available for young scientists to attend conferences where oral presentations have been awarded by the organizing committee.
- + Organizing workshops engaging groups from all universities, in the same way the ERIs have done. Organizing thematic workshops in which researchers could exchange ideas. Bet on micro-credentials and possibly creating a centralized service in which universities offer them. Publication of small courses in open platforms.
- + By the creation of a lifelong learning school.
- + Fair and adequate assessment. Making mobility and experience abroad a mandatory part.
- + Career training should be rather individual and oriented at the researchers`aims or needs. Hence, EUT+ could offer a portfolio from which researchers can choose. It is important to provide the necessary resources and the freedom to researchers to be able to engage in these measurements. In addition to the above-mentioned ideas, (peer) mentoring might also be beneficial for the researchers.
- + Working in common research projects.
- + Short term research visits (2 weeks) to research laboratories within the alliance.

- + Having specific training sessions for early career mid-career and late career researchers.
- + Interview researchers every year to build training plans. Share an annual training plan containing the trainings organized by each partner and specify which ones can be open to all partners.
- + Equal opportunities for everybody.
- + I think a bit of each (formal training, workshops, conferences or e-learning) to cover as many groups as possible, because people are different and have different expectations.
- + Workshops, summer schools, training.
- + HRS4R accreditation.

Additional comments pointed out:

- + Plagiarism: need for strategies for the misuse of AI, such as Chat GTP. Hurdles: The legal status is still a hindrance
- + Further training: Are leadership skills, language skills, soft skills?
- + More openness towards the public will be beneficial. There should be weekly (even more often) guided tours of the universities. Ideally, people visiting cities should equally consider visiting churches, museums or universities. This will also impact on attracting learners from abroad.
- + There is need to explore research outputs than seems to be presumed here, research outputs are not simply reduced to peer reviewed publications, they are research outputs which are considered by their peer community to be of value and impactful. For example, monographs, collected editions, artefacts, exhibitions, performances.
- + The improvement of professional collaborations.
- + Introduce a Life-long learning Center inside EUT+.
- + Setting mentors for new academic staff.

### 3 Proposed Principles and Workplan for Research Evaluation Systems in EUT+

The main objective of the proposed evaluation system for EUT+ is to formulate empirically-informed proposals, in the form of recommendations. Formalised as this, they can serve as a useful basis for discussion within the relevant bodies or groups: Research Committee, ERIs, “working groups” (ERIs in development), member universities’ laboratories etc.,

#### 3.1 Principles for Research Evaluation System in EUT+: societal rather than scientific impact

The main objective of the proposed evaluation system for EUT+ would be to have research institutes (ERIs), research units, researchers and research activity of the academic staff evaluated more on their intrinsic merits and performance rather than only in connection with the number of publications and their scientific impact, promoting qualitative judgement with peer-review, supported by responsible use of quantitative indicators. This reflection can be done in collaboration with WPx6, which proposes an alternative to scientific impact by considering societal impact. The diversity of research outputs and activities should be recognized without requiring researchers to excel in all types of research activities. The principles and practices of Open Science should be encouraged by rewarding open collaboration and knowledge sharing.

Work on aligning research assessment should reflect the principle of the [Pact for Research and Innovation in Europe](#)<sup>72</sup>, the [DORA recommendations](#)<sup>73</sup>, the [Magna Charta](#)

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<sup>72</sup> <https://op.europa.eu/en/publication-detail/-/publication/fc3f272b-a349-11ec-83e1-01aa75ed71a1/language-en/format-PDF/source-252958029>

<sup>73</sup> <https://sfdora.org/read/>

[Universitatum](#)<sup>74</sup>, the [European Code of Conduct for Research Integrity](#)<sup>75</sup>, the [Leiden Manifesto](#)<sup>76</sup>, the Hong Kong Principles [3], and other equivalent declarations, while considering the diverse institutional missions and strategies of universities or other research performing and funding organizations.

To foster capacity building for multi-, inter-, and trans-disciplinarity, as well as non-traditional career pathways that integrate expertise obtained in other sectors, assessment should recognize achievements and outputs that do not necessarily fit the traditional criteria and ensure that research remains attractive to the best talents for all domains. The implementation in accordance with the agreed principles will be difficult because the agreement shall respect the autonomy of research organizations, national regulation and strategies that establish their own recruitment and assessment policies and restrict the legality of some practices. The EUT+ alliance must be able to test diverse ideas within a shared framework and learn from one another to ensure that improvements are feasible. This involves each university reviewing its evaluation criteria and processes in accordance with the above principles and may require the establishment of specialized implementation working groups and management squad (see Dx7.2).

