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Proposal for a

COUNCIL RECOMMENDATION

on a European framework to attract and retain research, innovation and entrepreneurial talents in Europe

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<u>**EXPLANATORY MEMORANDUM**</u>

1. CONTEXT OF THE PROPOSAL

Researchers are the heart of the research and innovation system in Europe. There is a need to strengthen research careers to attract and retain talents and make the overall system stronger and more competitive. This is highly relevant to address the global and societal challenges Europe is confronted with, including the digital and green transition.

Since the launch of the **European Research Area** in 2000[1], there has been significant progress for researchers. However, there are still outstanding issues that require more targeted and effective measures.

The **Commission Communication on 'A New ERA for Research and Innovation'**[2] acknowledges that career development conditions to attract and retain the best researchers in Europe are necessary in the global race for talents, and that precarious employment, notably for early-career researchers has not adequately improved over the past years. It provides for a comprehensive approach towards research careers in Europe, through a toolbox of measures aiming at the recognition of the researchers' profession and skills, the development of a Competence Framework for Researchers, enhanced mobility and exchanges between academia and industry, targeted training opportunities, and a one-stop-shop portal that researchers can access for a wide range of support services.

The **Council Conclusions on 'Deepening the European Research Area: Providing researchers with attractive and sustainable careers and working conditions and making brain circulation a reality'** of May 2021[3], pointed out at the need for more coordinated action at European level to overcome the existing challenges faced by researchers and to have adequate and sustainable research careers, stimulate balanced talents circulation, and make Europe an attractive destination for researchers. It is suggested to move towards a single and comprehensive framework, addressing all challenges related to research careers in all possible research employment domains.

The need to make research careers in Europe more attractive is underlined also by the **Council Recommendation on a 'Pact for Research and Innovation in Europe' of 26 November 2021**[4], and the **ERA Policy Agenda annexed to the Council Conclusions on the 'Future governance of the European Research Area'** of 26 November 2021[5], which includes an action to '4. Promote attractive and sustainable research careers, balanced talent circulation and international, transdisciplinary and inter-sectoral mobility across the ERA'. The action foresees the development of a European framework for research careers, and the creation or upgrade of existing instruments in support of research careers.

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[1] COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Towards a European research area, Brussels, COM(2000) 6 final.

[2] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A new ERA for Research and Innovation, COM(2020) 628 final.

[3] Council document 9138/21.

[4] Council Recommendation (EU) 2021/2122 of 26 November 2021 on a Pact for Research and Innovation in Europe (OJ L 431, 2.12.2021, p. 1).

[5] Council document 14308/21.

Across Europe, researchers often find themselves in a **precarious position regarding employment and working conditions**. This is particularly true for **early-career researchers**. While the researcher is usually employed by a university or research organisation, funding comes directly (through fellowships) or indirectly (through research projects) from national and international funding organisations. Researchers are usually on short term contracts funded through grants with no clear prospect of job stability.

Salaries, social protection and working conditions can vary significantly depending on the sponsoring funding body. The **Human Resources Strategy for Researchers (HRS4R)**[6] tool has enabled employers and funders to put the principles of the **Charter and Code for Researchers**[7] into practice. The Marie Sklodowska Curie Actions (MSCA)[8] are promoting the Charter and Code, by making them a condition to participate in the programme. The Charter and Code, however, dates back to 2005 and needs to be revised to respond to the new reality and challenges, included but not limited to Open Science and gender equality. The revised version should also aim at a wider uptake beyond academia. The **EURAXESS** portals and services[9] continue providing mobile researchers globally with essential practical information and access to job opportunities across Europe. The **RESAVER**[10] pension scheme has helped but for the moment has limited coverage. There is scope to expand these services and tools.

There has been a lack of significant progress in supporting the **transition of researchers to broader employment sectors outside academia,** or towards the **creation of own start-ups and innovation**. One of the core reasons for the above-mentioned lack of progress is the current very narrow means of assessing researchers based on exclusively peer reviewed publications and very often the narrow metric of Journal Impact Factor. The consequence is to make researchers not willing to engage in activities such as open science, inter-sectoral mobility and entrepreneurship, citizen science and outreach as these activities will likely not be beneficial for an academic career. Also, this practice discourages interdisciplinary research due to the lack of journals with high impact factors.

Another factor that hinders career transition outside of academia is that most PhD candidates are trained in an exclusively academic environment. This form of academic apprenticeship leaves them ill equipped for alternative careers in other sectors. The UNESCO Science report 2021[11] states that there are some 8.85 million researchers worldwide. Since 2007, the number of researchers has risen by nearly 30%. China has overtaken the US (at 21.1% and 16.2% respectively). **The EU remains the world leader for the number of researchers**, with a 23.5% share. However, there has not been a similar increase in the number of academic positions and the reality is that only a tiny percentage of PhD graduates will find a job in the academic or public research sector. Therefore, they must look for employment outside these sectors[12]. In fact, given the small number of researchers that progress to become academics, it is academia that is the alternative career. As most researchers will not take up an academic

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6   https://euraxess.ec.europa.eu/jobs/hrs4r
7   https://euraxess.ec.europa.eu/jobs/charter
8   https://marie-sklodowska-curie-actions.ec.europa.eu/
9   https://euraxess.ec.europa.eu/
10   https://www.resaver.eu/

[11]UNESCO (2021) *UNESCO Science Report - The race against time for smarter development, ISBN: 978-92-3-100450-6.* Available at https://unesdoc.unesco.org/ark:/48223/pf0000377433 (Accessed 31 March 2023).

[12]According to Eurostat, in 2021 in the EU most researchers worked in the business enterprise sector (56%) and the higher education sector (32%), followed by the government sector (11%). See https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20221206-1.

career, they need to develop the **skills to be employed in non-academic sectors or to establish own entrepreneurial activities**.

There is still **asymmetric mobility of researchers** from East to West and South to North. Over the years there have been interventions, such as the possibility to use Cohesion Policy funds for research, or specific actions for Widening countries under the Framework Programmes for research and innovation[13]. However, while they have helped to induce a more balanced circulation of talent, these initiatives have not been sufficient to create longstanding effects.

While significant advances have been made regarding **gender equality**, there are still outstanding issues. There is a need to effectively address persisting gender inequalities in research careers – including gender pay gap, career progression, gender biases in assessment, work-life balance issues as well as gender-based violence, which all affect participation and career progression. Moreover, specific efforts are needed to address women's under-representation in the science, technology, engineering and mathematics (STEM).

At a more fundamental level, the **definition of the researcher** needs to be revisited to ensure that it comprehends the wide range of career options. It must be acknowledged that beyond research, other activities play a significant role, such as teaching, supervision and mentoring, engaging with industry and society. Moreover, it must be recognised that high-level research and innovation requires the support of a multitude of **research management roles**, undertaken by researchers or other professionals.

Given the importance of research careers, framework conditions and support measures need to be accompanied by an adequate and regular **monitoring system**, allowing for the collection of relevant data that can support research and innovation stakeholders as well as policy makers.

• **Reasons for and objectives of the proposal**

The current proposal for a Council Recommendation aims at responding to concerns and recommendations raised by the Commission and the Council[14] and implements one of the expected outcomes of action 4 of the ERA Policy Agenda, notably the development of a European framework for research careers. It provides the standards that can guide Member States, research organisations, funders and stakeholders in increasing stability and attractiveness of research careers. The objective is to **retain European researchers, and make Europe an attractive destination for foreign talents**.

A clear **definition of 'researcher'** is provided[15], to allow for a proper recognition of the profession in Europe. It is also clarified that researchers can take up a variety of **research professions** in all relevant sectors, including academia, business, public administration, and the non-profit sector. The proposal recognises the multitude of **research management roles** undertaken by researchers or other professionals, underlining the importance of further analysis and alignment of these professions at European level.

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[13] Widening countries are the ones with low participation in previous framework programmes for research and innovation.
[14] See previous section.
[15] Using the definition of the widely accepted Frascati Manual, https://www.oecd.org/sti/inno/frascati-manual.htm.

Improving **working conditions**, ensuring a work-life balance, and **countering precarity**, including by limiting fixed-term contracts and fostering more sustainable funding mechanisms for research organisations, will be a fundamental element for more attractive research careers. This will be complemented by measures to ensure adequate **social protection measures** and the portability of pension rights beyond borders. A **particular focus is placed on early-career researchers**, with dedicated incentives.

A **new Charter for Researchers** will replace the 2005 Charter and Code for Researchers[16], and will support the provision of good working conditions and research environments in relevant organisations. It will be a single document addressing simultaneously researchers, employers, funders and policy makers, and featuring a more streamlined number of principles[17] to facilitate implementation in all sectors. The new Charter can be the opportunity to launch the process for the revision of the current implementation mechanism Human Resources Strategy for Researchers (HRS4R).

Strengthening **researchers' skills**, notably transversal ones by making use of the **European Competence Framework for Researchers (ResearchComp)**[18] and including with the support of micro-credentials[19], will foster **inter-sectoral mobility** and a real flow of talents between sectors. This will underpin knowledge circulation, and help close the gap between researchers and the labour market demand for highly skilled talents.

Talent is at the core of **innovation**. Creating conditions to deliver and ensure a flow-through of highly skilled and resilient talents able to contribute to Europe's recovery and competitive edge is key. This entails stronger ties between academia and industry, and an entrepreneurial and innovation culture, with talents able to take the ideas they develop to the market.

While fostering inter-sectoral mobility and all other forms of mobility[20], and the creation of start-ups by researchers, the proposal acknowledges and rewards the **different career paths**, to make sure that their added value is adequately taken into consideration in relation to recruitment, career progression, and researchers' assessment. This is complemented by the support for **career advisory and support services**, to help researchers find their most suitable path and foster career development.

The **R1-R4 profiles for researchers** introduced in 2011[21] are updated and complemented by examples of occupations for each level and across sectors to make researchers' careers more comparable and interoperable across employment sectors and countries[22].

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[16] Commission Recommendation of 11 March 2005 on the European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers 2005/251/EC (OJ L 75, 22.3.2005, p. 67).

[17] A set of 20 principles instead of the 40 principles of the current Charter and Code for Researchers.

[18] See https://op.europa.eu/en/publication-detail/-/publication/8d536780-3025-11ed-975d-01aa75ed71a1/language-en.

[19] Council Recommendation 2022/C 243/02 of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability (OJ C 243, 27.6.2022, p. 10).

[20] Geographical, inter-institutional, interdisciplinary, virtual mobility.

[21] https://cdn5.euraxess.org/sites/default/files/policy_library/towards_a_european_framework_for_research_careers_final.pdf

[22] An analysis of the 79.285 vacancies published in the 2020 Euraxess database reveals that half of the vacancies were not linked to one particular career stage. Moreover, the analysis also revealed that each employer has its own terminology to define a job, which stresses the need to develop a common language.

The implementation of the new standards and recommendations will improve the overall national and European research and innovation systems, contributing to structurally **addressing cases of unbalanced circulation of talents**.

Support is provided for the implementation and further development of existing and new tools in support of research careers (e.g. EURAXESS, RESAVER, ResearchComp). They will all find place in the upcoming **ERA Talent Platform**, a one-stop shop for researchers providing support also for research organisations.

A **research careers observatory** will allow for the monitoring of the implementation of the current proposal, by collecting indicators on the different aspects covered. On the basis of this data, stakeholders and policy makers at national and European level will be able to take evidence-based action.

- • **Consistency with existing policy provisions in the policy area**

The current proposal is consistent with existing policy provisions, notably:

– The **Commission Communication on a 'European Skills Agenda for sustainable competitiveness, social fairness and resilience'**, adopted on 1 July 2020[23], which underlines that researchers are at the forefront of science and innovation, and that they need specific sets of skills to have successful careers within and outside academia. Among others, the Skills Agenda foresees the definition of a taxonomy of skills for researchers, the development of a European Competence Framework for Researchers, and support for equipping researchers with the skills needed for inter-sectoral mobility. The first flagship action of the Skills Agenda, the EU Pact for Skills, supports upskilling and reskilling through collaboration between industry, education and training providers, social partners and public authorities in large-scale skills partnerships.

– The **Commission Communication on 'A European Strategy for Universities'**[24], adopted on 18 January 2022, which foresees the development of a framework for research careers, in synergy with a European framework for attractive and sustainable careers in higher education.

– The **Commission Communication on 'A new European Innovation Agenda'**, adopted on 5 July 2022[25], acknowledges that innovation depends on the successful nurture, attraction and retention of talented individuals and a diverse array of skills, and underlines the importance of inter-sectoral mobility.

– The **Council Recommendation on 'The guiding principles for knowledge valorisation'**[26], adopted on 2 December 2022, aims to adopt a common line on

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[23] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS European Skills Agenda for sustainable competitiveness, social fairness and resilience, COM(2020) 274 final.

[24] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on a European strategy for universities, COM(2022) 16 final.

[25] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A New European Innovation Agenda, COM/2022/332 final.

