



Recruitment, working conditions, career development and progression

Mutual Learning Exercise on Research Careers

First thematic report

PSF CHALLENGE

**HORIZON EUROPE
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*Research and
Innovation*

Recruitment, working conditions, career development and progression. Mutual Learning Exercise on Research Careers

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Directorate-General for Research and Innovation

Directorate A — ERA & Innovation

Unit A.1 — Semester & Country Intelligence

Contact (Horizon Europe PSF coordination team):

Magda De CARLI, Head of Unit A.1

Stéphane VANKALCK, PSF Head of Sector, Unit A.1

Annamaria NEMETH, PSF Coordinator of the PSF MLE on Research Careers, Unit A.1

Unit A.2 - ERA, Spreading Excellence and Research Careers

Dario CAPEZZUTO, Policy Officer, Unit A.2

Email

Magda.DE-CARLI@ec.europa.eu

Stephane.VANKALCK@ec.europa.eu

Annamaria.NEMETH@ec.europa.eu

Dario.CAPEZZUTO@ec.europa.eu

RTD-PUBLICATIONS@ec.europa.eu

European Commission

B-1049 Brussels

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First thematic report

Edited by

Karen Vandeveldde (main author)

With substantial contributions by:

Conor O'Carroll

Gareth O'Neill

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List of abbreviations

ARRA	Agreement on Reforming Research Assessment
CoARA	Coalition for Advancing Research Assessment
DORA	Declaration on Research Assessment
ERA	European Research Area
ERC	European Research Council
ERDF	European Regional Development Fund
HR	Human Resources
HRS4R	Human Resources Strategy for Researchers
MSCA	Marie Skłodowska-Curie Actions
MLE	Mutual Learning Exercise
OTM-R	Open, Transparent & Merit-based Recruitment
OECD	Organisation for Economic Co-operation and Development
PSF	Policy Support Facility
R1-R4	Abbreviations referring to stages in the Framework for Researchers' Career
R&D	Research and Development
RTO	Research and Technology Organization
SoE	Seal of Excellence
SSH	Social Sciences and Humanities
STEM	Science, Technology, Engineering and Maths

1. Introduction

In December 2023 the Council of the EU adopted the Council Recommendation¹ on a European framework to attract and retain research, innovation and entrepreneurial talents in Europe. This Recommendation, together with the new European Charter for Researchers annexed to it, aims at strengthening research careers in Europe, contributing to the further realisation of the European Research Area (ERA). The current Policy Support Facility (PSF) Mutual Learning Exercise (MLE) on research careers² elaborates on the role of one specific stakeholder in establishing attractive and sustainable careers: that of national governments. 16 countries are taking part, Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Estonia, Germany, Hungary, Lithuania, Malta, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, each having specified their particular areas of interest.

The general purpose of the MLE is to facilitate an exchange of information, experiences and lessons learned as well as to identify good practices, policies and programmes in relation to the various approaches. The approach is supported by experts in the relevant areas to facilitate discussions leading to mutual learning between the participating countries.

The MLE's first meeting was held in Brussels on 27-28 June 2024, addressing a broad range of topics under the umbrella of "**Recruitment, Working Conditions, Career Development and Progression**". This first thematic report builds on the discussion paper prepared for this MLE meeting, a survey designed to gather input from the participating countries, the extensive discussions during the seminar as well as additional information and good practices submitted by participants in the follow-up to the meeting.

2. Recruitment, working conditions, career development and progression: a systematic perspective

This thematic report, the first in a series of four, looks at universities and public research institutes as the starting point for many researchers' careers, and discusses their attractiveness and career paths in comparison with research careers in other sectors, in comparison with non-research careers and in the light of international competition. The long-term objective is to develop a system where researchers can move seamlessly between the public and private sectors along their career path. In the subsequent reports the focus will be on other important aspects of the Council Recommendation on research careers, all the time acknowledging that the topics are strongly interrelated.

The content of this report, in line with the methodology of PSF MLE's, is evidence-based and policy driven and does not require for a fully comprehensive academic or literature presentation of the topic. The focus is on Member States' priorities and concerns in relation to the policy attention given to this topic in the Council Recommendation. The good practices and lessons learned included in this report are intended to be inspirational rather than comprehensive or complete. They are designed to invite public authorities and policy makers in Member States to address current challenges in the support of research careers, based on lessons learned from other Member States. While Member States recognise the need to

¹ Council Recommendation of 18 December 2023 on a European framework to attract and retain research, innovation and entrepreneurial talents in Europe (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:C_202301640)

² <https://projects.research-and-innovation.ec.europa.eu/en/statistics/policy-support-facility/psf-challenge/mutual-learning-exercise-research-careers>

have greater mobility between employment sectors in the public and private domains, the challenge is introducing the mechanisms to achieve this objective.

In the 2023 Council Recommendation, the topic “Recruitment, working conditions, career development and progression” is addressed primarily in **pillar 3 (Recruitment & Working Conditions)** and **pillar 5 (Career assessment, development and progression)**, although it is hard to disentangle the policies and practices around recruitment from the objective of making the European Union an attractive destination for researchers (pillar 6); to discuss working conditions without touching upon the interoperability of careers (pillar 2); or to support career development without acknowledging the significance of researchers’ skills development (pillar 4).

For the purpose of this MLE, it is useful to use a coherent approach for these related challenges. Therefore, this report is structured around a simplified Human Resources (HR) lifecycle structure, dividing the broad MLE topic into five sections (Attracting, Retaining, Developing, Rewarding and Leave-taking) which correspond with the “employee journey”:

- An employee’s journey starts with the process of being hired: “**attracting**” covers the search, recruitment and selection procedures.
- Next, a set of HR processes is designed to ensure an employee will stay with the employer, such as adequate working conditions, a pleasant work environment, and a career path – here summarised under “**retaining**”.
- Continuous learning and development takes place “on the job”, but additional training and development opportunities are essential to support an employee’s desire to growth further – hence the section called “**developing**”. New career steps reflect an employee’s personal development and most employers try to accommodate this growth through vertical career paths (more responsibility and a higher salary) and/or horizontal career paths (diverse tracks at the same level of hierarchy).
- At various points during an employee’s career journey, performance is “managed” through feedback or formal procedures. Successful results can be rewarded by the employer with promotion, bonuses, prestige or access to new opportunities. These dynamics are discussed in the section called “**rewarding**”.
- Finally, at some point, an employee’s journey with a particular employer will come to an end. Voluntary leave is a big concern for employers: understanding the reasons why employees choose to leave is important so that lessons can be learnt and adjustments in HR processes can be considered. In universities and research institutes, however, there is also a high degree of involuntary leave which is beyond employers or employee’s control. All of this is discussed in the section on “**leave-taking**”

Through each of these 5 lenses, four topics will run transversally, as nearly all of them are cross-cutting themes that are relevant in each of these five steps in an employee journey: **fixed-term and permanent contracts**, the impact of **funding opportunities and their criteria**, the role of each **stakeholder** (governments, funding agencies, research performing institutions, research teams, individual researchers), **gender & diversity**.

Attracting	Retaining	Developing	Rewarding	Leave-taking
<ul style="list-style-type: none"> - OTM-R principles - incentives - implicit bias - identifying potential - competition for talent 	<ul style="list-style-type: none"> - working conditions - career paths - wellbeing - precarity vs stability - competitive employment 	<ul style="list-style-type: none"> - learning & development - career progression - tenure track - employability 	<ul style="list-style-type: none"> - assessment for career progression - implicit bias - time for research 	<ul style="list-style-type: none"> - precarity - wellbeing - employability - interoperable careers

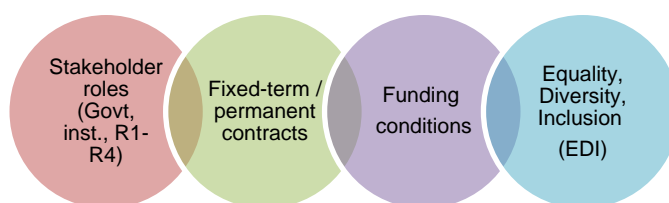


Figure 1: Human Resources (HR) lifecycle structure applied to research careers, with cross-cutting topics

This structure helps to open the path towards practical implementation and concrete interventions which could be made. This approach has the added benefit of **putting the researcher's career central** – just like the Council Recommendation aims to do – and discussing the impact of career policies from the employee journey perspective. From a policy perspective, the subtopics “retaining” and “leave-taking” represent two sides of the same coin but from an employee journey perspective they are very different. For this reason, they are dealt with under separate headings in this paper.

The agenda for the meeting in Brussels was structured along these five lenses to facilitate the discussion among Member States (see **Annex 2: Meeting Agenda**). For each one there was a presentation by one of the participating countries of their good practices. This was followed by intensive discussions in plenary sessions and focus groups. As pointed out above, there was input to the meeting from a Member State survey and Discussion paper.

3. Attracting

Ten years ago, in 2014, the EU Member States identified a lack of open, transparent and merit-based recruitment practices as the main obstacle to an open labour market for researchers, to researcher mobility and to equal opportunities. This issue had already been on the policy agenda in the Charter & Code for Researchers and had already been mentioned in the ERA Recommendation³ of 2012 and the Council Conclusions⁴ later that year. These were good policies but needed practical methods to support implementation. A working group with country representatives and experts defined a set of OTM-R (Open, Transparent & Merit-

³ Commission Recommendation of 17 July 2012 on access to and preservation of scientific information (<https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:194:0039:0043:en:PDF>)

⁴ European Council conclusions of 28/29 June 2012 (<https://data.consilium.europa.eu/doc/document/ST-76-2012-INIT/en/pdf>)

based Recruitment) principles⁵ and a toolkit to help institutions assess their own recruitment practices. The self-check instrument soon became an integral part of the Human Resources Strategy for Researchers (HRS4R⁶) adoption and renewal process. In a short period of time, several institutions started making interventions such as advertising their vacancies more widely, training selection committee members on implicit bias, increasing transparency in the process, introducing selection criteria which go beyond quantitative metrics and encouraging underrepresented groups to apply.

3.1. OTM-R current state of play

The OTM-R focus is still very much alive since its principles are far from being universally adopted. The compulsory checklist as part of the HRS4R procedure has helped to create alignment with the principles at institutional level, but the wide adoption in recruitment panels and peer review practices remains difficult to guarantee. The success of wide OTM-R adoption relies on a cultural change which requires time and persistent effort, as well as on an investment in attractive working conditions and career opportunities.

During the MLE meeting key issues for the adoption of OTM-R were raised by **Czechia**. Not all universities and institutions in the country have fully implemented the OTM-R principles. It takes time to change the mindset and implement new and different recruitment methods. There are incentives in the country through the funding agencies and there is training. For example, OTM-R workshops are provided at national level. But one does need a critical mass of institutions with, for example, the HR Excellence in Research award to attract others. They believe that this could provide the opportunity to create networks of good practice that would attract other organizations to join.

Other issues mentioned were the high level of regulation in the public sector for hiring which can mean a slow process for hiring researchers. This contrasts with the private sector where there can be a greater level of flexibility.

As per the examples shared by **Spain** there has been a very high level of participation in HRS4R in the country. This is based on many factors but was mainly seen as a means for attracting funding. Some institutions see this as valuable internally by bringing together their research and HR. OTM-R is in place for all positions that are published on EURAXESS. However, it should always be underlined that regulations do not stop hiring practices which can go against open, transparent and merit-based recruitment

Some organisations or national recruitment processes take the OTM-R principles as a given and challenge their stakeholders to go set the bar even higher. Each of the Norwegian universities, for example, follows the national protocol for recruitment laid down in the Act and Regulations Relating to Universities and University Colleges.⁷ Other institutions have

⁵ Report of the working group of the steering group of human resources management under the European Research Area on Open, Transparent and Merit-based Recruitment of Researchers, 2015
https://euraxess.ec.europa.eu/sites/default/files/policy_library/otm-r-finaldoc_0.pdf

⁶ Human Resources Strategy for Researchers (<https://euraxess.ec.europa.eu/jobs/hrs4r>)

⁷ <https://lovdata.no/dokument/NL/lov/2024-03-08-9> and <https://lovdata.no/dokument/SF/forskrift/2024-06-28-1392/kap3#kap3>

taken the element of “merit” a step further by not just looking at a list of achievements but also at the quality and integrity⁸ behind these achievements, as well as good leadership and collaboration skills⁹.