Basic principles of the EUT+ evaluation system aligned with above mentioned EU research policies and stipulated in the [COUNCIL RECOMMENDATION on a Pact for Research and Innovation in Europe](#)<sup>77</sup>:

<sup>74</sup> <https://www.magna-charta.org/magna-charta-universitatum/mcu2020/aaa-mcu2020-english-2020-08-10.pdf/@@download/file/AAA - MCU2020 English - 2020-08-10.pdf>

<sup>75</sup> <https://www.allea.org/wp-content/uploads/2017/05/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf>

<sup>76</sup> <https://www.nature.com/articles/520429a>

<sup>77</sup> <http://data.europa.eu/eli/reco/2021/2122/oj>



- + Ethics and integrity regulation and practice will be considered the highest priority, and will be strictly respected and verified. Professional and scientific integrity, ethical standards of conduct, and behaviors such as early sharing of research data and results, building on the work of others, and critical external validation will be promoted.
- + Academic freedom will be recognized as a fundamental prerequisite to scientific research freedom. It will be achieved by establishing assessment frameworks that recognize and acknowledge research methodologies and do not restrict researchers' questions, methodologies, techniques, or hypotheses.
- + The autonomy of research organizations will be ensured. The independence of research performing organizations in their evaluation of their researchers will be preserved while putting current principles into practice, and avoiding inconsistencies in the evaluation of research, of researchers and institutions, preventing fragmentation of the research and innovation environment and promoting researcher mobility.
- + Accurate data will be collected, giving access to the data, analysis, and criteria utilized to those being evaluated, and ensuring transparency regarding the criteria used for research assessment and assessing research impacts.
- + Research assessment criteria will be based on quality. Ideas that are innovative, research that is carried out professionally, and relevant findings should be recognized. The entire range of research objectives, from fundamental and cutting-edge work to applied research, must be acknowledged. Early knowledge and data sharing, as well as open cooperation and, when appropriate, societal participation, all correspond to openness and influence the quality of research. Assessment will be based on qualitative judgment, with peer review evaluation, and the contributions that advance knowledge and the potential impact of research results being recognized.
- + The entire range of research processes and activities will be recognized, as well as the diversity of outcomes. Open collaboration and early sharing will be encouraged.



Peer review, training, mentoring, and supervision of PD candidates, leadership roles, and, when necessary, communication of outputs and interaction with society, entrepreneurship, knowledge valorization, and industry-academia cooperation are all aspects to be taken into consideration. The complete spectrum of research outcomes, including but not limited to scientific publications, data, software, models, methods, theories, algorithms, protocols, workflows, exhibitions, performances, strategies, policy contributions, etc. will be recognized.

- + Consideration of the diverse range of research in the sciences, humanities and the arts, types of research (fundamental research versus applied research), and stages of research careers (early career researchers versus senior researchers) will be demonstrated through evaluation criteria and procedures. The importance of multi-, inter-, and trans-disciplinary as well as inter-sectoral approaches when relevant will be acknowledged. Research assessment will be conducted in accordance with the unique characteristics of all disciplines.
- + The diversity of research positions and careers, covering roles beyond the sphere of academia will be recognized. The skills, competencies, and accomplishments of individual researchers will be recognized along with acknowledgement of the significance of team and collaborative efforts.
- + The principles of Equality, Diversity and Inclusion will be upheld in research teams at all levels, and in the content of research and innovation.

### 3.2 Workplan for a Research Evaluation System in EUT+

A research evaluation system is proposed here to assess research activity within the EUT+ alliance taking in consideration all the different approaches at national and partner level and considering the general principle stated above. The subsequently resulting action plan will be structured around three main objectives, as follows:

### 3.2.1 Implementation of The Human Resources Strategy for Researchers at the level of EUT+ alliance

All partners in the EUT+ will achieve the "HR Excellence in Research" award that gives public recognition of promotion of highly qualified human resources in research and alliance commitment to implement fair and transparent recruitment and appraisal procedures for researchers. The identification of HRS4R aspects that can be commonly improved inside the alliance as revealed by the presented questionnaire and the answers provided by representative persons of each partner will be a starting point for future improvements in the implementation phase.

### 3.2.2 Identification of common criteria and evaluation strategies inside EUT+

The identified factors that drive the research activity: university's strategies and rules, national regulations and laws and European policies offers a comprehensive picture of both diversity and common points in research evaluation. Based on stated principles and identified constrains an EUT+ research assessment strategy will be implemented.

### 3.2.3 Reviewing the Research Evaluation System of each partner inside EUT+: Enhance Research Collaboration and Knowledge Sharing within the Alliance

To consolidate the alliance, a less indexes-based competitive academic environment will be promoted with a renewed focus on collaboration. The aim is to shift in focus away from quantitative criteria toward the quality and collaboration aspects of the research.