[26] Council Recommendation (EU) 2022/2415 of 2 December 2022 on the guiding principles for knowledge valorisation (OJ L 317, 9.12.2022, p. 141).

policy principles and measures for national, regional and local policy makers to maximize the transformation of research and innovation results into solutions that benefit society. Among others, the Guiding Principles promote a framework to support the development of skills and capacities, a system of incentives, and metrics, monitoring and evaluation.

• **Consistency with other Union policies**

The current proposal is consistent with other Union policies, notably:

– The **European Pillar of Social Rights,** proclaimed by the European Parliament, the Council and the Commission in November 2017 and setting essential principles and rights for fair and well-functioning labour markets and welfare systems in the 21st century, and related Union provisions in the field of working conditions and social protection, including the **Commission Communication on 'An initiative to support work-life balance for working parents and carers'**[27] adopted on 26 April 2017; the **Directive on 'Transparent and predictable working conditions in the European Union'**[28], and the **Directive on 'Work-life balance for parents and carers'**[29], adopted on 20 June 2019; the **Council Recommendation on 'Access to social protection for workers and the self-employed'**[30], adopted on 8 November 2019. The Council Recommendation on Access to Social Protection, in particular, aims at ensuring that both workers and self-employed, under comparable conditions, can adhere to social security systems, build up and claim adequate entitlements, easily transfer social security entitlements from one job to the next, and have transparent information about their social security entitlements and obligations.

– The **Commission Communication on 'Attracting skills and talent to the EU'**[31], adopted on 27 April 2022 , recognises the importance and the need for the EU to become more attractive for talent from around the world. In this context, the Students and Researchers Directive[32] and the recent revision of the EU Blue Card Directive[33] contribute to these objectives by making it easier and more attractive for researchers and highly skilled workers to come to the EU, and by promoting the circulation of knowledge and skills by moving between Member States through enhanced intra-EU mobility rights.

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[27] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS An initiative to support work-life balance for working parents and carers, COM(2017) 252 final.

[28] Directive (EU) 2019/1152 of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union (OJ L 186, 11.7.2019, p. 105).

[29] Directive (EU) 2019/1158 of the European Parliament and of the Council of 20 June 2019 on work-life balance for parents and carers and repealing Council Directive 2010/18/EU (OJ L 188, 12.7.2019, p. 79).

[30] Council Recommendation 2019/C 387/01 of 8 November 2019 on access to social protection for workers and the self-employed (OJ C 387, 15.11.2019, p. 1).

[31] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Attracting skills and talent to the EU, COM(2022) 657 final.

[32] Directive (EU) 2016/801 of the European Parliament and of the Council of 11 May 2016 on the conditions of entry and residence of third-country nationals for the purposes of research, studies, training, voluntary service, pupil exchange schemes or educational projects and au pairing (OJ L 132, 21.5.2016, p. 21).

[33] Directive (EU) 2021/1883 of the European Parliament and of the Council of 20 October 2021 on the conditions of entry and residence of third-country nationals for the purpose of highly qualified employment, and repealing Council Directive 2009/50/EC (OJ L 382, 28.10.2021, p. 1).

–   The **Commission Communication on 'Harnessing talent in Europe's regions'**[34], adopted on 17 January 2023, focusing on the challenges of the talent development trap in the EU regions linked to the demographic decline, stagnating share of tertiary education population, and significant departure of young people.

2.   LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

•   **Legal basis**

The legal bases for this initiative are Articles 182(5) and 292 TFEU. In accordance with Article 292 TFEU, the Council can adopt recommendations and it will act on a proposal from the Commission in all cases where the Treaties provide that it must adopt acts on a proposal from the Commission.

In accordance with Article 179 TFEU, the Union will have the objective of strengthening its scientific and technological bases by achieving a European research area in which researchers, scientific knowledge and technology circulate freely, and encouraging it to become more competitive, including in its industry, while promoting all the research activities deemed necessary by virtue of other Chapters of the Treaties.

In accordance with Article 181 TFEU, the European Union and the Member States have to coordinate their research and technological development activities to ensure that national policies and EU policy are mutually consistent. In close cooperation with the Member States, the Commission may take any useful initiative to promote this coordination, in particular initiatives aiming at the establishment of guidelines and indicators, the organisation of exchange of best practice, and the preparation of the necessary elements for periodic monitoring and evaluation. The European Parliament must be kept fully informed.

Article 182(5) TFEU opens up the possibility of complementing the activities planned in the multiannual framework programme by allowing the European Parliament and the Council, acting in accordance with the ordinary legislative procedure and after consulting the Economic and Social Committee, to establish necessary measures for implementing the European Research Area.

•   **Subsidiarity (for non-exclusive competence)**

Researchers and research careers have specific challenges and needs, such as the recognition of the profession and common definitions at Union's level of 'researcher' and of the research professions to foster interoperability and comparability across Member States and sectors; a common understanding of the set of skills needed by researchers; the promotion of a balanced geographical, inter-sectoral and inter-disciplinary mobility; an improved and coordinated system for career development, progression and the assessment of researchers; Union's support instruments for research careers, including a comprehensive European monitoring system. These needs for their nature can only be achieved effectively by an initiative at Union level.

The Commission has taken action in the past, notably with the Commission Recommendation of 11 March 2005 'on the European Charter for Researchers and on a Code of Conduct for the

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[34]COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Harnessing talent in Europe's regions, COM(2023) 32 final.

Recruitment of Researchers'[35], however a new updated initiative is necessary to respond to new challenges and the new context.

The Council called on the Commission to take action in the Council Conclusions of 28 May 2021 on 'Deepening the European Research Area: Providing researchers with attractive and sustainable careers and working conditions and making brain circulation a reality", and in the ERA Policy Agenda annexed to the Council Conclusions on the "Future governance of the European Research Area' of 26 November 2021. The Council Recommendation on a 'Pact for Research and Innovation in Europe' of 26 November 2021 includes research careers and the mobility of researchers, together with research assessment and a reward system, as important fields of action in the context of the priority areas for joint action by the Union and Member States in support of the European Research Area.

It should also be considered that such an initiative is of paramount importance to make research careers in Europe more attractive, contributing in a decisive way to the objective of retaining research talents in Europe, and of making it an attractive destination for foreign talents.

- **Proportionality**

The present proposal is in conformity with the principle of proportionality as provided for in Article 5(4) of the Treaty on European Union. Neither the content nor the form of this proposed Council Recommendation exceed what is necessary to achieve its objectives. The commitments Member States will make are not of a binding nature, and each Member State remains free to decide on which approach to take.

3. RESULTS OF EX-POST EVALUATIONS, STAKEHOLDER CONSULTATIONS AND IMPACT ASSESSMENTS

- **Stakeholder consultations**

This proposal is based on evidence gathered and input received in the context of studies contracted by the Commission, which involved extensive interactions with stakeholders.

The study 'Taking stock, evaluating the achievements and identifying the way forward for the ERA Priority 3 policy measures' published in December 2021[36], took stock of the existing policy measures in support of the former ERA priority 'An open labour market for researchers', notably the Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, the Human Resources Strategy for Researchers (HRS4R), and the EURAXESS services network. It evaluated their achievements, defined needs and offered recommendations about new or revised policy measures to promote the human resources dimension of the new ERA. Several consultation activities were involved, including 3 online workshops (April, May and July 2021) with stakeholders and research institutions (e.g. universities and other RPOs umbrella organisations, researchers' organisations, European Universities alliances, research funders, EURAXESS network, Member States), a survey of organisations implicated in the HRS4R process, and a survey of the EURAXESS service network.

The main elements that emerged from the consultation of stakeholders in the context of the study can be summarised as follows:

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[35] Commission Recommendation of 11 March 2005 on the European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers 2005/251/EC (OJ L 75, 22.3.2005, p. 67).
[36]   https://op.europa.eu/en/publication-detail/-/publication/40089aaa-57dc-11ec-91ac-01aa75ed71a1.

– There has been wide acceptance of the Charter for Researchers and the Code of Conduct for the Recruitment of Researchers at institutional level within and outside the EU, but they require an update to respond to the new reality (Open Science, research integrity, gender equality, diversity and inclusion, team science, inter-sectoral and interdisciplinary mobility, research assessment), and their uptake should be promoted also beyond the academic sector;

– The HRS4R process and the related award have helped bring about positive change in human resources practices in organisations undertaking research, despite of the perception by some organisations that too much effort is required to gain the award;

– The take-up and effectiveness of the Charter and Code for Researchers and HRS4R are strongly influenced by national context and national policies;

– EURAXESS has reached a critical mass of researchers and research organisations within and outside the EU, resulting in a steady increase in volume and intensity of use. Researchers have gained a diversity of benefits from EURAXESS, but particularly in support of international mobility, whilst research organisations have enjoyed better access to research talent. However, there is a need to broaden the EURAXESS service offer so that it supports the development of research talent more broadly, and the current governance model would need to be strengthened accordingly;

– The labour market challenges facing researchers suggest a need for new and different forms of support for research careers, if the aspirations of the new ERA are to be met. In addition, to satisfy the aspirations of the new ERA relating to research careers, all existing tools should be brought together into an overall framework.

On the basis of these elements, the main recommendations resulted to be in relation to the need for:

– A single policy framework for research careers, featuring a holistic approach addressing all challenges, and with a focus to all sectors of the society where researchers perform their activities;

– An updated Charter and Code for Researchers reflecting the current challenges and opportunities manifested in the labour market for researchers, and a wider endorsement and implementation, including by the private sector, as a core part of the overall ERA;

– The evolution of EURAXESS into an ERA Talent Platform that provides more holistic support to researchers and is based on an improved governance model;

– Tackling labour market issues facing researchers, such as social protection or pension entitlements;

– Supporting mutual learning and exchange of experience related to research careers.

In addition, the higher education sector was consulted to develop a framework to strengthen its research and innovation mission in synergy with the education mission, leading to recommendations 'Towards a 2030 vision on the future of universities in Europe' (October 2020)[37], including on fostering human capital and career development. The main findings in this respect were to:

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[37] https://op.europa.eu/en/publication-detail/-/publication/a3cde934-12a0-11eb-9a54-01aa75ed71a1/

– Reform universities' career development, training and appraisal, recognition and incentives systems and structures, for a more holistic, quality-driven and less quantity-driven evaluation model;

– Reform researchers' career assessment, towards a balanced system based on the full spectrum of researchers' capabilities in a manner relevant to their career stage, position sought and other relevant contextual factors, avoiding a one-size-fits-all approach. The assessment should take into account research output, the research process, service and leadership, research impact, teaching and supervision, and other professional experiences;

– Embed skills training and professional development for researchers at all levels, requiring investment in the training and career development for researchers at all levels (R1-R4), with particular focus on researchers at R1 and R2 levels (PhD and postdoc) the majority of whom will not have permanent employment in academic sector;

– Provide training for researchers at all levels (R1-R4) in the practice of Open Science;

– Extend the concept of geographical mobility to include virtual mobility;

– Update the European Charter for Researchers and Code of Conduct for their Recruitment, based on the changed EU research and innovation landscape, and reflect the state of current discussions within the academic sector. This should also explicitly take into account Open Science, open and responsible innovation practices, diversity, research integrity, citizen science and quadruple i-mobility (transnational, inter-sectoral, interdisciplinary and virtual) in career development;

– Strengthen interaction between academia and non-academic sectors to reinforce universities' role as central actors at the heart of innovation ecosystems.

The study 'Knowledge Ecosystems in the new ERA', which ended in 2022, included the analysis of aspects related to research careers, notably skills[38], employment and working conditions, and the phenomenon of brain drain and talent circulation[39]. It also focused on the development of a methodology for an observatory on research careers. The study mapped and modelled inter-sectoral mobility measures across Europe, building on a previous Commission study on 'Fostering industrial talents in research at European level' (January 2018)[40]. Many consultation activities have been conducted in relation to this study, including:

– An online survey (April-May 2021) among researchers to gain insight into skills, social security and working conditions related to jobs in research, followed by 3 working group meetings in May 2021 to validate and refine the results of the interviews;

– An online survey (May-June 2021) to validate the set of skills that are key for researchers' jobs in the academic and private sector;

– Interviews with researchers (Q2 2021) at different career stages working in academia and other sectors, focusing on competences, skills training opportunities, and inter-sectoral mobility;

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[38] https://op.europa.eu/en/publication-detail/-/publication/8d536780-3025-11ed-975d-01aa75ed71a1/language-en

[39] https://op.europa.eu/en/publication-detail/-/publication/94a6a2ca-00c1-11ed-b94a-01aa75ed71a1/language-en and https://op.europa.eu/en/publication-detail/-/publication/ec09bd95-00c2-11ed-b94a-01aa75ed71a1/language-en/format-PDF/source-search

[40] https://op.europa.eu/en/publication-detail/-/publication/a33eb97c-437d-11e8-a9f4-01aa75ed71a1

–   Interviews with representatives of higher education umbrella organisations, associations of research organisations, representatives from Member States and business representatives (Q2 2021), focusing on the update of the European Skills, Competences, Qualifications and Occupations (ESCO), the development of a European Competence Framework for Researchers, the future of tenure tracks and the diversification of research careers;

–   A focus group (September 2021) with EU umbrella associations related to research (universities, research organisations, RTOs, etc.), industry associations, and EU and national policy makers to validate the work on the draft European Competence Framework for Researchers;

–   A workshop (October 2021) with over 450 participants among stakeholders from all sectors to address challenges related to research careers, notably in the field of competences;

–   A workshop (March 2022) with a wide range of stakeholders from all sectors, addressing researchers' skills and employment conditions, social protection issues of internationally mobile researchers, and the concept of an observatory for research careers;

–   A final workshop (September 2022) on competences, balanced talent circulation and inter-sectoral mobility.