A key issue discussed in the MLE was what are the factors that make a country attractive for researchers. From the participants’ perspective, what is needed is a safe environment, research freedom, good onboarding, mobility opportunities, an international environment and good working conditions.

Quite a number of Member States signal the difficulty of attracting researchers and remaining competitive, in particular at the more advanced levels of career stages.

One example of inventive but controversial methods to be internationally competitive is the offer of a permanent academic position to successful ERC grant holders by the host institution, adopted for example by the **Flemish** universities as well as by the **Italian** universities in the initial ERC implementation phase in order to better compete for top level academics. In Italy, uptake of this ‘fast lane’ opportunity has not been overwhelming, which made it a sustainable measure. For the Flemish universities it was perhaps too successful: many international ERC grant holders chose to join top-rated research teams, but the pressure on the Flemish universities’ operational funds to reserve permanent positions for a limited number of excellence areas became too big. More recently, measures have been put in place to assess the feasibility of a long-term position before universities commit to acting as host institution for ERC applicants.¹⁰

Without attractive working conditions, organisations cannot provide attractive employment – even if the recruitment process is of excellent quality. Incentives to make positions as an early career researcher more attractive and which also help to retain researchers, have been introduced in parallel with OTM-R, such as: social protection¹¹; more attractive salaries,

⁸ The international Brussels-based CEPS think-tank and research institute includes OTM-R as a specific component of its integrity statement on a prominent place of their website so that candidates know this is a significant requirement for selection. <https://www.ceps.eu/about-ceps/ceps-integrity-statement/>

⁹ Antwerp University informs potential applicants for academic positions that leadership potential and collaboration are included as recruitment criteria, alongside performance-based aspects of merit <https://www.uantwerpen.be/en/jobs/uantwerp-as-an-employer/hr-policy/>

¹⁰ Interesting to compare the ERC press pack from 2018 highlighting the good practice of Ghent University to promise a tenure track position to successful ERC grant holders, and the university’s current ERC webpages promising only a 10-year appointment. See [ERCPressPack-2018.pdf \(europa.eu\)](#) (page 6, top frame) and <https://www.ugent.be/en/research/funding/eu-int/erc-ugent.htm> accessed 9/8/2024. KU Leuven chose a different solution and now analyses the feasibility of a long-term commitment before agreeing to act as host institution. See the university’s webpage for ERC-applicants: “Your profile and project therefore need to match its research and educational policy and the department or faculty of interest must thus have a permanent position available on the longer term” <https://research.kuleuven.be/EU/f/extra/erc#proposal> accessed 31/7/2024.

¹¹ The PhD fellowships of the Belgian Research Foundation – Flanders have a long tradition of providing bursaries with full social protection such as sick leave, maternity leave, holiday entitlement as well as an extension of the grant in case of long-term leave due to sickness or pregnancy. (<https://www.fwo.be/en/support-programmes/regulations/phd-fellowship-fundamental-research/>)

bursaries and mobility funding¹²; visa and work permit as well as practical support¹³; training and development opportunities¹⁴; or dedicated onboarding services¹⁵. The Euraxess network¹⁶ has been playing a significant role in promoting “destination Europe” for researchers.

In the private Research and Development (R&D) sector, the OTM-R principles are not really being endorsed, nor is there much interest in obtaining the HR Excellence in Research award. The process is sometimes perceived as an administrative burden with little or no benefit, since many organisations are convinced they already have excellent recruitment procedures and working conditions in place for researchers. The Council Recommendation on research careers and the new European Charter for Researchers emphasize the importance of the implementation of the Charter in all sectors.

Even with a strong implementation of open, transparent and merit-based recruitment, national regulations can pose barriers to mobile researchers. For example, **local language policies** are shown to be a persistent barrier for international recruitment in public institutions at the level of R3-R4 positions. This is because senior research positions usually also involve teaching.¹⁷ The same paper also highlights the systematic disadvantage of candidates who are not familiar with local hiring practices or local criteria for measuring academic success – typically mobile researchers.

While local language proficiency is often not expected at recruitment stage, full integration will require researchers to learn the local language. While many Member States leave it up to individual institutions to decide whether familiarity with the local language is required for the position (according to the survey, this is for example the case in Germany, Lithuania and the Czech Republic), or link local language with teaching responsibilities in the local language (for example in Bulgaria, Austria and Portugal) some countries/regions have political reasons to impose language regulations. The Flemish community in Belgium, for example, make permanent university positions by law conditional on proficiency in the local language.

3.2. Equality, diversity and inclusion

The attention given to gender inequality in the 2005 Charter and Code and the subsequent OTM-R principles has given way to the much broader concept of “inclusion”, realising that the same mechanisms that limit women’s career progression are also applicable to the career paths of underrepresented and disadvantaged groups. Some Member States indicate that bias in recruitment can be reduced through awareness activities and training of those playing a role in the recruitment process. This, however, is insufficient as it also needs to be addressed more structurally, e.g. by assessing practices and processes in terms of inclusion,

¹² The University of Cyprus has given “scholarships” a prominent listing on their graduate school webpage, as an incentive to encourage researchers to apply for one of their doctoral programmes. <https://www.ucy.ac.cy/graduateschool/scholarships/?lang=en#:-:text=The%20University%20of%20Cyprus%20announces,full%20coverage%20of%20tuition%20fees>.

¹³ The Welcome Centre at the University of Bremen helps researchers cross practical and legal barriers by giving useful information and providing visa and work permit support <https://www.bremen-research.de/en/welcome-center/translate-to-english-vorbereitung-des-aufenthalts>

¹⁴ Many universities, such as for example the University of Montpellier, have developed fully fledged doctoral programmes to make the ECR training phase more attractive <https://collegedoctoral.umontpellier.fr/en/accueil-college-doctoral-de-luniversite-de-montpellier-en/>

¹⁵ University College Cork lists a wide range of attractive features on its OTM-R webpage, including a mentoring programme for newly appointed research staff. <https://www.ucc.ie/en/hr/research/recruitment/>

¹⁶ Euraxess network – researchers in motion (<https://euraxess.ec.europa.eu/>)

¹⁷ Exploring the effects of mobility and foreign nationality on international career progression in universities, The International Journal of Higher Education, 2022 (<https://link.springer.com/article/10.1007/s10734-022-00878-w#citeas>)

revising existing procedures that do not provide sufficient protection against power imbalances, etc.

After at least twenty years of attempts to increase the share of women in (senior) research positions and thousands of public institutions' gender action plans¹⁸, still a staggering amount of women actively drop out of the postdoc phase or, if they do apply, fail to obtain senior academic positions or feel less supported to take on academic leadership positions¹⁹. Interestingly, Eastern European countries²⁰ generally have a higher share of female researchers across all sectors than in Western Europe, with an EU-average of about 41% of STEM jobs²¹ occupied by women. But particularly in academia, access into/ progress towards senior positions remains skewed²².

If “positive action” proves to be insufficient to enhance the recruitment of female researchers, there may be a strong argument to move towards “positive discrimination”. The difference between the two, between righting a wrong and bordering on the illegal, is particularly interesting²³. For example, some institutions and countries have addressed this by introducing female-only posts.

The nationwide Programme for Female Professors, introduced in **Germany** in 2008, targeted female talent for professor positions and special training and development opportunities, and served as leverage for cultural change at institutions (see more details in Annex 9.1). More specifically in Baden-Württemberg, this policy attention gave rise to an additional programme addressing the challenge of making recruitment of female professors in the transition between R2 and R3 positions more attractive.

In 2018, the **Irish** government introduced the Senior Academic Leadership Initiative (SALI) to redress gender imbalance at senior academic level²⁴. This was controversial but it was shown that the scheme is consistent with EU and national employment law.

The Irene Curie Fellowship (ICF) was also launched by **TU Eindhoven** in the **Netherlands** in 2019 and despite challenges continues with the target of 30% female academic staff.²⁵

¹⁸ Gender Equality in Academia and Research, European Institute for Gender Equality, 2022

(https://eige.europa.eu/sites/default/files/documents/20220795_pdf_mh0922276enn_002.pdf)

¹⁹ These are the world's top universities led by women, World Economic Forum website, 6 March 2023

(<https://www.weforum.org/agenda/2023/03/top-university-rankings-women-leadership/>)

²⁰ The gender gap in science: status and trends, UNESCO, 2024

(<https://unesdoc.unesco.org/ark:/48223/pf0000388805>)

²¹ 41% of people employed as scientists and engineers are women, Eurostat News, 12 February 2024

(<https://ec.europa.eu/eurostat/fr/web/products-eurostat-news/w/ddn-20240212-1>)

²² SheFigures 2021, European Commission interactive report (<https://projects.research-and-innovation.ec.europa.eu/en/knowledge-publications-tools-and-data/interactive-reports/she-figures-2021>)

²³ Inspiring stories from TU Eindhoven (Netherlands) and their Irène Curie Fellowship

(<https://www.tue.nl/en/working-at-tue/scientific-staff/irene-curie-fellowship/>) and from Australia: How we boosted the number of female faculty members at our institution, Nature website 7 September 2022,(

<https://www.nature.com/articles/d41586-022-02829-y>)

²⁴ Senior Academic Leadership Initiative, Higher Education Authority, 2019

(<https://hea.ie/policy/gender/senior-academic-leadership-initiative/>

²⁵ TU/e resumes preferential policy for hiring female scientists, TU Eindhoven News, 19 April 2021,

<https://www.tue.nl/en/news/news-overview/tue-resumes-preferential-policy-for-hiring-female-scientists/> and <https://www.tue.nl/en/working-at-tue/scientific-staff/irene-curie-fellowship/>

4. Retaining

Ideally, employers put great resources into hiring talent in order to reap the benefits of their investment over a long time. They retain staff by offering attractive working conditions, a safe and healthy work environment and the opportunity to progress in their career. Particularly at times when the demand for talent exceeds the supply or when a specific profile of employee is sought, private R&D companies tend to treat recruitment as the beginning of a long professional relationship with mutual loyalty, merit-based career steps, pressure to contribute to shared company goals as well as a non-disclosure agreement of company secrets in the unlikely event an employee leaves voluntarily or is told to go.

Public universities and many public research institutions however are atypical employers for a number of reasons – although there is huge diversity amongst them. First of all, doctoral candidates (R1, first stage researcher) occupy a hybrid position, being fixed-term students / trainees on the one hand and entry-level researchers on the other. This varies across and within Member States where in some cases they are employees, in others they are considered students, and sometimes even both²⁶. In principle, R1 researchers are trained with a deliberate purpose to transfer their skills and knowledge towards future (academic or non-academic) employers once they have obtained their degree. Second, in many cases, the postdoctoral research period (R2, recognised researcher) can be seen as an extension of this trainee period, allowing the researcher to specialise even further and find a springboard towards multiple high-level careers (R3, established researcher, R4, leading researcher). Third, the majority of researchers at R1 and R2 levels are funded from external national or international sources (e.g. Horizon Europe) – with the exception of some research performing organisations that have a core budget to hire a significant number of researchers. This means that institutions must rely on uncertain income to hire researchers and cannot strategically plan for staff retention – which disrupts standard HR procedures to retain staff. In contrast, the private sector invests its own money in building research teams and, as a consequence, has full control to attract and retain researchers.

Clear information is important for researchers to understand the local career structure, their rights and entitlements as well as funding supports available to them. For example, the Spanish government published a comprehensive overview of research career paths which helps researchers to make informed decisions²⁷.

4.1. Fixed-term positions

While many leading researchers seek to retain a larger proportion of early career researchers to ensure continuity of expertise, the lack of predictable funding does not allow for this possibility. Some countries have tried to make funding sources more “permeable” throughout a research career, for example by allowing tenured academic staff to be funded by external grants. Quite a few public research institutes enjoy the predictability benefits of life-cycle

²⁶ For the status of doctoral candidates in a range of countries see Eurodoc Policy Input for European Higher Education Area: Focus on Doctoral Training and Doctoral Candidates (2020) <https://eurodoc.net/sites/default/files/news/2020/11/17/attachments/eurodocpolicyinputforehea-2020.pdf> with detailed data in EURODOC survey on the structure of the doctorates across Europe. <https://www.eurodoc.net/doctoral-training-wg/doctorates-across-europe>

²⁷ Researcher Career Path in Spain at a Glance, FECYT, 2024 (<https://www.fecyt.es/es/publicacion/researcher-career-path-spain-glance-7th-edition>)

funding (project-based funding which is renewed upon quality-based assessment, outside competition²⁸).