The objective addresses both (1) collaborative and (2) interdisciplinary aspects. First, the framework should promote and evaluate the extent and quality of collaboration with other researchers and institutions from EUT+. Second, the framework should assess the research's potential to bridge multiple fields or disciplines. The ambition is that *at least 20% of EUT+ researchers should have at least one research activity or output resulted from a collaboration within EUT+ partners by 2025 and 40% by 2027.* Research activities or outputs

should be flexible and wide: papers, articles, books, reports, patents, exhibitions, performances, organising research events, providing datasets, build tools and instruments, mobilities, training within EUt+, writing or participating in research grants, public presentations/lectures within EUt+.

One strategic shift would be to increase the level of involvement and support for researchers that are now building their research networks. Until now, most of the activities have targeted the heads of the research infrastructures (i.e., leading researchers - R4), aiming for a top-down propagation of information on opportunities and running actions within EUt+. One issue is that leading researchers have already a consolidated network of collaboration, established prior to the EUt+ alliance. In our view, by running additional actions directly towards recognised researchers (R2 - few years of post-doctoral experience) or established researchers (R3 – autonomous researchers) - that are now building their research network - will have a large impact on the number of collaborations within the alliance. Possible measures in support can be:

- + Encouraging co-organisation of the location-based conferences by two or more EUt+ members: one year at one institution, one year to the other one (at least 4 conferences including ERI's workshops and annual conferences (July 2026),
- + Encouraging itinerant conferences within EUt+ (at least 3 such conferences 2027),
- + Sharing/creating the list of annual (recurrent) research events (conferences, workshops, summer schools) that occur within EUt+, and disseminate this list to researchers of all levels (Indicator Yes-No, 2025),
- + Sharing an annual training plan containing the training (EUt+ tools or prototypes, summer schools for young researchers) organized by each partner and specify which ones can be open to all partners (Indicator Yes-No, 2025),
- + Supporting cotutelle agreements for PhD supervision and encouraging participation of external experts from EUt+ to the public defense commissions,

- + PhD students mobilities inside EUT+ research laboratories with access to test facilities or special training. Mobilities inside European Research Institutes –ERIs will be encouraged.
- + Organizing across the alliance of the “EUT+ open day for researchers”, as a possibility to get informed about research activity and opportunities especially for young researchers.
- + Introducing the EUT+ Junior Research Grant, minimum one per member to be granted to an outstanding researcher. The evaluation criteria for this recognition will be common and adapted to the new European framework for the evaluation of research activity.
- + Creating a centralized service in which EUT+ member offer micro-credentials (including publication of small courses in open platforms) as a continuation of a started initiative of a common repository from the EUT+ project,
- + Providing participation grants for conferences and training organised within EUT+ (e.g., 1-3 grants to fully-cover/reduced the registration fee for EUT+ researchers),
- + Defining the career paths within the alliance. Some career paths should favor mobilities within the alliance. There should be long options such that everyone can pick. The career paths might be built around 4 pillars: (i) research, (ii) teaching, (iii) technology transfer and societal engagement, and (iv) leadership and people management.
- + Supporting diversity experience outside institution. Promoting this diversity (mobilities, postdocs, temporary contracts in external entities, secondments) during recruitment or promotion to ensure a greater diversification.
- + Including at least one researcher from the alliance in the research team for the small internal research projects supported by one EUT+ member.
- + Recognising forms of mobility as a means for enhancing the professional development of researchers.

### 3.2.4 Preparing for the Next Stage of the Alliance

The researcher status should contribute to more attractive research careers by:

- + Clearly stating the EUT+ commitment to the principles of DORA and CoARA. Promoting these principles in various contexts: job descriptions, PhD. Thesis assessment, awards granted within the alliance, research assessment etc.
- + Updating the type of research outputs requested of candidates, both in case of recruitment or promotion. For instance, the CV templates should be provided for each type of the career path (e.g., researcher, teacher). These CV templates should include narratives summarising the impact of qualitative research output (e.g., new ideas, key skills, influence on policy and practice) instead of or complementary to IF or h-index.
- + The tools and instruments developed by members of EUT+ should have complete English version to avoid mobility barriers.
- + Communicating research assessment practices in EUT+ in different contexts (faculty retreat, thesis defences) and supporting this communication through slide decks available for reusing, communication guidance when presenting institution research, articles on institution webpage.
- + Highlighting research assessment reform champions.
- + Identifying and pin-pointing success stories in line with principles of DORA and CoARA.
- + Providing evidence on the benefits of the research assessment reform within EUT+.
- + Superior valorisation of the research results carried out with the EUT+ members.

One issue signalled by participants in the questionnaire is “family”. Indeed, it is well known that time limited research grants (e.g. 3 years) is a barrier for young researchers to establish a family. The counter-measures at the EU level remain limited. For recognised researchers, established researchers, or leading researchers, the continuous work in concurrent and

numerous activities or heterogeneous tasks, along the entire day or week may also affect family life. In the context of EUT+, an increasing number of mobilities is expected, which also interfere with family life.