The main findings of the study can be summarised as follows:

–   Researchers are of utmost importance for the research and innovation system in Europe, and it is important to strengthen their careers, making them more attractive and sustainable. A very first element to be addressed is a common definition of 'researcher' at European level;

–   The R1-R4 profile descriptors introduced in 2011 are frequently used and referred to in the recruitment of researchers in the academic sector, but more clarity is needed, including to foster their use beyond academia and allow for easier interoperability and comparability of researchers' roles across sectors and Member States;

–   Researchers consider transversal skills important for recruitment and career progression, but only a minority of PhD candidates in the EU believes the training received during their doctoral training includes transversal skills at a satisfactory level. The roll-out of a European Competence Framework for Researchers is highly awaited by stakeholders, it should not be binding, and it should leave flexibility to the users in relation to its implementation;

–   Skills are fundamental for inter-sectoral mobility of researchers, and certifiable formal and informal training should be available for researchers, including in coordination and cooperation with business and other relevant labour market actors to close the gap between demand and supply of researchers. However, it is equally important to provide support and guidance to researchers on career opportunities beyond academia, including via mentoring and career development services;

–   The frequent lack of open, transparent, and merit-based recruitment, precarious working conditions and the instability of career paths represent a barrier to the optimal development of the research human capital. Initiatives are needed, including considering a model tenure track system at EU level or any other transparent career accession and progression system;

– Mapping of the main causes contributing to brain drain related to the system level, research environment, recruitment and working conditions, and research excellence, pointing to conditions for more balanced mobility. The mapping is accompanied by the identification of pathways to more balanced talent circulation at Member States level on the basis of existing or upcoming practices in Member States or research organisations, and of pathways at EU level, structured around the dimensions of aligning, inspiring, and supporting;

– Identification of models, best practices and recommendations to promote inter-sectoral mobility in three categories: (i) strengthening academia-business cooperation, (ii) upskilling and reskilling of talents to meet business demand or build capacity in R&I support, (iii) entrepreneurship and business creation;

– Social security and its transferability can demotivate or complicate international research mobility. Several types of social security gaps occur because of mobility and affect mobile researchers the most. The first overarching gap is the varying employment statuses and their implications on social security. Changing employment status when moving between countries can result in different social security entitlements. For instance, when PhD researchers are classified as students instead of employees, they may have limited or no social security coverage. Additionally, access to and quality of the information provided to mobile researchers is often limited. Specific gaps exist to specific kinds of social security. Pension, especially supplementary pension, is undoubtedly the major concern as mobile researchers with frequent short-term contracts might not meet the vesting periods defined for supplementary pension schemes. For the unemployment, previous employment record, regardless of the country, is considered when deciding about the access and amount of the unemployment benefits.

– A methodology and indicators for monitoring of research careers on the basis of existing data and complemented with survey-based approach in four dimensions: jobs, conditions, skills, and mobility (preparatory work for a research careers observatory).

Additional consultation activities with Member States, Horizon Europe Associated Countries, and stakeholders, took place in the context of the work on the Commission proposal for a Council Recommendation 'on a Pact for Research and Innovation in Europe'[41], and on the ERA Policy Agenda, notably Action 4 aiming to 'Promote attractive and sustainable research careers, balanced talent circulation and international, transdisciplinary and inter-sectoral mobility across the ERA'.

This proposal takes into consideration also the work of the ERAC Triangle Task Force on the revision of the Charter and Code for Researchers, input received in the context of stakeholders' consultations for the European Strategy for Universities, and information or studies from third parties, including the OECD. In addition, a dedicated ERAC workshop on researchers was co-organised in December 2020 with the ERAC Triangle Task Force and the Trio of Presidencies.

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[41] The views of multiple stakeholders were gathered at a number of events. In particular, the ERA Forum for Transition (set up as an informal Commission expert group) provided advice to the Commission, and allowed the views of the Member States and stakeholders to be taken into account in a structured way. Relevant stakeholders and umbrella organisations were invited to share their views (e.g. at workshops on 20 April and 25 May 2021). A public consultation was also conducted between 15 April and 13 May 2021 to gather the views of the broader public.

Proposal for a

COUNCIL RECOMMENDATION

on a European framework to attract and retain research, innovation and entrepreneurial talents in Europe

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 182(5) and Article 292, first and second sentence, thereof,

Having regard to the proposal from the European Commission,

Whereas:

(1)   Article 179 of the Treaty on the Functioning of the European Union states that the Union shall have the objective of strengthening its scientific and technological bases by achieving a European Research Area in which researchers, scientific knowledge and technology circulate freely. In this regard, Article 180 of the Treaty on the Functioning of the European Union states that a number of activities shall be carried out by the Union to complement the ones carried out in the Member States, including the stimulation of the training and mobility of researchers in the Union, and the dissemination and optimisation of the results of research activities in the Union.

(2)   The Commission Recommendation 2005/251/EC[42], played an important role in supporting researchers and research careers in the Union. The Charter for Researchers and the Code of Conduct for the Recruitment of Researchers ('Charter and Code for Researchers') have become reference points for researchers and employers or funders of researchers, contributing to strengthening the European Research Area and supporting the development of a more attractive, open and sustainable European labour market for researchers. A European procedure certifying the commitment and progress of an institution towards the implementation of the principles of the Charter and Code for Researchers, the Human Resources Strategy for Researchers (HRS4R), is in place since 2008.

(3)   The Commission Communication on a 'European Skills Agenda for sustainable competitiveness, social fairness and resilience', adopted on 1 July 2020[43], underlines that researchers are at the forefront of science and innovation, and that they need specific sets of skills to have successful careers within and outside academia. It foresees the definition of a taxonomy of skills for researchers, including to allow the statistical monitoring of brain circulation, the development of a European Competence Framework for Researchers, and support for equipping researchers with the skills needed for inter-sectoral mobility. The first flagship action of the Skills Agenda, the

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[42] Commission Recommendation 2005/251/EC of 11 March 2005 on the European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers (OJ L 75, 22.3.2005, p. 67).
[43] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS European Skills Agenda for sustainable competitiveness, social fairness and resilience, COM(2020) 274 final.

(4) The Commission Communication on 'A New ERA for Research and Innovation', adopted on 30 September 2020[44], acknowledges that career development conditions to attract and retain the best researchers in Europe are necessary in the global race for talents, and that precarious employment, notably for early-career researchers, has not adequately improved over the past years. It also highlights the frequent misalignment between researchers' skills and the needs of society and of the economy, notably those of industry and businesses, and the importance to incentivise researchers to pursue a career outside academia. The Communication points out that in order to strengthen research careers in Europe, there is a need for a toolbox of measures aiming at the recognition of researchers' skills, the development of a Competence Framework for Researchers, enhanced mobility and exchanges between academia and industry, targeted training opportunities, and a one-stop-shop portal that researchers can access for a wide range of support services. The Communication also foresees the improvement of the research assessment system.

(5) The Council Conclusions on the 'New European Research Area' of 1 December 2020[45] stress that creating attractive and safe working conditions, and enhancing the attractiveness of research careers, taking into account open science, gender equality, digital skills, research assessment, diversification of research careers and multiple career paths, are vital elements of the new European Research Area, contributing to attracting and retaining excellent researchers.

(6) The Council Conclusions on 'Deepening the European Research Area: Providing researchers with attractive and sustainable careers and working conditions and making brain circulation a reality' of 28 May 2021[46], recognise that researchers are at the heart of the European research and innovation system, and that more coordinated action at European level is needed to overcome the existing challenges faced by researchers in view of having adequate and sustainable research careers, stimulate balanced talents circulation, and make Europe an attractive destination for researchers. They suggest analysis on the possible evolution of the Charter and Code for Researchers towards a single and comprehensive framework, addressing all challenges related to research careers beyond values and principles, and focusing on all possible research employment domains, and request the Commission to make a proposal in 2022. Aspects such as recruitment, incentives for early-career researchers, career diversification and progression, interoperability with all sectors of the society including industry, researchers' assessment, gender equality, work-life balance, and an improved governance and services for EURAXESS, are suggested as elements to be included in the proposal.

(7) The Council Recommendation (EU) 2021/2122[47] includes research careers and the mobility of researchers, together with assessment of research, researchers and institutions, as important fields of action in the context of the priority areas for joint

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[44] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A new ERA for Research and Innovation, COM(2020) 628 final.
[45] Council document 13567/20.
[46] Council document 9138/21.
[47] Council Recommendation (EU) 2021/2122 of 26 November 2021 on a Pact for Research and Innovation in Europe (OJ L 431, 2.12.2021, p. 1).

action by the Union and Member States in support of the European Research Area, and specifies a common set of principles and values to underpin research and innovation in Europe. It also highlights the need to give greater attention to early and mid-stage researchers' careers, including the specific barriers that women face in those stages.

(8) The ERA Policy Agenda annexed to the Council Conclusions on the 'Future governance of the European Research Area' of 26 November 2021[48], includes dedicated actions to 'Advance towards the reform of the assessment system for research, researchers and institutions to improve their quality, performance and impact', and to 'Promote attractive and sustainable research careers, balanced talent circulation and international, transdisciplinary and inter-sectoral mobility across the ERA'. The last-mentioned action foresees the development of a European framework for research careers, together with the upgrade of existing instruments and initiatives, and the creation of new ones. This includes the launch of an observatory on research careers; an evolution of the Charter and Code for Researchers; the setup of the ERA Talent Platform as a one-stop-shop online gateway to EURAXESS services, network and portals including HRS4R, and RESAVER; the launch of the ERA4You initiative to promote talent circulation between sectors and across the EU; the exchange of good practices with regard to research and innovation systems to support balanced brain circulation; and the piloting of the new framework for research careers with the European Universities alliances.

(9) The Commission Communication on 'A European Strategy for Universities', adopted on 18 January 2022[49], foresees the development of a framework for research careers, in synergy with a European framework for attractive and sustainable careers in higher education to be proposed by 2023.

(10) The Commission Communication on 'A new European Innovation Agenda', adopted on 5 July 2022[50], acknowledges that innovation depends on the successful nurture, attraction and retention of talented individuals and a diverse array of skills, and underlines the importance of inter-sectoral mobility.

(11) The Council Recommendation (EU) 2022/2415[51] emphasizes the importance of investing in the development of entrepreneurial culture, practices, skills and capacities for researchers and other research and innovation actors, including intermediaries, whose continuous professionalisation is essential, to maximise the transformation of research and innovation results into solutions that benefit society. A Code of Practice on industry-academia collaboration will support the implementation of the Recommendation.

(12) Researchers are a fundamental resource for society. They perform research, foster innovation, contribute to solutions to societal challenges, including the digital and green transition, thus contributing to the Commission overarching priorities for 'A Europe Fit for the Digital Age', and of 'A European Green Deal'. Researchers are

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[48] Council document 14308/21.

[49] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on a European strategy for universities, COM(2022) 16 final.

[50] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A New European Innovation Agenda, COM/2022/332 final.

[51] Council Recommendation (EU) 2022/2415 of 2 December 2022 on the guiding principles for knowledge valorisation (OJ L 317, 9.12.2022, p. 141).

highly skilled talents who have great potential to meet the labour market demand, thus contributing to the other overarching priority of 'An economy that works for people'. It is crucial to improve their overall working environment by strengthening research careers, their effectiveness, and making them interoperable between sectors.

(13) Enhancing the attractiveness and stability of research careers across the Union is a key element of the European Research Area. Therefore, there is a clear need to make research careers more attractive for school-leavers, and to put in place framework conditions to retain talented researchers in the Union, as well as for making it an appealing and competitive destination for international researchers.

(14) Talent is at the core of innovation. It is thus indispensable to create conditions to deliver and ensure a flow-through of highly skilled and resilient talents able to contribute to Europe's recovery and competitive edge. This entails stronger ties between academia and industry, and an entrepreneurial and innovation culture, with talents able to take the ideas they develop to the market.