Spain's new Open-ended Contract for Scientific and Technical Activities (Science 23B law) has introduced reforms in the science, technology and innovation sector (see also Annex 9.2). This key reform focuses on career stability designed to offer more predictable and stable career opportunities for researchers. Labour contracts at the level of broad research lines can continue while the underlying financial resources may consist of consecutive short-term funding agreements that cannot be guaranteed.²⁹ This type of contract was the result of lengthy and complex negotiations with stakeholders in the sector and has been implemented only recently. This is an excellent way of providing more stability of employment for postdoctoral (R2) researchers until they can find a permanent position - at R3 for example. An open-ended contract is preferable over a fixed-term contract in terms of precarity; it also brings indirect benefits such as the possibility to obtain a mortgage, or to organise responsibilities that are location-bound in a more sustainable way (childcare, school, looking after family members).

Other creative solutions can for example be found in **Slovenia**, where legislation was introduced in 2013 to allow staff members to combine a full-time position with an additional part time (20%) appointment. This flexibility allows full-time and part-time researchers to transition more easily across different positions with the same or different employers, or to combine different positions (see also Annex 9.4). These benefits come at a price since the measure involves additional work responsibilities and create additional work pressure.

Some countries have put limitations on fixed term research contracts at postdoc level, as was the case in Italy with a change in legislation in 2022.³⁰

Overall, however, the ability to hire researchers on a permanent basis in the university and public RTO sector is highly dependent on the national or local funding model and on the balance between supply and demand for researchers. In contrast the private sector has greater ability to offer long term positions using their own budgets. It should be emphasised that these positions are not permanent as reduction in profits may require making staff redundant, but they do offer researcher greater stability of employment.

It is important to understand the major role of European employment legislation in shaping the treatment of researchers. The Fixed-Term Workers Directive, formally known as Directive 1999/70/EC, was adopted by the European Union to address the working conditions of fixed-term employees.³¹ The directive aims to ensure equal treatment for fixed-term workers compared to permanent workers and to prevent abuse arising from the use of successive fixed-term employment contract. While designed to address poor conditions in primarily the

²⁸ One example is the set of four strategic research centres in Flanders receiving government funding on a 5-year basis, upon regular assessment by an international peer review panel against international standards.

(<https://invest.flandersinvestmentandtrade.com/en/investing-in-flanders/rd-and-innovation/flanders%E2%80%99-world-class-research-centers-and-scientific>)

²⁹ <https://www.fecyt.es/es/publicacion/researcher-career-path-spain-glance-6th-edition>

³⁰ Career reform aims to improve security for Italian researchers, Nature website Italy, 28 July 2022

(<https://www.nature.com/articles/d43978-022-00094-1>)

³¹ <https://eur-lex.europa.eu/EN/legal-content/summary/fixed-term-work.html>

hospitality and facility management sector, it also had a positive impact on the working conditions for researchers as prior to this they had often been taken on without employment contracts or access to social security and pension benefits.

In the sector of Universities, RTO's and R&D, however, the European directive has unintended side-effects, in particular in institutions with lots of project-based external funding since it targets the supply side of researchers without being accompanied by measures on the demand side. This is because institutions can only provide fixed term researcher contracts for a limited period (in some countries 2 years, in others it could be 3, 4, 5 or 6 years). After that, a researcher could claim a permanent contract. **As a result, universities have taken a risk-averse approach as most do not have dedicated funding to provide permanent contracts for researchers.** This pressure to move around may be beneficial in combatting academic inbreeding. Moreover, being forced to think carefully about your future career path and not being tempted to “linger on” can be a good thing for researchers. Nevertheless, the reality that tenure track offers tend to peak between 5 and 7 years after obtaining the PhD degree³² means that early career researchers have a prolonged period of job uncertainty, forced mobility and family anxiety to bridge.

4.2. Adequate and competitive working conditions

Many national authorities have sought ways to improve the working conditions for researchers. The Bologna process defines the PhD degree as the third cycle in the Higher Education system, which explains why most R1 researchers also enjoy student status. Nevertheless, most Member States report that nowadays R1 researchers also receive one or more of the following benefits associated with employee rights: unemployment benefit, paid sick leave, paid maternity leave, paid parental leave, invalidity benefits and/or pension contributions - but usually not all of these combined.

There is still room for improvement, therefore, for example by adding more of these entitlements to bursary contracts, or by changing bursaries or stipends for PhD researchers into employment contracts. This was the case in **Estonia** as part of a big reform in the science system, which has helped to normalise social protection at R1 level (see more details in Annex 9.3).

For the R2 researcher profile, the level of protection is generally higher because in most countries they are now treated as (fixed-term) employees with equal treatment to their permanent counterparts³³ although it is not always clear to applicants whether postdoctoral fellowships/bursaries are in fact proper “employment” contracts with employee rights³⁴. There is still some way to go in many countries to bring these conditions on a par with standard

³² Human Resources in Research Flanders: Basic indicators and key figures, Centre for Research and Development Monitoring (https://www.ecoom.be/en/services/HRRF_basic_indicators_key_figures)

³³ See, for example, the switch from “stipends” to “salaries” for postdocs in Ireland (compare the information on the Government of Ireland funding for postdocs in 2020 https://euraxess.ec.europa.eu/sites/default/files/phd_postdoc_opportunities_in_ireland.pdf (slide 18) with the current information on the Government of Ireland Postdoctoral Fellowship programme, providing salaries and social security contributions. See <https://research.ie/funding/goipd/>

³⁴ See, for example, the co-existence of fellowships and employment contracts in Wallonia (Belgium); or the specifications of fellowships in the Humboldt foundation which highlight social protection but do not mention employee rights: <https://www.frs-fnrs.be/en/financements/chercheur-postdoc> and https://www.humboldt-foundation.de/fileadmin/Bewerben/Programme/Humboldt-Forschungsstipendium/humboldt-fellowship_programme_information_p.pdf

employment contracts, and the issue of competitive salaries (competitive with other sectors but also competitive internationally) remains a challenge.

In the face of these limitations, scientific careers outside universities³⁵ may offer more predictable and competitive career opportunities, in particular in disciplines and countries with an intensive R&D investment. As pointed out already, career security at an earlier stage and more attractive salaries in industry might make careers in universities and public research institutes less attractive. In addition, careers in industry tend to be more diverse and often encourage re-routing and re-inventing oneself; teamwork is valued more, and the right to disengage from work during evenings, weekends and holidays is embedded in many labour agreements. That being said, there is a high demand for the academic research career as attested through many national and European surveys. Ideally, one should have a system where researchers can move easily between the academic and non-academic sector as part of their career path.

A particularly relevant observation is the fact that researchers who have been forced to take career breaks due to pregnancy or illness often find it difficult to catch up in academia, while the R&D sector, government jobs and other professions tend to be more forgiving in terms of productivity gaps.

Some national governments have been quite inventive in countering this. Take, for example, the “return grants” introduced by the **Czech** government under the Programme Johannes Amos Comenius³⁶ (see Annex 0 for more details) designed to ensure that career breaks do not hamper the future careers of researchers with a high potential for skilled employment.

The comparison with standard employment contracts in other sectors of society often highlights the disadvantages of working in the academic sector. This may seem surprising given the fact that employee rights tend to be more protected in the European public sector than in the private. This is an indication of a **growing discrepancy within universities and public research institutes between on the one hand a privileged “in-group” with great security and protection (permanent academic/scientific staff), and on the other hand a large “out-group” in various types of precarious positions, for whom maternity leave, paid sick leave, unemployment benefit or secure contracts are not universally guaranteed.** This issue was actively discussed in the in the MLE with agreement that precarity is a challenge in many Member States.

Estonia has introduced a new track tenure model; the **Netherlands** is in the process of reforming and **Spain** is addressing precarity in the new Open-ended Contract for Scientific and Technical Activities. In contrast, **Bulgaria** provides permanent contracts to researchers who have completed a PhD (R2, R3, R4).

³⁵ Industry vs. Academia: Which is the better place to work as a life scientist?, Biospace website, 12 April 2022 (<https://www.biospace.com/article/industry-vs-academia-which-is-the-better-place-to-work-as-a-life-scientist-/?keywords=Industry+vs.+Academia%3a+Which+is+the+Better+Place+to+Work+as+a+Life+Scientist>)

³⁶ <https://opjak.cz/en>

This does mean that innovative industries and talent ecosystems outside academia offering stable careers draw researchers away from academia. Researchers in university might be reluctant to move to other sectors while they are still in university, but once they have made the jump they usually do not want to return.³⁷

4.3. Ensuring research careers remain attractive

There are some hopeful signs of change in the system in public universities and research organisations. The Agreement on Reforming Research Assessment (ARRA)³⁸ aims for broader evaluation criteria for promotion and grant applications. It also addresses the CV gap challenge, productivity focus and recognition for a diversity of careers. The ERA Policy Agenda 2022-24 Action 17 identifies a pathway towards more diverse career destinations in the research system with the recognition of research management as valuable and sustainable career paths.³⁹ A number of institutions are seeking ways to provide long-term careers in research against a context of project-based funding, for example through life-cycle funding agreements with the government, or through selecting a number of strategic research areas which are expected to continue acquiring top-level funding⁴⁰.

The increasing investments into training and (career) development opportunities in universities and public research institutions can also be seen as a slow but significant change from within the system to make researchers' careers more attractive. Many governments have also contributed to this change by providing resources for training, finetuning existing legislation on career development or supporting discussion on the future of work in science.

Another area in which significant and necessary progress has been made is in the attention for mental health in universities and research institutes. Initially, the focus may have been on R1 researchers experiencing extremely high stress due to precarious working conditions, but what is needed is a system-wide approach looking at the responsibilities that come with research leadership and broader academic responsibilities⁴¹. The tolerance for inadequate leadership and toxic collegiality is increasingly being addressed in the context of power imbalance in academic institutions⁴² – even though still few academics in Europe receive leadership training when moving up in the academic ranks. National governments can play a significant role, for example through embedding preventive measures on psychosocial risks in the legislation for universities and research institutes.

³⁷ Researcher Intersectoral Mobility, Vitae – Society for Research into Higher Education (<https://www.vitae.ac.uk/researcher-careers/euraxess-uk-career-development-centre/euraxind/vitae-intersectoral-mobility-web.pdf>)

³⁸ The Agreement on Reforming Research Assessment, Coalition for Advancing Research Assessment (<https://coara.eu/agreement/the-agreement-full-text/>) <https://coara.eu/agreement/the-agreement-full-text/>

³⁹ ERA Policy Agenda, Overview of actions for the period 2022-2024, 2021 (https://research-and-innovation.ec.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf)

⁴⁰ Take, for example, the long-term strategy behind the Universities of Excellence initiative in Germany. (<https://www.dfg.de/en/research-funding/funding-initiative/excellence-strategy>)

⁴¹ Heeding the happiness call: why academia needs to take faculty mental health more seriously, Nature website, 13 February 2023 (<https://www.nature.com/articles/d41586-023-00419-0>)

⁴² A 10-point Plan to End Toxic Workplaces in Higher Ed, Inside Higher Ed website, 27 February 2023 (<https://www.insidehighered.com/advice/2023/02/28/advice-how-colleges-can-avoid-or-end-toxic-work-cultures-opinion>)

An inspiring example is the national wellbeing legislation in **Portugal** which has inspired a research institute such as INESC TEC to develop an institutional well-being survey, a culture of co-creation and a culture of listening (more details in Annex 9.7). Mental health considerations are not a stand-alone policy measure. If employees experience a lack of well-being, they do not perform well, and the organisation risks losing the talent they need.

As the above examples demonstrate, it is impossible to implement OTM-R policies and positioning oneself as an attractive employer, without recovering or nurturing some of the unique features of research environments that make universities and public research institutes great places to work (**their “unique selling points”**). These include: the autonomy to choose one’s preferred research area and method, regardless of commercial value; the flexibility to organise one’s own work; the credit for intellectual breakthroughs; the interaction with interested students and colleagues; access to the brightest minds across the globe; a sense of belonging within a community of like-minded intellectuals.