Both the criteria for research assessment and the strategy should seek to promote a work-life balance. One suggestion from the questionnaire was to count a minimum number of outputs (e.g. 4 papers) and above them should not be quantified, or should be diminished by weights. Or one can consider limiting the number of research events organised during the weekend. However, these ideas are debatable and should be addressed by a diverse team in the future strategy for research of the alliance.

### 3.2.5 Facilitating and Recognizing Global and Local Engagement

There are two vectors: (1) technology transfer to industry and (2) communication and outreach to diverse audiences including public or policy makers. The alliance should also consider the transfer generating social value, which can be quantified in terms of agreements with non-profit organisations or public administrations.

First, *assessing the potential for technology transfer from research to industry*. Researchers should have active roles and interactions with the instruments that are now being developed at the local, regional or European level for supporting collaboration between academia and various stakeholders. Such instruments include Digital Innovations Hubs (DIH, Testing and Experimentation Facilities (TEFs), Regulatory sandboxes, standardization bodies, clusters, Common European Data Spaces etc.

Second, *effective communication of research findings to diverse audiences, including the public and policymakers* should be more vigorously promoted. One need is to clearly distinguish between research dissemination and scientific communication. Moreover, EUT+ would benefit by developing the culture of scientific communication. Societal engagement, complemented by open science, increases trust in the research conducted within the alliance. This leads to more applied research by industry, but also to reduce the risk of

societal misunderstandings around advancements in research (e.g., vaccines, artificial intelligence). Possible measures for this might be:

- + Recognizing the participation of researchers in collaborative activity supported by DIHs, TEDs, regulatory sandboxes, standardization bodies, clusters, data spaces.
- + Recognizing supervision of industrial theses.
- + Recognizing contributions to local or regional development and engagement with the local community, or transfer generating social values (e.g. clinical guidelines, codes of practices, drafting regulations,
- + Rewarding research projects that actively involve a broader range of stakeholders.
- + Developing an institutional approach where impact-driven research evaluation typology should be established in terms of collaborations with companies and socioeconomic environment (e.g. number of researchers involved in R&D contracts with companies and/or agreements with institutions).
- + Evaluating the potential for the research to have an impact on the society through establishing a common methodological framework.
- + Membership of established committees of high relevance in a specific field. Developing of open access policy research results according to the institution-specific policies. In our view, EUt+ would benefit by increasing the demands of Open Science on researchers.
- + Mapping of existing best practices in Open Science hiring frameworks. For instance, questions for candidates should include topics related to Open Science dimensions (research, teaching, clinical work, support for early-careers), while the candidates should be able to exemplify open science with their own track record. The support for spin-offs should be more vigorous and effective. Assessing the entrepreneurial initiatives of the researchers should consider not only the creation of spin-offs but also the turnover level.
- + Establish the EUt+ Open Data Space.

Accordingly, criteria for assessment can be derived:

- + C1. Resources captured by competitive European projects/ EUT+ researcher.
- + C2. Number of competitive projects applied for in international calls for projects with at least 2/3 EUT+ partners.
- + C3. Number of EUT+ partners/researchers involved in European projects/proposals.
- + C4. Number of papers/articles/exhibitions/performances published in co-authorship with EUT+ researchers.
- + C5. Number of papers/articles/exhibitions/performances published in co-authorship with EUT+ researchers from different fields or disciplines (to promote interdisciplinarity).
- + C6. Number of mobilities inside EUT+ for research or academic purposes (invited lectures, presentation, conferences, projects, using of infrastructure, etc.).
- + C7. Number of Open Science outputs: publications, datasets, prototypes, etc.
- + C8. Number of person-month hired under research projects by a leading researcher or established researcher.
- + C9. Number of technological developments with TRL > 5.
- + C10. People trained in entrepreneurial culture: number of people in start-ups and spin-offs,
- + C11. Dissemination publications (books, book chapters or articles), communication of research in audiovisual media, professional dissemination including professional dissemination, e.g. reports for social agents, protocols, clinical guides, codes of practice, creative or cultural products, translations, participation in the elaboration of laws and regulations.

In the frame of the EUT+ alliance, a milestone has been obtaining the status of "HR Excellence in Research" university granted by the EC to entities that implement and apply the principles of the code & charter, defined according to the program "The Human



Resources Strategy for Researchers - HRS4R<sup>78</sup>, as an institutional commitment to ensure the framework for the development and promotion of highly qualified human resources in research. A similar rating system could be proposed at EUT+ level where common criteria could be established, mainly linked to the achievements of European projects (Erasmus+ & Horizon Europe) in proposals where EUT+ members participate as partners.

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<sup>78</sup> <https://euraxess.ec.europa.eu/jobs/hrs4r>