(15) The Marie Skłodowska-Curie Actions (MSCA) have been supporting for over 25 years, as part of the Framework Programmes for Research and Innovation, researchers from all over the world, at all stages of their careers, with a focus on training, skills and career development. The programme has also had a structuring impact on organisations (universities, research centres, enterprises etc) by spreading good pratices and increasing their international attractiveness and visibility notably through the development of excellent doctoral programmes. MSCA is a best practice example in contributing to inter-sectoral, inter-disciplinary and geographical mobility, developing researchers' skills, addressing gender imbalances, retaining talented researchers and attracting new talent to Europe. The MSCA Industrial Doctorate programmes, where the research experience, location and supervision of a doctoral candidate are equally shared between an academic and a non-academic establishment, are an important example of interaction and cooperation between ecosystem actors, fostering transversal skills and inter-sectoral mobility, and helping industry's needs of highly skilled talents.

(16) Eurostat data indicate that the number of researchers in Europe experiences a growing trend. In 2021, there were 2 million researchers (in full-time equivalent) working in the Member States, 627 thousand more than in 2011. Most researchers work in the business enterprise sector (56%) and the higher education sector (32%), followed by the government sector (11%). It is important to sustain this growing trend with adequate investments, infrastructures and policies at national and Union level supporting the attractiveness of research careers, including as regards diversity and gender equality, and to promote a culture of equal value and reward of research careers in all sectors of the society.

(17) There is a need for a clear and common definition of 'researcher' at European level, such as for example the definition of the widely accepted Frascati Manual, and for a common understanding of research professions. The research professions should be intended as the occupations that researchers can take up in all relevant sectors, comprising academia (universities, polytechnics and research institutes), business (including industrial laboratories, start-ups, spin-offs or small and medium-sized enterprises), public administration bodies (including public laboratories and the health care system), and the non-profit sector. Efforts are needed for the full recognition of the research profession, and to aim at the comparability of the research professions across Member States and sectors, including through the update of the R1-R4

researchers' profiles introduced in 2011 and their wider use in vacancies for researchers.

(18)   Performing high-level research and innovation requires the support of a multitude of research management roles, undertaken by researchers or other professionals. These highly valuable professions deserve proper recognition, including by way of further analysis and alignment at the level of the Union, with a view to strengthening their capacity, developing relevant training, fostering comparability, and allowing them to effectively manage and support research and innovation.

(19)   The European Skills, Competences, Qualifications and Occupations (ESCO) classification has been updated in 2022 to include improved taxonomies of skills and occupations for researchers, thus specifying the occupations relevant for researchers across labour market sectors, and the transversal skills researchers need to be successful. The implementation of the ESCO classification in EUROPASS and in the European network of employment services (EURES), facilitates the uptake of this improved terminology in the labour market. Interaction by the Commission with the International Labour Organization is needed to have the specific category of 'researcher' included in future revisions of the International Standard Classification of Occupations (ISCO), on which the ESCO classification is based.

(20)   As recognised by Article 13 of the Charter of Fundamental Rights of the European Union, and as stated in the Bonn Declaration on Freedom of Scientific Research of 20 October 2020, in the European Higher Education Area Rome Communiqué of 19 November 2020, and in the Council Recommendation (EU) 2021/2122, academic freedom and the freedom of scientific research must be safeguarded as essential prerequisites for researchers to advance research and innovation,. In this respect, a Staff Working Document was published by the Commission in January 2021 on how to mitigate foreign interference in research and innovation. The publication outlines best practices to support higher education and research institutions in safeguarding their fundamental values, including academic freedom, integrity and institutional autonomy, as well as to protect their staff, students, research findings and assets.

(21)   Women continue to be under-represented among researchers, constituting only 33% of the total population of researchers in the Union. Data also show that a higher percentage of women researchers are employed in the higher education sector, compared to men researchers, whereas their percentages are lower in the government and business sectors. Across the Union, a higher proportion of women researchers, compared to men researchers, work part-time and under precarious contracts in higher education (11% for women and 7% for men) and women only occupy 26% of top academic positions (full professorship or equivalent researcher position). There is a need to effectively address persisting gender inequalities in research careers – including gender pay gap, gender biases in assessment, work-life balance issues as well as gender-based violence, which all affect participation and career progression – through institutional change, including through the instrument of inclusive gender equality plans. Moreover, specific efforts are needed to address women's under-representation in the science, technology, engineering and mathematics (STEM) fields in research and innovation, as well as in the higher education sector as highlighted in the European strategy for universities which proposes a manifesto from STE(A)M-oriented universities on gender-inclusive STE(A)M education.

(22)   To support the full personal and professional development of researchers in the Union, and in particular of early-career researchers, it is essential to address existing

challenges which have negative consequences on the overall research and innovation system in the Union, and on the internal market for research. Such challenges include employment and working conditions aspects, such as a different students/employees status of doctoral candidates across Member States, frequent lack of open, transparent, and merit-based recruitment, precarity linked to short-term project-based contracts, unsatisfactory equal opportunities, work-life balance and wellbeing measures, and weaknesses of social protection tools, including difficulties with the portability of entitlements between sectors and Member States.

(23)   The employability and career development of early-career researchers would benefit from dedicated incentives for their recruitment, such as financial and social protection ones, including opportunities for permanent or open-ended contracts in line with the intent of Council Directive 1999/70/EC of 28 June 1999 concerning the framework agreement on fixed-term work concluded by ETUC, UNICE and CEEP[52]. In this respect, a wider use of baseline funding or life-cycle research funding could be promoted alongside project-based funding. Baseline funding provides universities or research centres with a projection of guaranteed financial support in return for meeting certain deliverables and quality standards; life-cycle funding is characterised by an initial competition for funding that is renewed if assessed positively following a monitoring process. This allows research organisations to develop more long-term research strategies and engage in sustainable commitments towards employees, while using project-based funding to continue exploring new itineraries.

(24)   As asserted in Article 22 of the Universal Declaration of Human Rights, everyone, as a member of society, has the right to social security and is entitled to realization of the economic, social and cultural rights indispensable for dignity and the free development of personality. Article 9 of the Treaty on the Functioning of the European Union states that the guarantee of adequate social protection must be taken into account when defining and implementing Union policies and activities. Principle 15 of the European Pillar of Social Rights states that both workers and the self-employed in retirement have the right to a pension commensurate to their contributions and ensuring an adequate income. Yet, mobile researchers experience difficulties accumulating adequate supplementary pensions as a result of vesting periods, high transfer fees, limited financial literacy and administrative burden at retirement age. Therefore, safeguards based on the Council Recommendation of 8 November 2019 on 'Access to social protection for workers and the self-employed'[53] should be ensured to researchers.

(25)   RESAVER, the pan-European institution supported by the Commission which deals with occupational retirement provisions for research performing organisations and will be one of the components of the upcoming ERA Talent Platform, has the full potential to address social protection issues of mobile researchers, but its uptake is hindered by limited awareness and substantial administrative and legal hurdles. With the aim to safeguard the occupational pension rights of mobile researchers, information about how potential mobility might affect pension rights should be provided, and participation of research performing organisations in RESAVER should be promoted.

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[52]Council Directive 1999/70/EC of 28 June 1999 concerning the framework agreement on fixed-term work concluded by ETUC, UNICE and CEEP (OJ L 175, 10.7.1999, p. 43).

[53]Council Recommendation of 8 November 2019 on access to social protection for workers and the self-employed (2019/C 387/01) (OJ C 387, 15.11.2019, p. 1).

(26) Inter-sectoral, inter-disciplinary and geographically balanced mobility are essential to make research careers in the Union more effective, sustainable and attractive. With such mobility, the overall research and innovation system becomes more competitive, and fosters better knowledge production, circulation, and use. Those forms of mobility should be promoted, incentivised and adequately integrated into the researchers' professional development, and action should be taken to promote the elimination of existing obstacles of any possible nature, including e.g. the limited portability of grants.

(27) A change of approach would be needed by academia and researchers, whereby research careers are considered fully interoperable and inter-sectoral, the reward system attributes equal value to careers undertaken in all sectors and does not penalise geographical, inter-disciplinary and inter-sectoral mobility or career breaks, including sabbaticals or parental leave, and researchers take into consideration indistinctly careers in academia and beyond.

(28) In some instances, doctoral training is still directed mainly at a future career in academia, and it does not sufficiently take into consideration the wider range of occupations relevant for researchers across sectors, as well as the importance of fostering researchers' entrepreneurship. Equipping researchers with transversal skills through formal and informal trainings, in addition to strong research skills, is highly important for better career opportunities, inter-sectoral mobility and innovation, and to make research careers in the Union more attractive. Furthermore, it would be important for researchers to have a clear understanding of their societal responsibility and of the societal impact of their research, including aspects related to sustainability.

(29) The European Competence Framework for Researchers (ResearchComp) developed by the Commission in consultation with Member States and stakeholders, will play a key role in equipping researchers with a wide set of transversal skills and closing the skills gap between academia and all other relevant sectors. Doctoral training, and targeted training opportunities, should be developed according to the competences described therein, including based on the exchange of best practices, in order to allow for the up-skilling and re-skilling of researchers with a lifelong perspective. Adequate recognition and validation mechanisms for formal and informal training opportunities, including on-the-job training, should be ensured.

(30) To ensure that researchers' training is developed or co-developed on the basis of actual skills needs, interaction and cooperation between academia, business, public administration, the non-profit sector, and all other relevant ecosystem actors should be promoted, including for example in relation to internships, traineeships or job shadowing.

(31) Fostering an entrepreneurial mindset and the related competences in researchers, including competences for seeking investors and capital, is crucial to improve knowledge valorisation and the transformation of innovative ideas into new services and products with higher potential for market uptake, sustainable growth, innovation and societal benefits. For a successful entrepreneurial path, intellectual assets such as publications, data, know-how and intellectual property should be properly understood and efficiently managed as referred to in Council Recommendation 2008/416/EC[54].

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[54] Commission Recommendation 2008/416/EC of 10 April 2008 on the management of intellectual property in knowledge transfer activities and Code of Practice for universities and other public research organisations (OJ L 146, 5.6.2008, p. 19).

(32) Cross-sectoral talent circulation, improved interoperability of research and innovation jobs between sectors, and strengthened academia-business collaboration for both knowledge and talent transfer demand a combination of different and complementary measures at national and Union levels, including system reform. A policy approach that involves mutual learning on the basis of successful models for inter-sectoral mobility schemes can contribute to (i) strengthening academia/non-academia cooperation, and reinforcing innovation ecosystems, (ii) improving training and lifelong learning for researchers, innovators, and other research and innovation talents, including upskilling to build support capacity, and (iii) boosting researchers' development of entrepreneurial skills.

(33) Researchers should be made aware of the crucial importance of policy making and policy measures in the field of research, and the impact they can have on the overall research careers and research and innovation system. It would be important for doctoral training to include and instil this understanding, in order to ensure more involvement of researchers in policy making activities related to the research field.

(34) Researchers, in particular early-career ones, should be made aware of prospects available in all sectors and of the possibility of pursuing those opportunities for widening their spectrum of personal and professional development. Career advisory and support services, tailored to the needs of researchers, have an important role to play, stimulating inter-sectoral, inter-disciplinary, geographical and virtual mobility, and the possibility of developing entrepreneurial activities. Inter-institutional mobility, notably between different profiles of higher education and research institutions and along diverse and flexible academic paths should be promoted, including by addressing obstacles linked to the competences developed in the previous institution, and the ones required in the new one.

(35) Research assessment should enable evaluating the performance of researchers and research to achieve the highest quality and impact. As highlighted in the 2022 Paris call on research assessment, in the scoping report 'Towards a reform of the research assessment system' published by the Commission in 2021 and based on broad consultation of stakeholders, in the Council Conclusions on 'Research assessment and implementation of Open Science' of 10 June 2022[55], and in the Agreement on Reforming Research Assessment published in July 2022, a proper evaluation of performance requires recognition of increasingly diverse research outputs, activities and practices, including collaboration and open sharing of outputs, and ensuring high research integrity standards. Researchers' assessment should therefore move to a more balanced approach between the quantitative and qualitative evaluation of research, by favouring qualitative assessment with peer-review, supported by responsible use of quantitative indicators.

(36) Researchers' assessment should promote an equal recognition and reward of careers of researchers regardless the sector of employment or activity, and be based on an unbiased talent-based approach. A multiple career path, characterised by geographical, sectoral, and inter-organisational mobility, or hybrid paths characterised by the simultaneous combination of sectors, deserve full recognition and consideration on a par with a linear career path.

(37) In order to reinforce careers in academia, up to the top positions, a transparent, structured, inclusive and gender-equal career accession and progression system is needed. The adoption of tenure-track-like systems, to be intended as a fixed-term

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[55]   Council document 10126/22.

contract with the perspective of a progression to a permanent position subject to positive evaluation, could be considered for this purpose at the level of Member States and research performing organisations.