All of these are aspects of academic freedom which easily come under threat, for example when funding is earmarked rather than free; when scientific articles are locked behind paywalls; when funding success rates are too low to justify the time spent on applications; when a craving for credit leads to vicious competition; when national borders and security risks limit international networks. Government policy can influence directly all of these issues – for example measures guaranteeing R2 researchers the freedom to devote a portion of their time to their own research interests.

5. Developing

The 2023 Council Recommendation on research careers has made it more explicit that researchers and their careers are at the centre of the science system and that the development of researchers does not end with obtaining the doctoral degree. A research career undergoes many phases, during which research professionals acquire new knowledge, skills and experiences, paralleled by new roles and responsibilities. Although skills training will be developed in more detail in the second MLE topic addressing intersectoral mobility, it is relevant to touch upon the value of skills acquisition in the context of career progression (whether inside or outside academia).

5.1. Skills training and development

Professionals learn “on the job” but without self-reflection and awareness of one’s own development, learning is not very effective, and skills are not easily transferable. For this reason, many funding programmes, universities and research centres have formalised learning and development in a research career through doctoral training programmes and/or postdoctoral training opportunities, focusing primarily on R1 and R2. Less widely available are onboarding programmes for academics taking on leadership roles (R3, R4). Interesting

exceptions are the University of Utrecht in the Netherlands⁴³ or Ludwig Maximilian's Universität München in Germany⁴⁴.

The introduction of ResearchComp⁴⁵ has been timely, not only in recognising the wide range of researchers' skills, but also for the implicit acknowledgment that researcher development is a process that can be managed, supported, and enhanced; and that universities have a role to play here. This is particularly relevant for careers whose destination is as yet unknown. Universities cannot guarantee "employment" for early career researchers, but by improving the development of skills that are transferable to other sectors and other roles, they can guarantee "employability". Doctoral and postdoctoral researchers usually are subject to constant pressure to obtain their next fixed-term position or to contribute to a specific project deliverable. However, their employability as researchers will ultimately be defined not only by their specialised research experience but also by their ability to transfer research skills to other situations, roles and tasks⁴⁶. In a knowledge-based economy, labour market challenges are increasingly challenging. Researchers' active learning skill can be an added benefit in highly technical jobs in the R&D sector as well in jobs that require generalist knowledge such as secondary school teaching or journalism.⁴⁷ This topic will be developed further in MLE topic 2.

Training, development and career support, however, require resources, both in terms of funding and of time commitment. Only a limited number of countries, funders and institutions provide sufficient resources to include every doctoral candidate and postdoc researcher (R1, R2) in a programme for broadening their scientific skills, career-related skills and other professional skills such as teamwork, project management or communication. The so-called widening countries often lack the means to top up researcher's salaries/bursaries with funding for training and development; many are dependent on MSCA or designated project funds to provide this.

Even in context of ample resources, many stakeholders, supervisors in particular, still assume that early career researchers will acquire these skills 'on the job' as the previous generation of academics did in their days and that any such training ought not to be compulsory. Indeed, training and development activities require a substantial time investment which only has a visible impact in the long term, while performance pressure in order to secure the next research contract takes priority in the short term. **As a result, training initiatives are primarily taken up by those who are already convinced of the value of such development programmes, while those who might benefit most, stay away and prefer to devote their precious time on yet another experiment, or yet another**

⁴³ Leadership at the University of Utrecht (<https://www.uu.nl/en/organisation/working-at-utrecht-university/leadership-at-all-levels>)

⁴⁴ Leadership and management at the Ludwig Maximilian's Universität München (<https://www.lmu.de/en/about-lmu/working-at-lmu/academic-careers/qualification-and-personal-development/leadership-and-management/index.html>)

⁴⁵ The European Competence Framework for Researchers, European Commission (https://research-and-innovation.ec.europa.eu/system/files/2023-04/ec_rtd_research-competence-presentation.pdf)

⁴⁶ The terms "transferable skills" and "soft skills" are widely used to refer to communication skills, project management, networking, leadership skills, etc. as opposed to the "hard skills" linked to specific scientific knowledge. While this can be useful to describe the variety of training programmes, this distinction is not always helpful when discussing career development. In this paper, the slightly different term "transferability of skills" is used deliberately to highlight the fact that soft and hard skills are strongly interwoven and that the ability to transfer research-specific skills such as analytical insight, persistence, statistical methods or narrative structuring define the unique assets of researchers. The "soft" skills could then be defined as "generic skills" or "professional skills", which are relevant for any professional career, research-based or not.

⁴⁷ An evidence-based evaluation of transferable skills and job satisfaction for science PhDs, Plos One Journal, 2017 (<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0185023>)

publication. This same attitude is shared by senior academics (R3, R4), who are reluctant to be involved in training programmes.

During the meeting in Brussels the culture of researchers (especially R1 and R2 levels) accessing training was discussed. This is changing slowly, even if training is available (Spain, Slovenia). There is still opposition to investing time in training and development especially when researchers have been hired to work on a specific project. A more welcoming culture or a more supportive culture for development, will change the perspective of PhD candidates and their supervisors in terms of their future careers, both within and without academia.

Across Europe at PhD level, training is generally not mandatory except in doctoral schools. However, mandatory training is not Europe-wide; there needs to be leverage for change in such approaches.

For example, University College Dublin (**Ireland**) requires 30 ECTS as part of the PhD training with compulsory research integrity training.⁴⁸ A different example is the University of Antwerp (**Belgium**) where an entitlement of five days of training per year is embedded in the university regulations for all staff categories, including leadership development and supervision training at senior level. Each university system has different methods of training supervisors. For example, there's the HDR (Habilitation à diriger des recherches) in **France** and **Luxembourg** and the Habilitation in **Germany**. At Karolinska University in **Sweden** potential supervisors must be assessed before they can mentor PhD candidates.

In some countries, there's always the question of why do experienced supervisors need training anyway. The need for training was stressed as it leads to better outcomes; producing better PhD graduates and reducing the cost of dealing with mistakes of leadership.

Estonia has introduced a radical change in the status of PhD students as they have been moved from the status of student to employees with a €1400 per month net salary and 80% of their time reserved for research (the remaining time could be devoted to, for example, teaching or supporting other research projects). There are also industry PhD programs which are funded through structural funds. It should be noted though that the student option has been kept open, so it is not mandatory that all PhD candidates be employed. It is also to be noted that there has been slow progress in including training skills. Universities in Estonia remain autonomous, but there are doctoral schools in place with offers including ethics training and methodology (see Annex 9.3).

5.2. Career progression

Limited access to training and poor engagement with training offers are two challenges when talking about “development” in a research career. Being able to take tangible career steps towards better, more secure and more autonomous jobs, poses a third challenge. Universities, public research institutes and the private sector are quite different in this respect, despite the impression of uniformity and interoperability created by the Framework for

⁴⁸<https://www.ucd.ie/graduatestudies/researchstudenthub/researchprogrammes/keypointsonresearchprogrammes/phdinanutshell/>

Research Careers⁴⁹ in 2011. Over the past decade, this framework (see below, enriched with a number of sample job titles) has been helpful in describing the development in roles and responsibilities throughout a researcher’s career and is easy to use through the abbreviations R1 to R4. It did not have the intended effect, however, of facilitating career development across sector boundaries: the R1-R4 structure has been familiar to many policy makers in Europe but has also met with criticism by RTO’s⁵⁰ and has not been widely adopted by R&D recruiters, job seekers or by university staff communicating the mechanism for promotion and career development to their academic staff.

The inclusion of this framework in Annex I to the 2023 Council Recommendation has the objective of fostering application in all sectors, as is illustrated by the range of possible job titles at R1-R4 level. It should provide the necessary impetus to change the approach of funders and employers and lead to greater use of this classification. This would be a positive step towards creating for researchers an ecosystem of employers in the public and private sectors. This will be discussed in more detail in the next MLE topic.

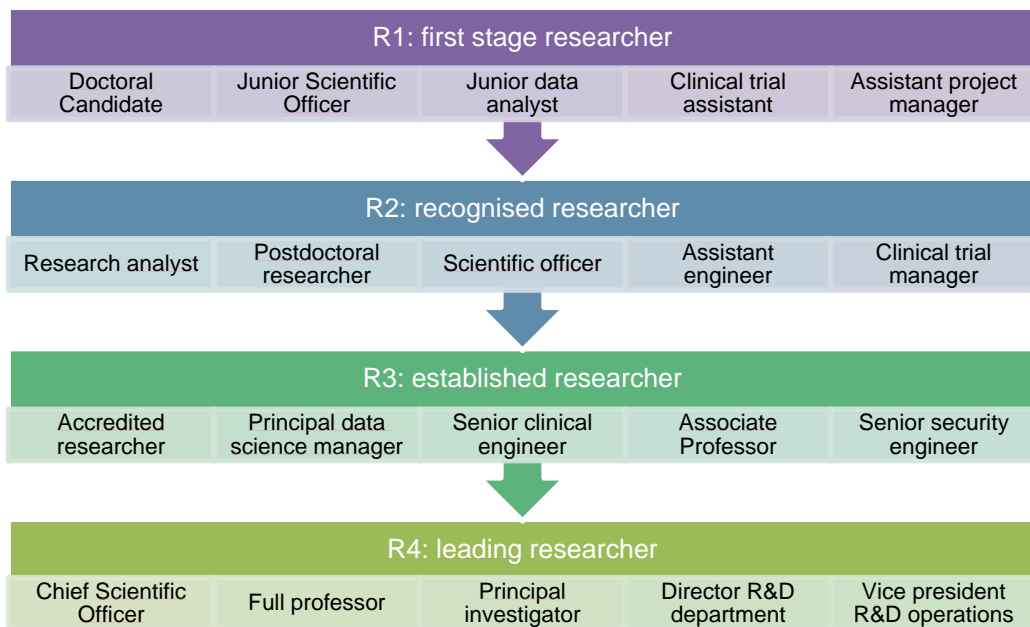


Figure 2: Framework for Research Careers and illustrations of possible job titles

Most academic institutions tend to be still organised according to traditional roles and responsibilities, often embedded in national legislation. Public research institutes may find themselves somewhere in between the situation of universities and private R&D, depending on national contexts. **Within universities and some public research institutes, the academic career path of professor is still the most desirable and most respected trajectory – bringing with it not only local and international prestige, but also privileges such as academic autonomy, financial and organisational decision-making power,**

⁴⁹ Towards a European Framework for Research Careers, European Commission, 2011 (https://euraxess.ec.europa.eu/sites/default/files/policy_library/towards_a_european_framework_for_research_careers_final.pdf)

⁵⁰ EARTO Inputs for a European Framework for Research Careers, EARTO, 2023 (<https://www.earto.eu/wp-content/uploads/EARTO-Inputs-to-ERA-Framework-for-Research-Careers-11-May-2023.pdf>)

access to international networks and access to academic leadership positions. Privileges, however, come with responsibilities: early career researchers moving into secure R3 or R4 positions can be overwhelmed by the pressures of leadership and responsibility that come with the job but since these positions are scarce, newly appointed professors often feel they ought to be proud and grateful to have made it. Careers beyond academia⁵¹ have not yet shaken off the stigma of “second best” – hence the efforts put into convincing early career researchers and their supervisors that this is not the case.

As part of PhD education and training, **Sweden** has internship opportunities in other organisations. This facilitates PhD candidates in broadening their career opportunities. Moreover, the Karolinska Institute, for example, has a career service to prepare doctoral candidates for careers in and outside academia after graduation.

Private companies’ R&D teams tend to be more dynamic and flexible in their organisation, designing roles and responsibilities according to the organisation’s changing but collective needs. For example, in industry the role and title of “research managers” has been around for quite some time, while in most universities this role is only just beginning to be recognised (as identified in CARDEA’s⁵² and RM ROADMAP’s⁵³ Horizon Europe projects). For many reasons, careers in industry are also more permeable, allowing researchers to move in and out of R&D roles and acquire experience in management, HR, valorisation or sales according to their individual strengths and ambitions. This wide range of development opportunities adds to the attractiveness of careers beyond academia. It also adds to the reluctance of those who have left academia to return once this new career has taken off. If universities or academic research teams want to welcome them back (and not many do), more efforts may be needed than a revision of evaluation criteria (recognising roles outside academia⁵⁴ underpins the first ARRA commitment).