(38) Despite efforts at Union, national and regional level, the issue of talent drain from less developed regions in the Union persists, as pointed out in the Commission Communication on 'Harnessing talent in Europe's regions'[56], and additional measures are required to achieve a more balanced geographical mobility for researchers. The Commission talent circulation analyses 2021-2022 indicate the positive contribution of existing actions at Union level to encourage more balanced talent circulation, but they also identify persistent challenges and provide pathways for brain gain. Excellent research environments, attractive working conditions and a remuneration commensurate with professional qualifications and the activities performed, play a very important role in this context, but they often require reforms of the national research and innovation systems. A policy approach that aims to support and incentivise such system transformations should be pursued, involving mutual learning exercises on the basis of successful pathways that enabled establishing a more balanced circulation of talents in Member States.

(39) Supporting researchers' mobility and career development, while ensuring a sustainable talent pipeline for the research and innovation domain and enhancing scientific collaboration between the Union and the world, is the main objective of EURAXESS, a unique pan-European initiative delivering free of charge information and support services to researchers and their families. To further support this objective, EURAXESS should expand its information delivering and support activities for researchers and higher education and research institutions, with optimised structure of services and governance, improved digital and user experience and interoperability with other Union initiatives such as Europass and EURES. The effectiveness and coherence of EURAXESS information portals and services would benefit from strengthened financial and human resources of national bridgehead organisations, notably with regard to the implementation of initiatives at Union or national level, leveraging the expertise base and the distribution of tasks amongst EURAXESS entities at national level while monitoring performance and measuring results.

(40) To remain globally competitive, the EU needs to become more attractive for talent from around the world. The Commission Communication on 'Attracting skills and talent to the EU', adopted on 27 April 2022[57], emphasizes the necessity for the EU to enhance its appeal to global talent, notably by promoting innovation and entrepreneurship in the EU and by exploring further potential avenues for legal migration to the EU in the medium to longer term. The revision of Directive (EU) 2021/1883 of the European Parliament and of the Council[58] was an important step to improve the EU's attractiveness allowing highly qualified migrants to benefit from improved rights as well as quicker and streamlined procedures. Directive (EU)

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[56] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Harnessing talent in Europe's regions, 17 January 2023, COM(2023) 32 final.

[57] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Attracting skills and talent to the EU, COM(2022) 657 final.

[58] Directive (EU) 2021/1883 of the European Parliament and of the Council of 20 October 2021 on the conditions of entry and residence of third-country nationals for the purpose of highly qualified employment, and repealing Council Directive 2009/50/EC (OJ L 382, 28.10.2021, p. 1).

2016/801 of the European Parliament and of the Council[59] also contributes to these objectives by making it easier and more attractive for student and researchers to come to the EU while at the same time promoting the circulation of knowledge and skills through enhanced EU-intra mobility rights.

(41) The Charter and Code for Researchers need to be revised to respond to the new reality and the current challenges faced by researchers and institutions, including a better integration of gender equality and inclusiveness as well as Open Science practices. The new version should be streamlined to simplify its implementation, and the uptake beyond the academic sector should be promoted. The revision should not prejudice the institutions that have endorsed the principles of the existing Charter and Code for Researchers. They should be considered as continuing to endorse the Charter and Code for Researchers in the new version. This should apply notably to the institutions that have entered the HRS4R process, of which the endorsement of the Charter and Code for Researchers constitutes the first step.

(42) An observatory on research careers, combining the best of the current Union data in one single place, is needed to monitor the implementation of measures to strengthen research careers and system reforms. It should support data needs of Member States and research performing organisations relevant for the adaptation and development of policies for research careers. It should equally support researchers to have a better understanding of challenges and opportunities, and promote the attractiveness of Europe's research performing organisations for the best talents. Relevant links with the European Higher Education Sector Observatory proposed in the European Strategy for Universities should be considered. Data collected in application of Regulation (EU) 2019/1700 of the European Parliament and of the Council[60] could be adapted to respond to the needs of the research careers observatory's users.

(43) In order for the European framework to attract and retain research, innovation and entrepreneurial talents in Europe to be successful, commitment by Member States and all stakeholders involved is needed. In particular, alliances of higher education institutions, such as the ones established under the European Universities Initiative and supported by the Erasmus+ Programme and the Framework Programmes for Research and Innovation, as well as the wider higher education sector and all relevant stakeholders, could be encouraged on a voluntary basis and following a bottom-up approach, to contribute to a broad implementation of the framework by piloting relevant activities.

HAS ADOPTED THIS RECOMMENDATION:

Definition of researchers in the European Research Area, and of the research professions

1.   For the purposes of this Recommendation:

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[59]Directive (EU) 2016/801 of the European Parliament and of the Council of 11 May 2016 on the conditions of entry and residence of third-country nationals for the purposes of research, studies, training, voluntary service, pupil exchange schemes or educational projects and au pairing (OJ L 132, 21.5.2016, p. 21).

[60]Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019 establishing a common framework for European statistics relating to persons and households, based on data at individual level collected from samples, amending Regulations (EC) No 808/2004, (EC) No 452/2008 and (EC) No 1338/2008 of the European Parliament and of the Council, and repealing Regulation (EC) No 1177/2003 of the European Parliament and of the Council and Council Regulation (EC) No 577/98 (OJ L 261I , 14.10.2019, p. 1).

'Researchers' means professionals engaged in the conception or creation of new knowledge. They conduct research and improve or develop concepts, theories, models, techniques instrumentation, software or operational methods. Researchers may be involved fully or partially in different types of activities (for example basic or applied research, experimental development, operating research equipment, project management) in any sector of the economy or society. Researchers identify options for new research and development activities, and plan for and manage them by using high-level skills and knowledge developed through formal education and training or from practical experience in performing research.

2. The research professions can take place, with an equal value, in all sectors performing research and innovation, including academia, business, governmental laboratories and the public administration, and the non-profit sector, where the skills, knowledge and attitudes of researchers can be beneficial to the European society, the research and innovation system, and the economy.

3. The research professions include careers in research management, which can be undertaken by researchers and other professionals to manage and support research and innovation activities. They can involve any of the following non-exhaustive tasks:

   (a) streamlining or facilitating the planning, the development, management, administration, communication and valorisation of research and innovation;

   (b) ensuring compliance with policy objectives, funding programme requirements, financial rules and legal regulations;

   (c) improving the efficiency and effectiveness of R&I projects/system;

   (d) enhancing the impact of R&I on the society.

4. All researchers, regardless of their actual status and sector of employment, who perform research activity, should be framed in the following profiles:

   (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 are not yet fully independent in their ability to develop their own research, attract funding, or lead a research group.

   (c) R3 - Established Researcher: Researchers with a PhD or equivalent level of competence and experience who have achieved a level of independence in their ability to develop their own research, attract funding, or 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.

5. For the purposes of this Recommendation, R1 and R2 profiles should be considered early-career researchers, and R3 and R4 profiles should be considered senior researchers.

   Member States are recommended to encourage the use of references to the profiles in all vacancies specifically addressed to researchers.

   Apart from the First Stage Researcher, the profiles should not necessarily be considered as stages on a progressive career path.

A non-exhaustive list of examples of is set out in Annex I.

The recognition of the research professions, and interoperability and comparability of research careers

6.   Member States are recommended to ensure a full recognition of the research professions, to promote an equal esteem and reward of the different paths of research careers regardless the sector of employment or activity, and to take measures to allow for a full interoperability and comparability of research careers across Member States, sectors and institutions.

7.   Research management careers should be adequately framed and recognised at the level of the Union to strengthen their capacity, develop relevant training, and foster comparability.

8.   Non-linear and multi-career paths, to be intended as paths characterised by geographical, disciplinary, inter-sectoral, and inter-organisational mobility, or hybrid paths combining simultaneously different sectors, should be encouraged and supported by Member States, and should be recognised on a par with a linear career path with multiple professional outcomes. The reward system should be adapted accordingly.

9.   Member States are recommended to implement new versions and updates of the European Skills, Competences, Qualifications and Occupations classification, with specific regard to researchers' occupations and skills.

10.   Member States are recommended to encourage human resources offices in all sectors to map career structures for researchers against the profiles referred to in point 4 of this Recommendation..

Recruitment and working conditions

11.   Member States are recommended to promote and support open, transparent and merit-based selection and recruitment of candidates, without penalisation for career breaks or inter-sectoral mobility.

12.   Member States are recommended to ensure respect of collective agreements and effective social dialogue, and to take all necessary steps so that employers and/or funders of researchers guarantee attractive and competitive research and working conditions, where researchers at all career stages and irrespective of permanent or fixed-term nature of their contract are valued, encouraged and supported. This should include:

(a)   guaranteeing commensurate remuneration, work-life balance and work flexibility conditions for combining personal life, family, children and careers, and overall wellbeing, without prejudice to careers;

(b)   ensuring gender equality, equal opportunities and inclusiveness for researchers from all backgrounds including under-represented and marginalised groups, and promoting among research performing and funding organisations the use of institutional change instruments, such as inclusive gender equality plans open to intersections between gender and other social categories, in line with the new European Research Area framework and the European Strategy for Universities;

(c)   safeguarding the freedom of scientific research from any possible limitation or interference, including from foreign actors;

(d)   offering dedicated support at institutional level to researchers in relation to the fulfilment of administrative duties;

(e)   taking resolute actions to counter the phenomenon of precarity and to support job security and stability. This should include a maximum total duration of fixed-term appointments, and incentivising a maximum threshold of one third of fixed-term contracts in the overall researchers' human resources of a given employer. A lower threshold is recommended to be targeted by employers who stand already below the one third threshold at the time of adoption of this Recommendation. Whenever permanent or long-term or highly recurrent research tasks are being fulfilled, permanent or open-ended contracts are the appropriate instrument;

(f)   promoting a wider use of baseline funding or life-cycle research funding alongside project-based funding, to allow research organisations to develop more long-term research strategies and engage in sustainable commitments towards employees;

(g)   guaranteeing access to adequate social protection irrespective of the form of employment (e.g. permanent, open-ended, fixed-term or grant-based nature of the contract), without prejudice to the right of Member States to define the fundamental principles of their social security systems. Such measures should pertain to the following branches, insofar as they are provided in the Member States:

(1)   unemployment benefits;

(2)   sickness and healthcare benefits;

(3)   maternity leave, paternity leave and parental leaves and related benefits;

(4)   invalidity benefits;

(5)   old-age benefits and survivors' benefits;

(6)   benefits in respect of accidents at work and occupational diseases.

13.   Member States are recommended to ensure that researchers have access to updated, comprehensive, user-friendly and clearly understandable information on their social protection rights and obligations, and to ensure that entitlements – whether they are acquired through mandatory or voluntary schemes – are preserved, accumulated and transferable across all types of employment and self-employment statuses and across geographical borders, economic sectors, throughout the person's working life and between different schemes within a given social protection branch.

14.   Member States that aim to enhance saving in defined-contribution supplementary schemes are recommended to promote the use of the solutions provided by the RESAVER pension fund, which guarantees the absence of a vesting period and asset transfer fees.

15.   Member States are recommended to guarantee specific measures in support of early-career researchers, corresponding to the R1 and R2 profiles referred to in point 4 of this Recommendation. Such specific measures could include:

(a) providing doctoral candidates with working conditions, income and social protection rights applicable to researchers in other career stages;

(b) promoting the use of, and supporting, incentives for early-career researchers, including financial and social protection incentives;

(c) promoting the use of, and supporting, incentives for the recruitment of early-career researchers by employers in all sectors, in particular with permanent or open-ended contracts;

(d) promoting and valuing inter-institutional, inter-sectoral, interdisciplinary and geographical mobility, including virtual mobility;

(e) promoting cooperation between higher education institutions, research funders and other relevant ecosystem actors, notably industry and other businesses, with regard to skills needs and skills provision, so as to foster recruitment of highly- and tailor-skilled researchers in the sectors concerned.

Researchers skilled for inter-sectoral and interdisciplinary careers and for entrepreneurship and innovation

16. Member States are recommended to take appropriate steps to encourage that doctoral training is adapted for interoperable careers in all relevant sectors and for the practice of Open Science, including by making use of the European Competence Framework for Researchers (ResearchComp), the Principles for Innovative Doctoral Training, and of any other future initiatives taken by the Commission for the purpose of strengthening transversal skills of researchers.

17. The Commission is recommended to take action to support and facilitate the use of the European Competence Framework for Researchers (ResearchComp), promote the exchange of good practices, and consider future revisions of the Competence Framework where needed on the basis of the evolution of the research and innovation system and of the labour market.

18. Member States are recommended to place a specific emphasis on schemes aiming to strengthen the skills needed by researchers from early on in their careers to engage in knowledge valorisation activities. Such schemes should include awareness raising activities and trainings on relevant topics, including intellectual assets management, standardisation, industry-academia collaboration and engagement with the society.

19. Member States and the Commission are recommended to encourage interaction and cooperation, including partnerships, between academia, industry, other businesses, public administration, the non-profit sector, and all other relevant ecosystem actors, and to ensure that doctoral training and targeted training are developed or co-developed on the basis of the actual skills needs of the parties concerned, including by building on best practice examples implemented under existing programmes at Union and Member States level.

Such interaction and cooperation should be particularly supported in areas where specific skills are necessary for operating with state-of-the-art research and technology infrastructures.