5.3. Tenure track models

Almost every European country appears to have already introduced some type of **tenure track model**⁵⁵, whose characteristics could be summarised as “a predictable career path with the prospect of a permanent position at a higher level upon the achievement of a predefined performance target”.

A specific example of tenure track systems from **Germany** is included in more detail in Annex 9.1). As initiatives helping to bridge the gap from R2 (with typically short-term contracts) to a permanent contract at the level of R3, they can be a source of inspiration

⁵¹ Discover: careers beyond academia, Euraxess (<https://euraxess.ec.europa.eu/career-development/researchers/discover-careers-beyond-academia>)

⁵² CARDEA: enabling professionalisation of research management (<https://www.ucc.ie/en/cardea/>)

⁵³ Action 17 and its potential for the RMA community, EARMA (<https://earma.org/news/action-17/>) and <https://www.rmroadmap.eu>

⁵⁴ Agreement on Reforming Research Assessment, Coara, 2022 (https://coara.eu/app/uploads/2022/09/2022_07_19_rra_agreement_final.pdf)

⁵⁵ Sustainable Careers for Researcher Empowerment (SECURE), Horizon Coordination and Support Actions, 2023-2025 (<https://secureproject.eu/wp-content/uploads/2024/05/First-Draft-of-Tenure-Track-Like-Models.pdf>)

to adjust legislation, refine practices or introduce novel career paths suited to the local science system.

Other useful examples with a clear description of the tenure track process can be found in KU Leuven in Belgium, the University of Vienna in Austria, or the University of Copenhagen in Denmark.⁵⁶

MLE participants from the **Flemish Community (Belgium)** and from the **Netherlands**, who have more than a decade of experience with their tenure track systems, pointed out that a clear set of predefined performance targets are generally incredibly beneficial for the researcher, but they pointed out that there can be disadvantages in terms of the rigidity associated with such targets.

Tenure track models have been introduced in many countries and universities to transition more smoothly from research-only to combined research-and-education roles, from temporary to permanent and from supporting to leading research roles in universities. The 2023 Council Recommendation identified tenure track systems as opportunities for attracting and retaining high potentials, but this transition into a combined responsibility of teaching, research and leadership is a milestone in a researcher's career. Despite additional performance pressure, it also brings the freedom to pursue individual goals. This autonomy, which would be unimaginable in private R&D, is more common in universities and public research institutes and has become the key privilege of tenured academics (together with career security, obviously).

Existing tenure track models could inspire European and national funders to top up existing project-based grants for R2-R3 researchers (ERC type grants) with additional institutional resources in case a tenure track path can be offered in combination. This would be another illustration of “permeable funding” as described earlier in this section and could lead towards more sustainable career paths.

6. Rewarding

As already hinted above, career advancement is a more “nebulous thing”⁵⁷ in academia when compared to industry and this has more to do with the way in which potential and performance are appreciated and rewarded, than with the career path itself. Researchers are rewarded for specific activities that are evidenced by **research metrics or prestigious research grants**. The processes that lead to such results (leadership and team work, for example) or the activities outside of research (such as education, service to society and valorisation activities) receive far less recognition. This approach to assessing researchers only ensures that the public academic and research sectors form a closed environment. The almost obsessive focus on the publication metrics means that it is very difficult for researchers who have

⁵⁶ The universities recruitment pages clearly list the career path, expectations as well as conditions for promotion to a permanent position and permanency.

<https://www.kuleuven.be/personeel/jobsite/en/academic-staff/senior-academic-staff-tenure-track-information>
<https://personalwesen.univie.ac.at/jobs-recruiting/tenure-track-professuren/>
<https://employment.ku.dk/tenure-track/tenure-track-at-ucph/>

⁵⁷ Industry vs. Academia: Which is the better place to work as a life scientist?, Biospace website, 12 April 2022 (<https://www.biospace.com/industry-vs-academia-which-is-the-better-place-to-work-as-a-life-scientist?>)

worked, in industry for example, to be competitive for academic posts as they will usually not have a strong publication record. Conversely, the same focus means that the other activities that are integral to the public or private research sector, including management and mentoring, are not formally assessed or recognised - which makes it more challenging for researchers to move outside academia.

6.1. Reward mechanisms

The darker side of academic credit – in particular its links with power imbalance and its impact on wellbeing – has become the subject of many debates and there are welcome signs of change⁵⁸, or examples in the Netherlands⁵⁹, the UK⁶⁰, and Flanders⁶¹.

In the last decade, many stakeholders had already taken voluntary steps towards changing the ways in which research is assessed (DORA principles⁶², Leiden manifesto for research metrics⁶³) and this has also had an impact on how “careers” are assessed and how researchers are recruited (OTM-R). The value of this is significant. A single institution cannot change the science system, but if everyone moves in the same direction, small steps can have a huge impact. Through their ARRA commitment⁶⁴, the European Commission, funders⁶⁵ and scientific employers have demonstrated a dedication to change the system together. Some of the ARRA principles are well known, such as moving towards a more responsible use of quantitative indicators and acknowledging the intrinsic quality and diversity of research outputs. But less obvious changes are also embraced, such as: making sure that evaluation is not a waste of time but a benefit for the researcher, team or organisation; safeguarding academic freedom; involving the research community in the transformation; rewarding activities of knowledge exchange and collaboration with society, as well as supporting mutual learning through exchanging good practices. This approach will be highly beneficial to support intersectoral mobility.

The European Commission explained that over 700 organisations from 52 countries have signed up to COARA and each are expected to develop and action plan for their own institutions. There is currently a total of 60 action plans for the reform of research assessment on Zenodo.

In Horizon Europe, there have been two fundamental changes in how proposals are assessed from those in Horizon 2020. The first is under “Excellence”, which has introduced the assessment of open science (Open Access to publications and open data management). The second is under “Implementation” where beneficiaries can list up to five achievements per organization. No metrics are asked to be included at this point. It is believed that this will help change university practice. However, there is still a challenge as within Horizon Europe,

⁵⁸ Baby steps toward uprooting toxicity from academia, EcrLife website, 9 February 2023 (<https://ecrlife.org/baby-steps-toward-uprooting-toxicity-from-academia/>)

⁵⁹ Recognition and Rewards Programme (<https://recognitionrewards.nl/>)

⁶⁰ The fight to end bullying in academia: UK researchers launch nationwide campaign, Nature website, 1 November 2023 (<https://www.nature.com/articles/d41586-023-03418-3>)

⁶¹ Universities to double down on transgressive behaviour, The Brussels Times, 31 March 2022 (<https://www.brusselstimes.com/214101/universities-to-strengthen-fight-against-transgressive-behaviour/>)

⁶² Declaration on Research Assessment (DORA) (<https://sfedora.org/>)

⁶³ Leiden Manifesto for Research Metrics, 2015 (<http://www.leidenmanifesto.org/>)

⁶⁴ Agreement on Reforming Research Assessment, Coara, 2022 (https://coara.eu/app/uploads/2022/09/2022_07_19_rra_agreement_final.pdf)

⁶⁵ Statement on Research Culture, Science Europe, 2021 (<https://www.scienceeurope.org/our-resources/research-culture-statement/>)

impact pathways evaluation still uses bibliometrics and the H-index is still used to assess research careers.

During the MLE it was emphasised that for effective reform, it is important that all move forward together at national, institutional and individual researcher levels. Also, there must be an elevated level of coherence for assessing institutions, grant applications and researchers. A key part of the reform will be the training of reviewers as they are crucial to implement change.

There is a challenge in **Italy** as there has been a very positive reaction to research assessment reform within the research community. However, researchers need bibliometric results for national evaluation. This example emphasises the need for coherence.

In both **Austria** and **Slovenia** there are three-year funding cycles for universities. This provides an opportunity to introduce soft or even harder measures in the agreements between the government and universities in relation to research assessment.

Member State representatives pointed out during the meeting that researchers are worried about the way in which new assessment criteria might affect their prospects, plus there is a challenge of limited number of reviewers, creating peer review fatigue. A key part of the reform will be the training of reviewers. Translating these high-level objectives into concrete frameworks for implementation is at least as hard, if not more difficult, than agreeing on high-level objectives. The hardest part of changing reward practices in national and local processes for selection, evaluation, development and promotion is still ahead. These processes are strongly intertwined with funding mechanisms, allocation models and legislation. National regulations for allocating multi-annual funding, for example, often measure institutional performance based on quantitative metrics, which can drive an internal dynamic of competitive behaviour. Also the fact that the gatekeepers of reward mechanisms are often R4 level academics, explains a reluctance to change a system which enabled their own career to flourish. As pointed out above this will require a cultural change at national and institutional levels.

6.2. Peer review: a labour-intensive alternative

“Limiting the assessment frameworks to only those necessary” as stated in the ARRA principles, may be quite powerful. A lot of precious time of researchers is wasted⁶⁶ writing funding applications with low success rates or acting as peer reviewer for the applications of others. This observation has led to a more critical view on competitive rewards and pleas for more direct government funding⁶⁷, for higher success rates in competitive projects or simply for more efficient ways to allocate research money, but defining what exactly is “necessary” in research assessment will differ across countries, organisations and research disciplines. **Safeguarding researchers’ time for research is additionally challenging when the focus is meant to shift from easy metrics to the more complex endeavour of designing**

⁶⁶ Fund people not projects, Nature website, 28 September 2011 (<https://www.nature.com/articles/477529a>)

⁶⁷ How much would each researcher receive if competitive government research funding were distributed equally among researchers?, Plos One Journal, 2017 (<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0183967%20>)

qualitative criteria and promoting peer review: who will be spending more time on assessing the work of others?

There is great variation in the mechanisms for awarding research funding, which means that possible approaches to deal with excessive assessment cycles, labour-intensive peer review and alternative allocation models can vary. An easy-to-implement simplification of assessment burden is by adopting the “**seal of excellence**” principle: if a proposal has already been positively assessed through a quality process (e.g. at European level) but not awarded, the same assessment can be used to justify a similar award (e.g. at national or institutional level) without additional quality check.

The **Estonian** Research Council introduced this Seal of Excellence for their postdoctoral research awards in alignment with the MSCA selection procedure⁶⁸ (see Annex 9.3 for more detail). The measure is new, so it is too soon to monitor any impact.

7. Leave-Taking

While retaining talent is a concern for every organisation, employee turnover can be a key component of a dynamic labour market. It allows talent to circulate, brings in new ideas and approaches, helps individuals find jobs that better match their skills, and creates opportunities for new recruitment. According to results from the OECD’s Labour force Survey,⁶⁹ labour turnover rates vary significantly across countries and sectors. Low pay, feeling undervalued, and a lack of advancement in their job, were the top three reasons why people choose to change jobs.

7.1. Precarity

The world of science is also subject to labour market dynamics, but there are some characteristics which are responsible for an unusually high turnover rate, particularly in universities. **Precarity in careers is an important reason for premature leave-taking, but precarity means different things in different places⁷⁰.** In some countries, poor working conditions (salary, research funding) and lack of training are reasons for high potentials to leave the science system. In research-intensive parts of Europe, precarity can be the result of an abundance of project-based research funding, with many junior researchers on fixed-term contracts competing for open-ended contracts. A high intrinsic motivation and “taste for science” are the main reasons why high-potentials remain determined to endure this context of precarity – but exactly this puts them in a vulnerable position.