20. Member States and the Commission are recommended to take action to foster an innovation and entrepreneurial mindset in researchers, including the necessary skills

for investment-seeking, with the objective of allowing those who undertake an entrepreneurial career path to couple their knowledge production capabilities with knowledge valorisation proficiency, turning innovative ideas into business and fostering innovation and progress.

A specific focus should be put on the promotion of women entrepreneurship and innovation, and on the creation of women-led university spin-offs.

Member States should consider measures to mitigate the risks assumed by researchers undertaking an entrepreneurial career, including through the possibility to return to their previous career path.

21.   Member States and the Commission are recommended to take action to support the development and provision of targeted training, including training leading to micro-credentials[61] and with the support of Individual Learning Accounts[62], where available, to ensure up-skilling and re-skilling opportunities for researchers with a lifelong perspective and to foster inter-sectoral and interdisciplinary mobility. Member States and the Commission are also recommended to take all necessary steps to ensure a fair and transparent validation procedure, based on harmonised criteria, of formal and informal training opportunities, including on-the-job training.

22.   The Commission is recommended to take the following actions in the context of the development of initiatives fostering cross-sectoral circulation of talents:

   (a)   supporting mutual learning for Member States on the basis of models of inter-sectoral mobility schemes established by the Commission, in three priority areas:

      (1)   strengthening academia and non-academia cooperation;

      (2)   improving training and lifelong learning for researchers, innovators, and other research and innovation talents;

      (3)   boosting researchers' entrepreneurship.

   (b)   reinforcing inter-sectoral mobility components in existing instruments for researchers' mobility, and complementing them with new instruments, where deemed necessary;

   (c)   creating awareness on inter-sectoral mobility schemes, via a branch of the ERA Talent Platform referred to in point 32 of this Recommendation.

23.   Member States are recommended to consider establishing national schemes promoting inter-sectoral mobility in one or more of the three priority areas referred to in point 22 of this Recommendation.

24.   Member States are recommended to undertake all the necessary efforts to promote elimination of existing structural and administrative barriers which can hamper or make difficult mobility between sectors, including by supporting the interoperability of careers between sectors, and facilitating temporary or permanent mobility.

Career development and progression

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[61] Council Recommendation 2022/C 243/02 of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability (OJ C 243, 27.6.2022, p. 10).

[62] Council Recommendation 2022/C 243/03 of 16 June 2022 on individual learning accounts (OJ C 243, 27.6.2022, p. 26).

25.   Member States are recommended to support the recognition of the value of geographical, inter-sectoral, inter-institutional, inter- and trans-disciplinary and virtual mobility as important means of enhancing scientific knowledge and professional development at any stage of a researcher's career.

26.   Member States are recommended to promote measures that make researchers, in particular early-career ones, aware of opportunities available in all relevant sectors and to promote a culture of diversification of careers for better personal and professional development. In this regard, Member States and the Commission should support the provision of career advisory and support services to stimulate inter-sectoral, interdisciplinary and geographical mobility, as well as the creation and development of entrepreneurial activities.

27.   Member States are recommended to promote and support systems for the assessment and reward of researchers that:

   (a) are based on qualitative judgement provided by peers, supported by responsible use of quantitative indicators;

   (b) reward quality and the various potential impacts of their research on society, science and innovation;

   (c) recognise a diversity of outputs (inter alia publications, datasets, software, methodologies, protocols, patents), activities (inter alia mentoring, research supervision, leadership roles, entrepreneurship, data management, peer review, teaching, knowledge valorisation, industry-academia cooperation, support for evidence-informed policy-making, interaction with society) and practices (inter alia early knowledge and data sharing, open collaboration), as well as all mobility experiences referred to in point 25 of this Recommendation;

   (d) ensure that the researcher's professional activity meets high standards of ethics and integrity, rewards appropriate conduct of research, and values good practices, in particular open practices for sharing research results and methodologies, whenever possible;

   (e) use assessment criteria and processes that respect the variety of research disciplines and national contexts;

   (f) support a diversity of researcher profiles and career paths, and value individual contributions, but also the role of teams, collaborative work, and cross-disciplinarity;

   (g) ensure gender equality, equal opportunities and inclusiveness.

   To ensure coherence in the implementation of these recommendations, Member States are recommended to foster continuous training for the actors involved in the assessment and reward process.

28.   Member States are invited to encourage organisations to join coalitions, alliances or initiatives set up to evolve assessment systems in line with the recommendations listed in point 27 of this Recommendation. Member States are also encouraged to tackle national barriers to such evolution of research assessment and help preventing any contradictions or incompatibilities that might exist in the application of the recommendations listed in point 27 of this Recommendation, between the assessment of research, of researchers and of research institutions.

29. Member States are recommended to take action to ensure a fair, equal, inclusive, transparent, structured and gender-equal career accession and progression system for researchers in academia, up to the top positions. In this respect, Member States are recommended to consider the adoption of a tenure-track system, to be intended as a fixed-term contract with the perspective of a progression to a permanent position, subject to positive evaluation.

Balanced circulation of talents and making the Union an attractive destination

30. Member States are recommended to take resolute action to put in place favourable, attractive and competitive conditions for conducting research and innovation activities, and for the return of researchers engaged in experiences abroad to their home country. Such measures could include, but not be limited to:

   (a) incentives to make research activities more attractive, taking into consideration the need for a fair competition for talents;

   (b) simplification of legal and administrative requirements for researchers;

   (c) investments in the research and innovation system, including the support to networking within and beyond the Union, to connect and integrate the national research and innovation systems to European research networks and provide higher visibility of national capabilities and high-level infrastructures;

   (d) the exchange of best practices with regard to creating an attractive and competitive research and innovation environment, including as regards the improvement of remuneration, working conditions and services, and the reduction of administrative and language barriers for foreign and international researchers;

   (e) return grants and attractive positions for returning researchers;

   (f) the possibility of having dual positions in institutions established in different Member States, thereby fostering knowledge transfer, collaboration, and preventing talent drain.

   The Commission is recommended to support Member States in their endeavours, including by promoting synergies among Union programmes, and Union and national programmes.

31. The Commission is recommended to take the following actions fostering a more balanced circulation of talents:

   (a) supporting mutual learning for Member States in view of the reform of their research and innovation systems, including through calls for expression of interest to create a community of practice with training and guidance for Member States on the basis of successful pathways and solutions enabling more balanced talent circulation;

   (b) monitoring mobility flows, through an interactive talent circulation map in the observatory on research careers referred to in point 39 of this Recommendation;

   (c) facilitating transnational ties with scientific diaspora communities and facilitating attracting or returning talents, via a branch of the ERA Talent Platform referred to in point 32 of this Recommendation;

(d)   promoting a balanced talent circulation for early-career researchers through new instruments at Union level that strengthen the human capital base in widening countries, with more entrepreneurial, managerial and better-trained researchers and innovators.

Support actions for research careers

32.   The Commission and Member States are recommended to take appropriate measures to strengthen the EURAXESS portals, services, as well as the international dimension, and to develop the ERA Talent Platform as an online one-stop-shop for researchers and institutions in all sectors, with a new governance framework featuring binding commitments and a coordination role of relevant national bodies and institutions involved in service delivery.

The ERA Talent Platform should allow:

(a)   researchers to manage their learning and training opportunities and their careers;

(b)   research and innovation institutions, employers and funders to conduct networking activities, better manage their pools of talents, collaborate and exchange best practices, while facilitating talents' attraction and retention and improving data for a better understanding of mobility trends across Europe and beyond.

Services should be broadened to include talent development and career management services, with a focus on researchers in all relevant sectors of the society, including academia.

33.   The Commission is recommended to ensure links and interoperability between the ERA Talent Platform and other relevant Union and national initiatives, including Europass, ESCO and EURES, to implement the EU login system for authentication, and to provide for an improved governance model of the platform and the underlying network of service centres to better meet the needs of researchers and research performing organisations.

34.   Member States and the Commission are recommended to acknowledge the importance of the endorsement and implementation of the Charter and Code for Researchers, and of the Charter for Researchers referred to in point 35 of this Recommendation.

35.   The new Charter for Researchers set out in Annex II to this Recommendation should replace the Charter and Code for Researchers set out in Annex to Recommendation 2005/251/EC. Member States and the Commission are recommended to encourage the endorsement and implementation of the new Charter for Researchers by research employers and funders from all sectors, including through dedicated incentives, in view of making it become a structural tool in support of researchers and research careers.

36.   The Commission is recommended to adjust the Human Resources Strategy for Researchers, or any future similar implementation mechanism, to the new Charter for Researchers, and to ensure continuity in respect to the institutions that have endorsed the principles of the old Charter and Code for Researchers and have adhered to the Human Resources Strategy for Researchers, notably by considering them as continuing to endorse the Charter for Researchers set out in Annex II to this

Recommendation. The Commission is recommended to apply the same transitional measures to the institutions which started the Human Resources Strategy for Researchers process under the old Charter and Code for Researchers.

37.   The Commission is recommended to regularly review and adapt all tools in support of research careers, based on the actual needs of researchers, in coordination with Member States and relevant stakeholders.

38.   The Commission and Member States are recommended to encourage and support alliances of higher education institutions, such as the European Universities alliances, the whole European higher education sector and all relevant stakeholders, to pilot relevant actions foreseen by this Recommendation on the basis of a voluntary and bottom-up approach.

Monitoring of research careers

39.   In addition to the overarching European Research Area monitoring systems, the Commission and Member States are recommended to monitor research careers in the Union and the implementation of this Recommendation through a dedicated observatory on research careers, to the benefit of policy makers, organisations, public administrations and researchers at European and national level. The observatory should support data needs of Member States and research performing organisations relevant for the adaptation and development of policies for research careers. It should also support researchers to have a better understanding of challenges and opportunities, and promote the attractiveness of Union's research performing organisations for the best talents.

40.   Member States are recommended to cooperate for the purpose of collecting data relevant for the implementation of the observatory in an efficient and sustainable way.

41.   The Commission is recommended to consider relevant links with the European Higher Education Sector Observatory proposed in the European Strategy for Universities and thereby enhance synergies between the European Research Area and the European Education Area.

42.   Member States and the Commission are recommended to consider the adaptation to the data needs of the observatory referred to in point 39 of this Recommendation, of the data collected in the context of Regulation (EU) 2019/1700.

Done at Brussels,

For the Council
The President

EUROPEAN
COMMISSION

Brussels, 13.7.2023
COM(2023) 436 final

ANNEXES 1 to 2

ANNEXES

to the

Proposal for a
COUNCIL RECOMMENDATION

on a European framework to attract and retain research, innovation and entrepeneurial
talents in Europe

EN

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Examples of occupations for researchers across sectors along the R1-R4 profiles[1]

R1 - First Stage Researcher	R2 - Recognised Researcher
doctoral candidate junior academic junior consultant junior policy adviser/officer junior research analyst junior research engineer junior researcher/scientist junior scientific officer research apprentice/intern research assistant/technician	junior academic junior consultant junior policy adviser/officer junior lecturer junior research analyst junior research engineer junior researcher/scientist junior scientific officer postdoctoral researcher research assistant/technician
R3 - Established Researcher	**R4 - Leading Researcher**
accredited researcher assistant professor associate professor associate researcher principal consultant principal investigator principal researcher/scientist reader research fellow research specialist scientific councillor senior academic senior consultant senior lecturer senior policy adviser/officer senior research and development associate senior research engineer senior researcher/scientist senior scientific officer	chief scientific officer distinguished professor full professor principal consultant principal investigator principal researcher/scientist reader research fellow research professor research specialist scientific councillor senior academic senior consultant senior lecturer senior policy adviser/officer senior research and development associate senior research engineer senior researcher/scientist senior scientific officer

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[1] The examples are not intended to be exhaustive but serve as an indication of the types of titles for researchers across the R1-R4 profiles and across all sectors. Some researcher occupations may appear in multiple R1-R4 where the decision of profile will be determined case-by-case and will be dependent on the level of independence, experience, and recognition. Some of the examples (such as consultant and policy adviser/officer) are included under the assumption that the occupation involves actual research activities.
The profiles R1-R4 are strictly of relevance for researchers and are not relevant for research management. Similar types of profiles might be considered for research management once the category is adequately framed.

European Charter for Researchers

The European Charter for Researchers is a set of principles underpinning the development of attractive research careers to support excellence in research and innovation across Europe. The focus of the Charter for Researchers is the rights and responsibilities of researchers, employers, funders and policy makers consisting of 20 key principles. These are classified under the following four pillars,

(a)   Ethics, Integrity, Gender and Open Science

(b)   Researchers Assessment, Recruitment and Progression

(c)   Working Conditions and Practices

(d)   Research Careers and Talent Development

The Charter for Researchers is directed at all researchers, research performing sectors and respective umbrella organisations (stakeholders),

(a)   Researchers in all sectors (academia, public and private organisations performing research).