Let’s first look at involuntary turnover, the situation of leaving an organisation because one cannot stay. In Europe, funding for research careers has grown in the last decades as part of a consistent increase of investment in the knowledge economy⁷¹. In widening countries, the emphasis has been primarily on making R1 and R2 appointments more attractive with

⁶⁸ <https://etag.ee/en/funding/mobility-funding/postdoctoral-researcher-grant/>

⁶⁹ Retaining Talent at All Ages, OECD, 2023 (<https://www.oecd-ilibrary.org/sites/719b4555-en/index.html?itemId=/content/component/719b4555-en>)

⁷⁰ Precarious Careers in Research, Austrian Institute of Economic Research, 2022 (https://www.wifo.ac.at/wp-content/uploads/upload-8215/s_2022_precarious_careers_options_70473_.pdf)

⁷¹ Gross domestic spending on R&D, OECD Data, 2022 (<https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>)

higher bursaries/salaries and better social protection, but this transition is costly and therefore slow. In research-intensive countries, a range of other elements may contribute to precarity, such as the “chair-based” working units in some universities and public research institutes leading to fewer permanent positions, the lack of transparency in career paths, and the lack of predictability in grants and funding. Without adequate expectation management on the side of early career researchers and of their supervisors, highly talented but vulnerable researchers go through a significant period of financial precarity⁷², changing institutions every couple of years as grant money runs out. (See, for example, the #IchBinHanna⁷³ campaign in Germany).

For employers providing attractive working conditions and career paths (particularly the R&D sector) this phenomenon provides a talent pool of limitless supply. For the research team, it threatens the balance between retaining expertise and welcoming new ideas, with less room for slow science⁷⁴ and an erosion of team cohesion. **For the researcher, bridging periods of precarity and uncertainty relies as much on risk-taking, luck, personal financial resources and being willing to sacrifice relationships or family commitments, as on scientific merit.** There is, however, a systemic bias in an academic career system that treats the privilege of being able to take risks as a sign of being passionate about research. Women, international researchers and socially disadvantaged groups continue to have less access to stable academic positions and stakeholders must be prepared to address the systemic bias in this process.

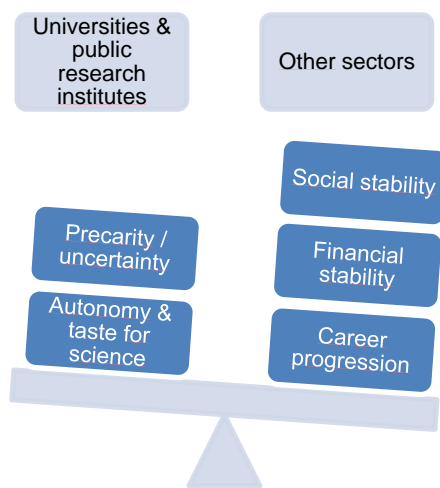


Figure 3: Precarity in Research Careers

7.2. Shaping one’s own career path

Second, voluntary turnover; i.e. leaving an employer because one makes a personal decision not to stay. In the section on “retention”, we already highlighted several challenges in retaining staff. Failing to meet these challenges adds to employee turnover (and this is why the sections of “retaining” and “leave-taking” highlight two sides of the same coin in managing

⁷² Reducing the precarity of academic researchers, OECD, 2021 (<https://www.oecd.org/publications/reducing-the-precariety-of-academic-research-careers-0f8bd468-en.htm>)

⁷³ IchBinHanna hashtag (<https://de.wikipedia.org/wiki/IchBinHanna>)

⁷⁴ The Slow Science Manifesto, Slow Science in Belgium (<https://slowscience.be/the-slow-science-manifesto-2/>)

an employee journey). Career progression, working with leading scientist and research autonomy⁷⁵ are identified as key reasons for leaving one's home country to continue a scientific career elsewhere, and if private industries are quicker to address these challenges than academic institutions, they will also make careers beyond academia more attractive than university careers. In quite a few countries public sector salaries are regulated by government and/or academics are civil servants, which raises the question on **how far governments should go in providing better pay or improving working conditions.**

Also, the number of researchers who leave academia because of experiences with poor leadership or intolerant behaviour of those in charge leads to additional turnover and inefficiencies in the research system. According to testimonies of early career researchers reporting misconduct, the protection of academic freedom is often invoked as a cover-up for toxic behaviour. Top academics who generate impressive amounts of funding, prestige and publications are so valuable to institutions that their behaviour tends to be condoned or minimized. Achieving a more successful research culture with avoidable turnover and making such careers more attractive, requires a collective responsibility.⁷⁶

In the context of “leave-taking”, the possibility of obtaining tenure is a unique feature of the academic career path but even within the tenured status, variations in legal conditions (civil servant status or not) will often define the level of permanency.

European universities tend to have more protection around tenure, by the academics themselves also valued highly as a guarantee for academic freedom. In **North-American, UK or Australian** universities a drop in international student numbers has forced universities to lay off significant numbers of academic staff⁷⁷, but a restructuring of research or educational programmes also creates new opportunities for others. By comparison, in many **European** universities it is not until one professor retires that a new vacant position can be advertised.

Robustness in the system provides security to those “on the inside” of the academic career system, but risks increasing the power balance with those “on the outside” even more.

7.3. Employability

Finally, a word on employability. Early career researchers (i.e., those transitioning from R1 to R2, having obtained their doctoral degree) should be able to make informed decisions about their future. For this reason, the training of researchers must include a preparation for transferring their research skills to the career path of their choice. Academia represents only one of several – virtually unlimited – possibilities, but the myth that a PhD degree is only an

⁷⁵ MORE4 Study – Survey on researchers in European Higher Education Institutions, Publications Office of the European Union, 2020 (https://op.europa.eu/en/publication-detail/-/publication/487036ad-bdd1-11eb-8aca-01aa75ed71a1/language-en/format-PDF/source-search%22%20/%20%22_blank)

⁷⁶ What researchers think about the culture they work in, Wellcome website, 15 January 2020 (<https://wellcome.org/reports/what-researchers-think-about-research-culture>)

⁷⁷ Higher ed policies drive layoffs and cuts in the UK, Australia and Canada, The Pie News, 2 May 2024, (<https://thepienews.com/layoffs-cuts-uk-australia-canada-higher-ed-policies-take-hold/>)

asset in the pursuit of an academic career, is surprisingly persistent among students and PhD graduates⁷⁸.

If R1-R2 researchers' transition into careers outside academia does not go smoothly, employers lose out on knowledge and skills. The researchers end up feeling frustrated. Better expectation management and more structured career support services and skills training can help. Minimising the loss of skills through better collaboration between academia and industry, through more entrepreneurship and through permeable careers, is a priority in the Council Recommendation and will be discussed in more detail in the second mutual learning exercise meeting.

Quite a number of countries/institutions have made that cultural shift already and have invested significantly in the employability of researchers beyond academia. Even if many researchers spend only a limited number of years working in universities or public research institutes, it should be a policy priority to make sure that this period is a valuable career experience. Not only will it benefit the career transition of R1 and R2 researchers. It will also force employers to invest in attractive working conditions and to collaborate more with non-academic partners which will ultimately also benefit those researchers who remain in academia.

8. Conclusions

Investing in research means investing in people and developing their talents. It is clear that the traditional paradigm of academic/research career structure is no longer tenable. On the contrary, researchers are a valuable asset for all employment sectors and this aspect needs to be promoted in order to ensure that the Council Recommendation on research careers can be realised across all Member States.

In discussions on policy for Research and Innovation at national level, the focus is usually on the production of new knowledge in terms of outputs including publications and patents. The fact that investment in Research and Innovation leads to the training and developing in people as researchers can be underplayed and sometimes ignored in policy. In order to understand how policy can positively influence changes leading to the implementation of the Council Recommendation it is necessary to look at the key stakeholders in Figure 4. The role of the various stakeholders in this transformation needs to be clearly understood and especially that of national policymakers. The entire dynamics of research funding and as a consequence the employment of researchers is driven by government policy. During the first Mutual Learning Seminar we have seen excellent examples of how policy actions can impact positively on researcher careers.

⁷⁸ See various discussion threads on Reddit :

https://www.reddit.com/r/PhD/comments/11ypgwh/for_people_who_have_completed_phd_programs_was_it/ ; https://www.reddit.com/r/PhD/comments/n6b9ka/is_a_phd_really_worth_it/ ; https://www.reddit.com/r/careerguidance/comments/177vkph/is_a_phdmasters_worth_it_anymore/; https://www.reddit.com/r/AskAcademia/comments/n00q6i/humanities_phds_that_have_left_academia_what_do/



Figure 4: Representation of the relationship between researchers and the key stakeholders governing their careers

The meeting in Brussels facilitated intensive discussions between Member States on how they are addressing the various challenges in the recruitment, working conditions, career development and progression for researchers.

9. Annex 1: A selection of inspiring good practices

9.1. Germany: Federal Programme for Female Professors

Title	Programme for Women Professors of the Federal Government and the Länder
Challenge or problem	<p>Women in Germany are excellently qualified. In achieving higher education grades including doctorate women are as successful as men. They graduate from high school more often than men as well as they accomplish their studies to slightly higher extent. In addition, women succeed in completing their doctorate as much as men. But the share of women in postdoctoral qualification, in obtaining a professorship or a management position does not correspond to their actual qualification. This is not due to a lack of interest, as shown by the large numbers of female junior professorships which equal the number of men junior professorships. Therefore, the challenge lies in keeping women in the science system as well as in increasing their participation on all levels of qualification in view of closing the gender equality gap.</p>
Vision & objective	<p>The “Programme for Women Professors” was launched in 2008. The current fourth phase of the program aims to close the existing equity gap between women and men in science further. With the “Programme for Women Professors 2030” the federal government and the Länder want to increase the number of female scientists in top positions in the science sector towards parity, promote (junior) female scientists in their careers to a lifetime professorship and retain them in the academic system, and promote gender equality measures in universities (including universities of applied sciences and universities of art and music).</p> <p>By increasing the number of women professors, young women are encouraged to enter higher education and pursue careers in science. The long-term integration of women’s talents and potential into the science system, aims to strengthening Germany’s international competitive position in science.</p>
Target group R1-R4⁷⁹	<p>R1 - First-Stage Researcher especially in subjects in which they are still underrepresented</p> <p>R2 - Recognised Researcher</p> <p>R3 - Established Researcher</p> <p>R4 - Leading Researcher</p>

⁷⁹ The R1-R4 profiles are as follows defined in the European Framework for Research Careers: (a) R1 – First Stage Researcher: Researchers doing research under supervision up to the point of a PhD or equivalent level of competence and experience (b) R2 – Recognised Researcher: Researchers with a PhD or equivalent level of competence and experience who have not yet established a significant level of independence in developing their own research, attracting funding, or leading a research group (c) R3 – Established Researcher: Researchers with a PhD or equivalent level of competence and experience who are able to independently develop their own research, attract funding, and lead a research group (d) R4 – Leading Researcher: Researchers with a PhD or equivalent level of competence and experience who are recognised as leading their research field by their peers. Source: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32023H01640>.

Title	Programme for Women Professors of the Federal Government and the Länder
Key elements of change	<p>With the “Programme for Women Professors 2030”, the federal government and the Länder want to:</p> <ul style="list-style-type: none"> • further increase the representation of women in professorships, in top academic positions and at management levels of German universities to parity, • promote career and personnel development for (junior) female academics in their careers to a lifetime professorship and increase the predictability of careers in higher education, • sustainably improve the representation of women at all qualification levels, especially in subjects in which they are still underrepresented, and • accelerate the cultural change towards gender-equitable organisation and cultures.
Implementation challenges	<p>On the basis of Article 91b (1) of the German Basic Law, the Federal Government and the governments of the 16 Länder agreed to combine their efforts in promoting science and research and therefore adopted a Federal-Länder agreement on a Women Professors Programme to promote gender equality in science and research at German institutes of higher education.</p>
Indicators or signs of success	<p>Increased number of women’s talents and potential in the scientific system. Increased number of long-term duration contracts for female scientists.</p>
Launch Date [& Duration]	<p>1st phase: 2008 – 2012 2nd phase: 2013 – 2017 3rd phase: 2018 – 2022 4th phase: 2023 - 2030</p>
Keywords	<p>Attracting, Retaining, diversity – equality - inclusion</p>
More information	<p>https://www.bmbf.de/bmbf/de/forschung/gleichstellung-und-vielfalt-im-wissenschaftssystem/frauen-im-wissenschaftssystem/frauen-im-wissenschaftssystem_node.html</p>

9.2. Spain: Open-ended contract for scientific and technical activities

Title	The Open-ended Contract for Scientific and Technical Activities
<p>Challenge or problem</p>	<p>Incorporation of researchers as permanent staff in Spanish public research performing organizations and universities is linked to the proportion of annual or regional budget assigned to them, respectively. The allocation of this budget is subjected to central/regional public administration approval, based on wage bill and replacement rate. Project-based funded open-ended contracts were also subjected to budgetary approval. These facts resulted in a large proportion of non-permanent researchers, project based funded, hired through Work and Service contract, a fixed-term contract under Labour Law. This fixed-term contract posed severe limitations for retaining personnel, especially those not at leading positions, and for administrating competencies in a more adaptable way to the organization needs. Its main limitations were: the exclusive dedication from the hired personnel to a single project, the one project-one person rationale, and its limitation to 5 years renewals.</p> <p>Moreover, Component 23 of the National Recovery and Resilience Plan planned to simplify contracts and mainstream open-ended contracts, resulting in a termination of work and service fixed-term contracts. This would have left a large proportion of research personnel working for Spanish public research performing organizations and universities unable to be contracted even if project-based funds were available.</p>
<p>Vision & objective</p>	<p>The vision of the Open-ended Contract for Scientific and Technical Activities is providing a more stable and attractive research career.</p> <p>Its specific objectives are:</p> <ul style="list-style-type: none"> • The simultaneous use of more than one project for contracting more than one employee, creating a flexible and versatile way to allocate competencies of personnel. • Avoid cycles of personnel renewal linked to project life cycles. • Reduce administrative burden, e.g. by removing prior authorization with regard to funding availability, and removing the link between the open-ended contract on the one hand and the wage bill on the other
<p>Target group R1-R4</p>	<p>All researchers, although the major impact is expected at R2 - Recognised Researcher level. In the Spanish system R3 - Established Researchers and R4 - Leading Researchers are mostly already permanent staff.</p> <p>This contract is also designed for non-structural research personnel other than researchers: scientific, technical, or management.</p>
<p>Key elements of change</p>	<p>Reforms in Science and Technology Law under the axis towards a more stable and attractive research career under the National Recovery and Resilience Plan incorporated a new article, 23b, that enunciates the Open-ended Contract for Scientific and Technical Activities. Its key elements are:</p> <ul style="list-style-type: none"> • Open-ended contract for carrying out tasks related to <u>research lines</u> or scientific-technical services,

Title	The Open-ended Contract for Scientific and Technical Activities
	<ul style="list-style-type: none"> • Allows adding <u>funding sources around a research line</u> • Does not require prior authorization, contract is not linked to wage bill, if there is previous funding or funding which comes from competitive actions. <p>National funded programmes include an increase in projects overheads to cover end of contract payouts, so institutions could comply with Labour Law legal obligations.</p>
Implementation challenges	<p>The main challenge is how RPOs and universities define research lines. There is a danger in defining a research line as a project.</p> <p>It is a new tool and creates legal uncertainty among implementers over the type of dismissal, whether it could be considered fair or unfair. Misuse of the new regulation or unfair dismissal could result in an incremental cost at the end of contract payouts (20 vs 30 days/worked year), or even in an obligation to provide a permanent contract.</p>
Indicators or signs of success	Increase of open-ended contracts and decrease in contract termination per year.
Launch Date [& Duration]	The Royal Decree 8/2022, approved on the 5 th of April of 2022, introduced a new article 23bis, in the Spanish Science and Technology Law.
Keywords	Retaining, fixed term positions, precarity
More information	<p>The Royal Decree 8/2022 https://www.boe.es/diario_boe/txt.php?id=BOE-A-2022-5516</p> <p>The Spanish Science and Technology Law https://www.boe.es/buscar/act.php?id=BOE-A-2011-9617</p>

9.3. Estonia: Doctorial Studies & the Seal of Excellence

Title	Improving career development for ECRs. The Estonian doctoral studies reform and the Seal of Excellence for postdoctoral grants
<p>Challenge or problem</p>	<p>The Estonian Research and Development, Innovation and Entrepreneurship (RDIE) Strategy 2021–2035 defines the main challenges for RDIE, including some connected to researchers’ careers:</p> <ol style="list-style-type: none"> 1. There is a shortage of people in Estonia with the skills and willingness to engage in research and development. A researcher’s career is not attractive in Estonia: there is a scarcity of PhD holders, research teams are small, doctoral studies are not attractive, funding for research teams is often uncertain and career paths for researchers are not well developed. 2. Project-based approaches and a high level of competitive pressure lead to a brain drain and hamper the emergence of new generations of researchers and engineers.
<p>Vision & objective</p>	<p>The RDIE Strategy 2021–2035 defines actions to tackle these challenges:</p> <ol style="list-style-type: none"> 1. To continue to increase the efficiency and attractiveness of doctoral studies, including the movement of doctoral students to the position of a junior researcher, ensuring social guarantees and income, and to support entrepreneurship; 2. To support post-doctoral studies as well as to attract incoming / returning researchers to Estonia.
<p>Target group R1-R4</p>	<p>R1 - First Stage Researcher R2 - Recognised Researcher</p>
<p>Key elements of change</p>	<p>Doctoral studies reform – there are 3 ways to pursue a PhD:</p> <ul style="list-style-type: none"> • junior researcher position at the University or R&D institution (the PhD student is a student but also a contract employee); • industrial PhD scheme – PhD student is working as a contract employee in a company and his/her PhD project is driven by the company’s needs; • just a PhD student (without a salary or a stipend). <p>Before the reform PhD students (all students in Estonia have healthcare) had a stipend of 660 euros per month (that also included social tax). Since 2022, the Ministry of Education and Research gives funds to the universities or R&D institutions for junior researcher’s wages fund which is 2446 euros per month with all social guarantees. For industrial PhD students, there is a support measure (supported by the European Regional Development Fund - ERDF) for companies to hire PhD students – the student works at the company as a contracted employee and is a student at the University.</p> <p>Using MSCA SoE principle when funding incoming postdoctoral researchers (by the Estonian Research Council): Aimed at researchers who have applied for the MSCA postdoctoral individual grant to come to Estonia, received a positive result (at least 70 points), but have not received funding. With one MSCA application, there are three funding possibilities: MSCA grant, ERA Fellowship grant or Estonian Research Council grant.</p>

	<p>The aim is to bring talented researchers to Estonia, motivate researchers to apply for excellence grants and gain from their experience in applying for MSCA grants. It also simplifies the administrative burden of the Estonian Research Council in recognising talented researchers for incoming postdoctoral applications as such an evaluation typically takes 1-2 months.</p>
Implementation challenges	<p>There is still a transition period to the new PhD system and therefore there are some challenges and there are not so many industrial PhD students as hoped.</p> <p>There are quite a few challenges for the postdoc scheme:</p> <ul style="list-style-type: none"> • Not as many MSCA applications as expected. • Communication must be organized differently than for MSCA. • Not all postdoc positions can be funded through ERDF: in order to qualify for ERDF funding, projects must lie within the scope of Estonia's national interests and smart specialization fields; therefore state funds are used in order to support other fields such as SSH.
Indicators or signs of success	<ul style="list-style-type: none"> • 300 PhD graduates per year (in total in Estonia); • 181 junior researchers/industrial PhDs working outside of the universities during 2022 – 2025 (the scheme where the PhD student is a student at the university but also a contract employee outside of the university doing his/her PhD project); • 150 Industrial PhD grants awarded by 2029; • 125 SoE grants awarded by the Estonian Research Council by 2029.
Launch Date [& Duration]	<ol style="list-style-type: none"> 1) 2022 2) 2023
Keywords	Attracting, retaining, adequate working conditions
More information	<ul style="list-style-type: none"> • Industrial PhD support measure https://etag.ee/en/funding/mobility-funding/sekmo-cross-sectoral-mobility-measure/#phd_student • https://etag.ee/en/funding/mobility-funding/postdoctoral-researcher-grant/

9.4. Slovenia: Supplementary Work Flexibility

Title	Supplementary Work for the Performance of Research Work
Challenge or problem	The Employment Relationships Act (ZDR-1) was adopted on March 5, 2013, and came into effect on April 12, 2013. Together with the Act Amending the Labor Market Regulation Act (ZUTD-A), it represented a comprehensive labour market reform aimed at establishing an appropriate balance between adequate worker security and the ability to adapt more effectively to market conditions.
Vision & objective	The reform enables easier transitions between jobs or positions with the same employer and between different employers (internal flexibility and labour market flexibility).
Target group R1-R4	The reform is not only targeted at researchers. However, researchers are the ones to whom it commonly applies, enabling them to move from one sector to another without losing contact with research. For example, I can be employed full-time as a policy officer at the Ministry and devote 20 percent of my time to research work.
Key elements of change	As described above, the reform enables easier transitions between jobs or positions within the same employer and between different employers (internal flexibility and labour market flexibility).
Implementation challenges	A contract can be made (only) for up to 8 hours per week, with the prior consent of the original employer.
Indicators or signs of success	The reform is widely used and known for allowing researchers the flexibility to combine employers and various sources of project grants, helping them address the challenge of funding their research work and enabling academic staff to remain active in their research.
Launch Date	April 12, 2013
Keywords	Retaining, rewarding
More information	(Webpage in English and/or webpage in local language) Zakonodaja v angleščini (pisrs.si) Zakon o delovnih razmerjih (ZDR-1) (PISRS)

9.5. Germany: Tenure Track Programme

Title	Joint Federal Government-Länder Tenure-Track Programme
Challenge or problem	The career prospects for early career researchers in Germany are to be made more reliable, predictable and transparent.
Vision & objective	<p>Establishing the tenure-track professorship as an additional career path towards a professorship in the German academic system in order to give researchers a prospect for a permanent position in the academic system at an earlier stage by funding up to 1,000 tenure-track professorships by 2032 at 75 universities in Germany.</p> <p>A further goal of the programme is to make improvements in the areas of equal opportunities between male and female researchers and the possibilities for researchers to reconcile family and work life.</p>
Target group R1-R4	<p>R2 - Recognised Researcher</p> <p>R3 - Established Researcher</p>
Key elements of change	<p>The German Federal Government concluded an administrative agreement with the Federal States (Länder) which forms the basis of the funding made available, in total up to one billion euros.</p> <p>After two approval rounds, 75 German universities now receive funding for personnel costs and material expenses for newly established tenure-track professorships and an additional strategy bonus to enable the university to introduce the necessary structural changes. In accordance with the agreement, these professorships will be permanently available at the respective universities.</p>
Implementation challenges	<p>Funded universities were required to carry out structural changes, such as design staff development plans and tenure-track statutes, establish quality-assured appointment and evaluation procedures and committees for tenure evaluations.</p> <p>Regarding the cultural aspect, the tenure-track system had to be accepted throughout the whole funded university by all faculties.</p>
Indicators or signs of success	<ul style="list-style-type: none"> • At the time of composing this report, already 971 tenure-track-professorships have been created through the funding scheme, which will continue to run until the end of 2032. • Appointments address the early career stage: the average age of appointment is 35.9 years. • 49.1% of appointed tenure-track professors are female. • Universities have created tenure-track-professorships beyond funded positions and made self-commitments regarding the proportion of new appointments via tenure-track (cultural change).

Title	Joint Federal Government-Länder Tenure-Track Programme
Launch Date [& Duration]	01 December 2017 (15 years; until 31 December 2032)
Keywords	Attracting, Developing, tenure track models
More information	<ul style="list-style-type: none"> • https://www.tenuretrack.de/en • The report of the first evaluation of the funding program (Executive summary in English) is available for download on the following webpage:

9.6. Czech Republic: Return Grants

Title	Programme Johannes Amos Comenius (P JAC) - Call for proposals "Returns"
Challenge or problem	Implementation of research grants provided to researchers returning to a research career after a career break
Vision & objective	The objective of the call is to ensure that career breaks do not result in the termination or significant slowing down of the future careers of talented researchers.
Target group R1-R4	The support is not limited by qualification or age. Therefore, in terms of the terminology of the P JAC, PhD students, junior researchers and senior researchers can participate (each can then set up their grant according to their needs, e.g. use a mentor or build a team, etc.). Therefore, all the profile types mentioned (R1 - First Stage Researcher and R2 - Recognised Researcher as well as R3 - Established Researcher and R4 - Leading Researcher) are included.
Key elements of change	<p>First call of its kind in the Czech Republic, other grants to follow.</p> <p>Simplified Reporting:</p> <ul style="list-style-type: none"> • Funding is managed through simplified reporting at the level of individual return grants. <p>Detailed Cost Breakdown:</p> <ul style="list-style-type: none"> • Grants cover personal costs (including team members or mentors), research costs (consumables, minor equipment, service costs, publication costs, travel expenses), professional training costs, care contributions, and overhead costs (lump sum).