(b)   Employers of researchers in the public and private sector

(c)   Funders of research and researchers in the public and private sector

(d)   Policy makers concerned with policies relevant to the Charter

It addresses researchers across all disciplines including Science, Technology, Engineering, Mathematics (STEM), Social Sciences and Humanities (SSH), including the Arts. It covers all types of research from frontier, targeted, strategic, applied and close to market.

PILLAR 1 – ETHICS, INTEGRITY, GENDER AND OPEN SCIENCE

1. ETHICS AND RESEARCH INTEGRITY
2. FREEDOM OF SCIENTIFIC RESEARCH
3. OPEN SCIENCE
4. GENDER EQUALITY
5. EMBRACING DIVERSITY
6. THE RESEARCH PROFESSION
7. FREE CIRCULATION OF RESEARCHERS
8. SUSTAINABILITY OF RESEARCH

This pillar gathers the fundamental principles of the Charter for Researchers and its commitment towards supporting excellence in research, understood in this context as fostering the best possible research teams and projects, free from gender and other biases. The principles under this pillar are expected to contribute to the foundations of the vision of a revitalized European Research Area, and to inspire European researchers, research employers, funders and policy makers. Because of the transversal nature of all these values they are expected to be mainstreamed and taken into consideration in the deployment of rest of the principles.

(1) Ethics and Research Integrity[2]

Researchers should comply with strict ethics rules and approach their work with honesty; reliability; objectivity; impartiality and independence; open communication; duty of care; fairness and responsibility for future science generations. These are the foundations of responsible and trustworthy research free from undue influence (including foreign interference[3] and conflict of interest), a prerequisite for achieving excellence, and underpin the responsibility of researchers to guard against biases and methodological shortcuts.

Researchers should adhere to the recognised ethical practices and fundamental ethical principles[4] appropriate to their discipline(s) as well as to ethical standards as documented in the different national, sectoral or institutional Codes of Ethics.

The primary responsibility for research integrity is with researchers themselves. Researchers should be supported by an institutional culture of research integrity to create and respect rules, procedures and guidelines as well as training and mentoring based on the exchange of best practices.

In order to foster good research practices and a culture of research integrity, a number of dimensions need to be considered by all the involved stakeholders, such as research integrity in research environments; training and capacity building on research integrity; research

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[2] Council Conclusions Research Integrity 14853/15 (2015), https://data.consilium.europa.eu/doc/document/ST-14853-2015-INIT/en/pdf.

[3] Tackling R&I Foreign Interference, European Commission (SWD), 2022, doi:10.2777/513746.

[4] For example the European Code for Research Integrity ALLEA (2017), https://allea.org/code-of-conduct/.

processes and policies embedding research integrity; data, publication, dissemination, review, evaluation and editing policies. Equally, mechanisms to identify, report and deal with research misconducts need to be put in place.

Researchers must avoid plagiarism of any kind and abide by the intellectual property rules and the principles of joint ownership in the case of research carried out in collaboration with a supervisor(s) and/or other researchers (as appropriate to the discipline). This should apply at all stages of the research process including conception, preparing funding applications, the development and delivery of results. The need to validate observations by showing that findings are reproducible should not be interpreted as plagiarism, provided that the data to be confirmed are explicitly referenced.

(2) Freedom of Scientific Research

The freedom of scientific research is a common core value and principle for research cooperation within the European Research Area and with international partners[5]. Researchers should focus their research for the good of humanity and for expanding the frontiers of human knowledge, while enjoying the freedom of thought, opinion and expression, the freedom to define research questions, the freedom to identify methods by which problems are solved, the freedom to choose and develop theories, the freedom to question accepted wisdom and bring forward new ideas and the freedom to associate in professional or representative academic bodies. Researchers should have the right to disseminate and publish the results of their research including through training and teaching. Researchers should, however, recognise the limitations to this freedom that could arise because of particular research circumstances (including supervision/guidance/management) or legal or operational constraints, e.g., for intellectual property rights, budgetary or infrastructural reasons.

(3) Open Science

Researchers should target engagement in all aspects of Open Science[6] and be facilitated by their employers and funders in this regard. They should share their results openly, e.g., through open and FAIR data, open access publications, open software, models and algorithms. They should take measures to ensure reproducibility of research results. They should aim to practice Open Science methodologies and engage in open peer review. Employers and/or funders should support and reward a true Open Science culture across the Union, including mainstreaming open access to scholarly publications, research data and other research outputs (i.e. following the "as open as possible, as closed as necessary" principle) and the diffusion and uptake of Open Science principles and practices, whilst considering differences between disciplines and cultural differences, including multilingualism, supporting the development of Open Science skills, and further developing and integrating the underpinning digital infrastructure and service.

Citizen Science

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[5] See article 13 of the Charter of Fundamental Rights of the European Union and Bonn Declaration on Freedom of Scientific Research, Adopted at the Ministerial Conference on the European Research Area on 20 October 2020 in Bonn, https://www.bmbf.de/bmbf/shareddocs/downloads/files/_drp-efr-bonner_erklaerung_en_with-signatures_maerz_2021.pdf?__blob=publicationFile&v=1.

[6] Council Conclusions, The transition towards an Open Science system, 9526/16 27 May 2016.

Researchers should incorporate citizen science into their projects as much as possible and where relevant. This means involving citizens in the concept, design and implementation of research projects in Science, Technology, Engineering, Arts, Mathematics (STEAM), Social Sciences and Humanities (SSH). This is an ideal means to democratise science, build trust in science, and leverage the vast societal intelligence and capabilities to conduct excellent research and innovation.

(4)   *Gender Equality*

All stakeholders should foster gender balance in research teams, managerial, decision-making bodies, recruitment and promotion committees, and advisory groups. This also includes fostering the integration of the gender dimension in research, teaching and innovation content in order to improve the scientific quality, excellence, and societal relevance of the produced knowledge. Gender Equality also aims at combating gender-based violence and sexual harassment. Gender Equality shall be understood from an intersectional perspective, where different systems of power between gender and other social categories and identities intersect and reinforce each other. Sustainable institutional changes, channelled through Gender Equality plans[7] or similar, that allow for proper reporting of infringements, and include monitoring and evaluation systems, are adequate mechanisms to promote Gender Equality.

(5)   *Embracing Diversity*

A core principle of European Research Area is to take account of diversity in the broad sense, including, inter alia, gender, racial or ethnic origin, religion or belief, social diversity, disability, age, sexual orientation and combating discrimination on all grounds. Employers and/or funders should embrace diversity in their researchers since different life experiences add valuable perspectives to research projects. Also, diversity in participants can inform research results applying to and enriching the diverse societies we live in. Acknowledging unconscious biases, for instance in hiring, promoting and in reviewing tasks, and compensating for them where possible is also needed, particularly in the realm of science.

(6)   *The Research Profession*

All researchers engaged in the conception or creation of new knowledge should be recognised as professionals and be treated accordingly. This should commence at the beginning of their careers, independently of the sector in which they operate, namely at postgraduate level, and should include all levels, regardless of their classification at national level (e.g., employee, postgraduate student, doctoral candidate, postdoctoral fellow, civil servants).

Employers and funders should encourage and support non-linear and multi-career paths, to be intended as paths characterised by geographical, disciplinary, sectoral, and inter-organisational mobility (secondments). They should also encourage hybrid paths combining simultaneously different sectors, which should be considered on a par with linear career paths.

<u>Professional Attitude</u>

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[7] See https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy_en and https://eige.europa.eu/gender-mainstreaming/toolkits/gear/what-gender-equality-plan-gep.

Researchers should be familiar with the strategic goals governing their research environment and funding mechanisms and should seek all necessary approvals before starting their research or accessing the resources provided. Researchers should make every effort to ensure that their research is relevant to society and does not needlessly duplicate research previously carried out elsewhere.

There should be clear communication between researchers and employers, funders, or supervisors when a research project is delayed, redefined or completed; notice should be given if a research project is to be terminated earlier or suspended for whatever reason.

Accountability

Being accountable means taking responsibility for one's actions when carrying out research. Researchers need to be aware that they are accountable towards their employers, funders or other related public or private bodies as well as, on more ethical grounds, towards society. Researchers funded by public funds are also accountable for the efficient use of taxpayers' money. Consequently, they should adhere to the principles of sound, transparent and efficient financial management and cooperate with any authorised audits of their research, whether undertaken by their employers/funders or by ethics committees. This expectation requires them to serve as examples of ethical behaviour for their peers and for the broader society.

Methods of collection and analysis, the outputs and, where applicable, details of the data should be open to internal and external scrutiny, whenever necessary and as requested by the appropriate authorities. This is also important to make the data open and help ensure the reproducibility of results.

(7)   *Free circulation of researchers*

Funders and employers should promote free circulation of researchers and other research professionals, scientific knowledge and technology, while attracting talent and avoiding potential talent drain. They should recognise the value of geographical, inter-institutional, intersectoral, inter- and trans-disciplinary, and virtual mobility[8] as important means of enhancing knowledge and professional development at any stage of a researcher's career and fully value and acknowledge any mobility experience within their career progression/appraisal system. This also requires that the necessary administrative instruments be put in place to allow the portability of both grants and social security provisions, in accordance with national legislation.

(8)   *Sustainability of Research*

Researchers, employers and funders should promote the sustainable implementation of research activities in line with the European Green Deal, the United Nation's 2030 Agenda and the Sustainable Development Goals. Researchers should be supported by an institutional culture of sustainable research management, as well as training and mentoring based on the exchange of best practices. They should take the lead in reducing their carbon emissions in a way that sets a positive example to others within the research community.

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[8]   i.e., remote collaboration over electronic networks and infrastructures.

The European Commission's "MSCA Green Charter"[9], developed in the framework of the Marie Skłodowska-Curie Actions, can be used as reference point.

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[9] Marie Sklodowska Curie Actions Green Charter, https://marie-sklodowska-curie-actions.ec.europa.eu/about-msca/msca-green-charter.

PILLAR 2 – RESEARCHERS ASSESSMENT, RECRUITMENT AND PROGRESSION

1. RESEARCHERS ASSESSMENT
2. RECRUITMENT
3. SELECTION
4. CAREER PROGRESSION

Research assessment should ensure an equal recognition and reward of researchers' careers regardless of the sector of employment or activity and follow an unbiased talent-based approach. Fair recruitment and selection of researchers´ policies are fundamental for achieving an open labour market for researchers, contributing to the advancement of the European Research Area.

(1) *Researchers Assessment*[10]

Research assessment should enable evaluating the performance of researchers and research to achieve the highest quality and impact. This requires recognition of increasingly diverse research outputs, activities and practices, including collaboration, open sharing of outputs, and ensuring high research integrity standards. Consequently, assessment should be based primarily on qualitative judgement, for which peer review is central, supported by the responsible use of quantitative indicators. Assessment should also include a wider range of evaluation criteria, such as teaching, management and leadership, supervision, mentoring, knowledge valorisation, entrepreneurship and collaboration with industry, teamwork, services to society, science communication and interaction with society, and methodological rigour and Open Science practices. Contributions to innovation through inventions or development should also be recognised, particularly for candidates from an industrial background.

Employers and funders should support a system for the assessment and reward of researchers that considers the overall quality of impact of researchers on society, science and innovation, the diversity of activities performed, Open Science practices, and the value of geographical, interdisciplinary and inter-sectoral mobility. Such a system should:

(a) be based on qualitative judgement provided by peers, supported by responsible use of quantitative indicators;

(b) reward quality and the various potential impacts of research on society, science and innovation;

(c) recognise a diversity of outputs (*inter alia* publications, datasets, software, methodologies, protocols, patents), activities (*inter alia* mentoring, research supervision, leadership roles, entrepreneurship, data management, peer review, teaching, knowledge valorisation, industry-academia cooperation, support for evidence-informed policy-making, interaction with society) and practices (*inter alia*

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[10] Agreement on Reforming Research Assessment (2022)
https://coara.eu/app/uploads/2022/09/2022_07_19_rra_agreement_final.pdf.

early knowledge and data sharing, open collaboration), as well as all mobility experiences;

(d)   ensure that the researcher's professional activity meets high standards of ethics and integrity, rewards appropriate conduct of research, and values good practices, in particular open practices for sharing research results and methodologies, whenever possible;

(e)   use assessment criteria and processes that respect the variety of research disciplines and national contexts;

(f)   support a diversity of researcher profiles and career paths, and value individual contributions, but also the role of teams, collaborative work, and cross-disciplinarity;

(g)   ensure gender equality, equal opportunities and inclusiveness.

To ensure coherence in the implementation of these principles, employers and funders should foster continuous training for the actors involved in the assessment and reward process.

(2)   Recruitment

Employers and/or funders should establish recruitment and selection procedures which are open[11], transparent and merit-based, without any penalisation for career breaks or inter-sectoral mobility. They should seek for excellence, gender equality, diversity, and be tailored to the type of position advertised. Advertisements should include a comprehensive description of knowledge and competencies required, including description of the working conditions and entitlements, career development prospects and an overview of the timeline. Candidates should be informed, prior to the selection, about the recruitment process and the selection criteria, the number of available positions and the career development prospects.