Title	Programme Johannes Amos Comenius (P JAC) - Call for proposals "Returns"
	<p>Career Break Definition and Eligibility:</p> <ul style="list-style-type: none"> • Career break must be a minimum of 6 consecutive months (no upper limit specified), during which the applicant was unable to fully engage in R&D activities due to maternity/parental leave, long-term care, or long-term illness. • Applicants can work up to 0.3 FTE during the career break, with an average over the period, not exceeding 0.5 FTE in any given month. <p>Grant Application Eligibility:</p> <ul style="list-style-type: none"> • R1 to R4: must be a student or graduate of a doctoral programme (PhD or equivalent). • Must be currently on or have recently (within 12 months) completed a career break, documented by an official certificate. <p>Grant Duration and Commitment:</p> <ul style="list-style-type: none"> • Grants last between 1 and 3 years. • The grant holder must be involved with an employment contract ranging from 0.5 to 1.0 FTE. <p>Team Composition and Participation:</p> <ul style="list-style-type: none"> • The grant holder leads the grant and can involve up to 3 additional team members if relevant to the project. • Team size is limited to a maximum of 4 people (including the grant holder). • Employment contracts for additional team members must match the work nature and the grant's character, adhering to maximum limits set by general rules. <p>Optional International Mobility:</p> <ul style="list-style-type: none"> • Mobility is an optional sub-activity aimed at motivation, inspiration, and experience exchange from international research environments. • Mobility is exclusive to the grant holder, not applicable to other team members. • Mobility duration is between 1 and 6 months, with a maximum of 2 mobility periods per grant, not exceeding the total duration. • Mobility must be relevant and logically connected to the research project. • Grant holders can only engage in non-economic activities during the mobility at the host organization.

Title	Programme Johannes Amos Comenius (P JAC) - Call for proposals "Returns"
Implementation challenges	<ul style="list-style-type: none"> • Definition of career breaks • Duration of mobility and allowing its "fragmentation" + costs for the rest of the team (currently mobility can be up to a maximum of 6 months, divided into a maximum of two periods) • Discussion on the legal interpretation on the type of work-related activities a staff member can still be involved in during the time of leave for maternity and leave for other care, such as taking part in workshops, conferences and/trainings, which is expected to be resolved before the launch of the call (November 2024)
Indicators or signs of success	<ul style="list-style-type: none"> • Successful allocation of grants to eligible researchers returning from career breaks. • Successful reintegration of researchers into the R&D environment post-career break. • Effective collaboration and inclusion of additional team members where relevant.
Launch Date [& Duration]	November 2024 – April 2025
Keywords	Attracting, retaining, diversity – equality – inclusion, adequate working conditions
More information	https://opjak.cz/en/

9.7. Portugal: Wellbeing Measures at INESC TEC 1 (Porto) & in National Legislation

Title	Wellbeing measures at INESC TEC
Challenge or problem	Increase of mental health problems (e.g. stress, burnout, depression); Portugal is on top of the countries with highest consumption rate of antidepressants and anxiolytics (OECD, 2020); National legislation encourages the application of measures to prevent and promote workers wellbeing in institutions.
Vision & objective	Promote employee's wellbeing
Target group R1-R4	R1 - First Stage Researcher R2 - Recognised Researcher R3 - Established Researcher R4 - Leading Researcher
Key elements of change	Employee experience as an organizational strategy: <ul style="list-style-type: none"> • We listen to our people (e.g., working environment survey) • We co-create solutions (e.g., Specialized Working Groups; Focus groups; Interviews)
Implementation challenges	There is still some stigma about mental health issues
Indicators or signs of success	Involvement of the collaborators in the initiatives; Employee Engagement Indicator (eNPS) – target score above 40 by 2023
Launch Date	A number of initiatives have been ongoing for a long time. Where relevant, the launch date of specific initiatives is included below under “more information”.
Keywords	Retaining, adequate working conditions, wellbeing
More information	Initiatives: <ul style="list-style-type: none"> • Helpline initiative (launched in 2019 to assist with pandemic-related problems; now dedicated to promoting employee wellbeing and addressing psychosocial concerns); • Establishment of partnerships with mental health institutions in order to have more beneficial conditions for employees (2023); • Health insurance (including free online mental health programs and appointments) with the possibility of extending it to family members;

Title	Wellbeing measures at INESC TEC
	<ul style="list-style-type: none"> • Training sessions on mental health for managers and collaborators – topic that is part of our annual training plan (2023); • Psychosocial risk analysis surveys (2019; repeated in 2024); • Flexible working hours; • Hybrid model (since pandemic); • Allocation of additional resting days; • 4-day week pilot (2023); • Regular team building activities; • Periodic occupational gymnastics sessions (2023); • Social Responsibility and Diversity and Inclusion Committees raise awareness and organize some events regarding this theme (workshops; seminars... organised since pandemic) • INESC TEC is a partner of the European Campaign "Safe and healthy work in the digital age 2023-2025" promoted by the European Agency for Safety and Health at Work (EU-OSHA) that aims to foster collaboration, raise awareness, and encourage a safe and productive use of digital technologies across diverse sectors and workplaces (2023). <p><i>National laws:</i></p> <ul style="list-style-type: none"> • Law no. 102/2009 - Legal Framework for the Promotion of Safety and Health at Work - Article 15 - Employer obligations in terms of assessing psychosocial risks (INSEC TEC implementation of more formalised psychosocial risk assessment practices in 2019) • New Portuguese standard for the management of wellbeing and organizational happiness (NP4590-2023) - aims to create and maintain a culture of wellbeing and organizational happiness and to improve wellbeing and happiness at work, contributing to improving the organization's performance and sustainability (2023).

10. Annex 2: Meeting Agenda

Policy Support Facility Mutual Learning Exercise on Research Careers

“More Attractive & Sustainable Research Careers and Better-Balanced Talent Circulation”

Kick-Off/1st topic Meeting

27-28 June 2024 - Physical Meeting Brussels

Meeting Chair: Conor O’Carroll - **Meeting Rapporteur:** Gareth O’Neill -
Meeting Topic Expert: Karen Vandeveldel

27 June 2024	Agenda
	Welcome and Introduction
09.00-09.10	Welcome by the EC and introduction to MLE Objectives by <i>Manuel Aleixo, Head of Unit EC RTD A2 - ERA, Spreading Excellence and Research Careers</i>
09.10-09.25	Welcome by the Chair, including modus operandi, expected outcomes, presentation of the agenda by <i>Chair of the MLE, Conor O’Carroll</i>
09.25-09.55	Tour de table of <i>all participants (Name and affiliation)</i>
09.55-10.05	PSF MLE methodology complemented by lessons learned from previous activities by <i>Annamaria Nemeth, EC DG RTD A1, European Semester and country intelligence</i>
	Policy context: Presentation & Discussion
10.05-10.20	Presentation of the EU policy framework by <i>Dario Capezzuto, EC DG RTD A2, Researchers and Research Careers</i>
10.20-10.45	Q&A, discussion on EU policy framework <i>Animated by Chair and EC, Dario Capezzuto</i>
10.45-11.00	<i>Coffee break</i>
	Overview of the MLE topics

27 June 2024	Agenda
11.00-11.20	<p>Short presentations (5' each) of the four MLE sub-topics:</p> <ul style="list-style-type: none"> • Topic 1 - Recruitment, working conditions, career development and progression <i>Karen Vandevelde</i> • Topic 2 - Skills and inter-sectoral, inter-disciplinary and interoperable careers <i>Gareth O'Neill</i> • Topic 3 - Enabling conditions for attractive R&I systems and balanced circulation of talents <i>Jürgen Janger</i> • Topic 4 - A conducive policy and legal context for attractive research careers, including incentives for the implementation of the Charter for Researchers <i>Fulvio Esposito</i>
11.20-12.00	<p>Q&A, reflections on important aspects from the Member States' perspective <i>Animated by Chair</i></p>
12.00-13.00	<p><i>Lunch</i></p>
	<p>Presentation and discussion topic 1</p>
13.00-13.20	<p>Presentation of the discussion paper on "Recruitment, working conditions, career development and progression" <i>Karen Vandevelde</i></p>
13.20-13.30	<p>Q&A</p>
13.30-13.40	<p>Challenges for Member States, RFOs, and RPOs in Developing Open, Transparent, and Merit-Based Procedures for Researchers' Selection and Recruitment (OTM-R), by <i>Fulvio Esposito</i></p>
13.40-15.40	<p>Discussion on sub-topics "Attracting" (recruitment, bias, identifying potential, inclusion) and "Retaining / Leave-taking" (working conditions, career paths, wellbeing, precarity, employability)</p> <ul style="list-style-type: none"> • Attracting Researchers in the Czech Republic: National Policy and other initiatives, by Zuzana Weisgärberová (Ministry of Education, Youth and Sports - Czech Republic) (20 minutes) • Retaining/Leave-taking - The Contract for Scientific and Technical Activities: an open-ended contract to avoid short contract duration, by Elisa Garcia Garcia (Foundation of Science and Innovation (FECYT) – Spain) (20 minutes) • Q&A in plenary (20 minutes) • Focus groups I to discuss national practices and challenges on "Attracting" (30 minutes).

27 June 2024	Agenda
	<ul style="list-style-type: none"> • Focus groups II to discuss national practices and challenges on “Retaining / Leave-taking” (30 minutes). <p><i>(Each focus group ca 8 persons per table, the PSF experts act as rapporteurs)</i></p>
15.40-16.00	Coffee break
16.00-16.45	Plenary debrief and discussion <i>Debrief by each expert (5' each), animation by Chair and topic 1 expert</i>
16.45-17.00	Wrap-up & Closing of the day by <i>rapporteur of the MLE Gareth O'Neill</i> and <i>Chair</i>
19.00	Optional dinner at Kitchen151, Chaussée de Wavre 145, 1050 Ixelles

28 June 2024	Agenda
08.30-08.45	Welcome and agenda of the day <i>Chair</i>
08.45-09.00	Reforming research assessment for the benefit of research careers, by <i>Jean-Emmanuel Faure, EC-DG RTD</i>
09.00-11.00	<p>Discussion on sub-topics “Developing” (learning & development, tenure track, career progression, employability) and “Rewarding” (career assessment for career progression, performance management, implicit bias, time for research)</p> <ul style="list-style-type: none"> • Developing - Improving career development for ECRs: The Estonian doctoral studies reform and the Seal of Excellence for postdoctoral grants, Maarja Lillak (Ministry of Education and Research – Estonia) (20 minutes) • Rewarding - Career assessment for career progression, performance management, implicit bias, time for research, Vladimir Pabón-Martinez (Karolinska Institute – Sweden) (20 minutes) • Q&A in plenary (20 minutes) • Focus groups III to discuss national practices and challenges on “Developing” (30 minutes) • Focus groups IV to discuss national practices and challenges on “Rewarding” (30 minutes) <p><i>(Each focus group ca 8 persons per table, the experts act as rapporteurs)</i></p>
11.00-11.15	Coffee break

28 June 2024	Agenda
11.15-12.00	Plenary debrief and discussion <i>Debrief by each expert (5' each), animation by Chair and topic 1 expert</i>
12.00-13.00	<i>Lunch</i>
13.00-14.15	From discussion to insight, from insight to outlook: feedback on the seminar Insights from MSs, emerging issues, priorities, lessons to be taken back home <i>Animated by Chair and Karen Vandeveld</i>
14.15-14.30	Wrap-up, Next steps & Closing Wrap-up <i>Rapporteur</i> Next Steps & Closure of the Kick-Off Meeting <i>Chair</i>

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This thematic report has been prepared in the context of the Mutual Learning Exercise (MLE) on Research Careers involving 16 committed participating countries. The report is based on the first meeting of the MLE held in Brussels on 27-28 June 2024 on the topic of Recruitment, Working Conditions, Career Development, and Progression of Researchers. The report is structured around a simplified HR lifecycle structure, dividing the broad MLE topic into five sections, discussing the impact of career policies from the employee journey perspective.

Studies and reports