Variations in the chronological order of CVs

Career breaks or variations in the chronological order of CVs should not be penalised, but regarded as an evolution of a career, and consequently, as a potentially valuable contribution to the professional development of researchers towards a multidimensional career track. Candidates should therefore be allowed to submit evidence-based CVs, reflecting a representative array of achievements and qualifications appropriate to the post for which application is being made.

Seniority

The levels of qualifications required should be in line with the needs of the position and not be set as a barrier to entry. Evaluation of qualifications should focus on judging the achievements of the person rather than their circumstances or the reputation of the institution where the qualifications were acquired. As professional qualifications may be acquired at an early stage of a long career, the pattern of lifelong professional development should also be encouraged and recognised.

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[11]All available instruments should be used, international or globally accessible web-based resources such as the EURAXESS Portal: https://euraxess.ec.europa.eu.

(3) Selection

As part of recruitment, the selection process should take into consideration the whole range of experience of the candidates. While focusing on their overall potential as researchers, their creativity and level of independence should also be considered. Selection committees should bring together diverse expertise, competences and experience relevant to assess the candidate. There should be adequate gender balance and, where appropriate and feasible, include members from different sectors (public and private) and disciplines, and other countries. Whenever possible, a wide range of selection practices should be used, such as external expert assessment and face-to-face and online interviews. Members of selection panels should be adequately trained especially for minimizing gender or any other possible unconscious biases. All candidates should be informed after the selection process about the strengths and weaknesses of their applications.

Non-discrimination

Employers and/or funders of researchers should not discriminate against researchers in any way based on gender, age, ethnic, national or social origin, religion or belief, sexual orientation, language, disability, political opinion, social or economic condition.

(4) Career progression

Employers and/or funders should introduce for all researchers, including senior researchers, evaluation/appraisal systems for assessing their professional performance on a regular basis and in a transparent manner by an independent (and, in the case of senior researchers, preferably international) committee. A multiple career path, characterised by geographical, sectoral, and inter-organisational mobility (secondments), or hybrid paths characterised by the simultaneous combination of sectors, deserves full recognition and consideration on a par with a linear career path.

Such evaluation and appraisal procedures should take due account of researchers' overall potential, their research creativity, their research results (e.g. publications, data, software, models, algorithms, methods, protocols, patents, policy contributions), their activities (e.g. management and leadership, teaching/lecturing, peer review, supervision, mentoring, entrepreneurship, knowledge valorisation, national or international collaboration, administrative duties, service to society, science communication and interaction with society), their research behaviour (e.g. ethics and integrity practice, methodological rigour, early knowledge and data sharing, open collaboration) and their mobility, and should be taken into consideration in the context of career progression.

A transparent, structured, inclusive and gender-equal career accession and progression system is needed to reinforce careers in academia, up to the top positions[12]. The adoption of tenure-track-like systems, to be intended as a fixed-term contract with the perspective of a progression to a permanent position subject to positive evaluation, could be considered for this purpose at the level of Member States and research performing organisations.

Co-authorship

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[12] See MORE 4 study (2021) - https://cdn5.euraxess.org/sites/default/files/policy_library/more4_final_report.pdf.

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

Recognition of mobility experience

Any mobility experience, e.g., a stay in another country/region or in another research setting (public or private) or a change from one discipline or sector to another, whether as part of the initial research training or at a later stage of the research career, or virtual mobility experience, should be considered as a valuable contribution to the professional development of a researcher.

PILLAR 3 - WORKING CONDITIONS AND PRACTICES

1. WORKING CONDITIONS, FUNDING AND SALARIES
2. STABILITY OF EMPLOYMENT
3. CONTRACTUAL AND LEGAL OBLIGATIONS
4. DISSEMINATION AND EXPLOITATION OF RESULTS

Improving researchers working conditions should be at the core of the Union policy framework for research careers. Within this area several actions are proposed to contribute to the stability of employment, to the definition of researchers´ labour rights and obligations and the need for employers and funders to develop a research culture for research excellence and facilitate a thriving researcher community.

(1)   *Working conditions, funding and salaries*

Employers and/or funders should ensure that the working conditions for researchers, including those with disabilities, provide where appropriate the flexibility and accessibility deemed essential for successful research performance in accordance with existing national legislation and with national or sectoral collective-bargaining agreements. They should aim to provide working conditions which allow all researchers to combine a personal and professional life[13]. Particular attention should be paid, inter alia, to flexible working hours, part-time working, remote working and sabbatical leave, as well as to the necessary financial and administrative provisions governing such arrangements. Employers should provide a working environment that promotes the mental health and wellbeing of researchers, including appropriate procedures for preventing and tackling gender-based violence, including sexual harassment.

Research environment

Employers and/or funders of researchers should ensure that the most stimulating research or research training environment is created which offers appropriate equipment, facilities and opportunities, including for remote collaboration over research networks, and the highest level of health and safety in line with Union, national or sectoral regulations. Funders should ensure that adequate resources are provided in support of the agreed work programme. In particular, it is important to have qualified support staff (e.g., professionals including research managers and administrators).

Complaints/appeals

Employers and/or funders of researchers should establish, in compliance with relevant national, Union or international law rules and regulations, appropriate procedures, possibly in the form of an impartial ombudsperson, to deal with complaints/appeals of researchers, including those concerning conflicts between supervisor(s) and First Stage (R1)/Recognised

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[13]   See SEC (2005) 260, Women and Science: Excellence and Innovation – Gender Equality in Science.

(R2) researchers. Such procedures should provide all research staff with confidential and informal assistance in resolving work-related conflicts, disputes, and grievances, with the aim of promoting fair and equitable treatment within the institution and improving the overall quality of the working environment.

Participation in organisation governance

Employers and/or funders of researchers should recognise it as wholly legitimate, and indeed desirable, that researchers be represented in the relevant information, consultation and decision-making bodies of the institutions for which they work, to protect and promote their individual and collective interests as professionals and to actively contribute to the workings of the institution[14].

Funding and salaries

Employers and/or funders of researchers should ensure that researchers, irrespective of their status, enjoy fair and attractive remuneration conditions (funding and/or salaries) with adequate and equitable social security provisions (including sickness and parental benefits, pension rights and unemployment benefits, invalidity benefits and benefits in respect of accidents at work and occupational disease) in accordance with existing national legislation and with national or sectoral collective bargaining agreements. This must include researchers at all career stages including First Stage researchers (R1), commensurate with their legal status, performance and level of qualifications and/or responsibilities. Researchers should be made aware of their rights and obligations when it comes to understanding how their salaries are being taxed, and should be provided transparent information on social protection rights such as national pension rights.

(2) **Stability of employment**

Employers and/or funders should take resolute actions to counter the phenomenon of precarity and to support job security and stability, including by way of a limited maximum total duration of fixed-term appointments, and a recommended maximum threshold of one third of fixed-term contracts in the overall researchers' human resources of a given employer. Whenever permanent or long-term or highly recurrent research tasks are being fulfilled, permanent or open-ended contracts should be the appropriate instrument.

Post-doctoral positions (R2)

Precarity of employment is a particular issue in academia. To counter this situation and to support job security and stability, clear rules and explicit guidelines for the recruitment and appointment of postdoctoral researchers (R2), including the maximum duration and the objectives of such appointments, should be established by the institutions appointing postdoctoral researchers. Such guidelines should consider time spent in prior postdoctoral appointments at other institutions and take into consideration that the postdoctoral status

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[14]   In this context see also EU Directive 2002/14/EC of the European Parliament and of the Council of 11 March 2002 establishing a general framework for informing and consulting employees in the European Community - Joint declaration of the European Parliament, the Council and the Commission on employee representation, (OJ L 80, 23.3.2002, p. 29)..

should be transitional, with the primary purpose of providing additional professional development opportunities for a research career in the context of long-term career prospects with fixed contract or tenure.

(3) Contractual and legal obligations

Researchers at all levels must be familiar with the national, sectoral or institutional regulations governing training and/or working conditions. This includes Intellectual Property Rights regulations, and the requirements and conditions of any sponsor or funders, independently of the nature of their contract. Employer and funders should provide copies of these documents in English. Researchers should adhere to such regulations by delivering the required results (e.g., thesis, publications, patents, reports, new products development, etc) as set out in the terms and conditions of the contract or equivalent document.

Researchers should always adopt safe working practices, in line with relevant national and Union legislation, including taking the necessary precautions for health and safety and for recovery from cybersecurity attacks, information technology disasters, e.g., by preparing proper back-up strategies. They should also be familiar with the current national and Union legal requirements regarding data protection and confidentiality protection requirements and undertake the necessary steps to always fulfil them.

(4) Dissemination and exploitation of results

Open Science should be practiced by all researchers to ensure, in compliance with their contractual arrangements, that the results of their research are disseminated, made openly available and exploited, e.g. communicated, transferred into other research settings and, if appropriate, commercialised. Senior researchers are expected to take a lead in ensuring that research is fruitful and that results are either exploited commercially or made accessible to the public (or both) whenever the opportunity arises.

Researchers should be facilitated in this regard by their employers and funders through the relevant skills training and access to the appropriate funding, infrastructure and support. The engagement of researchers in Open Science should be recognised, incentivised and rewarded by employers and funders in recruitment, career progression and funding programme assessment.

Intellectual Assets including Intellectual Property Rights

Employers and/or funders should ensure that researchers at all career stages are adequately compensated for the benefits resulting from the exploitation (if any) of their research and innovation activities results, where appropriate by guaranteeing co-ownership of the intellectual property rights such as copyright. Employers and or/funders should address this explicitly in their intellectual assets management strategy and should make the strategy publicly available. The intellectual assets management strategy should cover the creation, management, ownership and utilisation of all types of intellectual assets (including data, know-how, standards), and support Open Science.

The strategy should explicitly refer to ownership provisions and access rights to researchers and/or, where applicable, to their employers or other parties, including industry partners, as possibly provided for under specific collaboration agreements or other types of agreement[15].

Public Engagement

Researchers should ensure that their research activities are made known to society at large in such a way that they can be understood by non-specialists, thereby improving the public's understanding of science. Direct engagement with the civil society and citizens will help researchers to better understand public interest in priorities for research and the public's concerns, and to harness the potential of co-design and co-creation with society where relevant.

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[15] Further recommendations can be found in the Commission Recommendation on a Code of Practice for Intellectual Assets Management, https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32008H0416.

PILLAR 4 -RESEARCH CAREERS AND TALENT DEVELOPMENT

1. VALUING DIVERSE RESEARCH CAREERS
2. CAREER DEVELOPMENT AND ADVICE
3. CONTINUOUS PROFESSIONAL DEVELOPMENT
4. SUPERVISION AND MENTORING

The research community is diverse in talents, skills, competences and capacities and roles. The more these talents are fostered and developed, the better the research quality, and societal relevance of the produced knowledge. Encouraging continuous professional development along with skills training is needed to maintain competence and provide researchers with a broad range of career opportunities in the public and private sectors.

(1) *Valuing Diverse Research Careers*

Employers and/or funders should recognise that researchers may have highly diverse careers both in research and in other functions. Diversification typically includes mobility in all its forms: inter/intra-national, inter-sectoral, inter-institutional, inter- and trans-disciplinary and virtual mobility. This requires more talent-based and diversity-sensitive quality assessment, fostering responsible use of metrics, considering diverse contributions and their potential impacts, diverse activities and practices like teaching and skills, peer review, research management and leadership, supervision, mentoring, knowledge valorisation, entrepreneurship and collaboration with industry, services to society, science communication and interaction with society, methodological rigour and Open Science practices, team science, among others as well as mobility.

Employers and/or funders should put measures in place to make researchers, in particular early-career ones, aware of opportunities available in all relevant sectors and to promote a culture of diversification of careers for better personal and professional development. This will require career advisory and support services to stimulate inter-sectoral, inter-disciplinary and geographical mobility, as well as the creation and development of entrepreneurial activities.

(2) *Career Development and Advice*

Employers and/or funders of researchers should draw up, preferably within the framework of their human resources management, a specific career development strategy for researchers at all stages of their career, regardless of their contractual situation, including for researchers on fixed-term contracts. In this context, researchers should be supported to develop an individual career plan to identify the necessary training and research required to attain their career goals. It should include the availability of mentors involved in providing support and guidance for the personal and professional development of researchers, thus motivating them and contributing to reducing any insecurity in their professional future. All researchers should be made familiar with such provisions and arrangements and be proactive and responsible for their career development.

Employers and/or funders should ensure either in the institutions concerned, or through collaboration with other structures, accessible and up-to-date career guidance and job

placement assistance, providing information, guidance and support for career development both within and beyond the institution concerned. This shall be offered to researchers at all stages of their careers, regardless of their contractual situation

(3) ***Continuous Professional Development***

Researchers at all career stages should seek proactively and be given opportunities by their employer/funder to continually improve themselves by regularly updating and expanding their skills and competencies. This may be achieved by a variety of means including, but not restricted to, formal training, workshops, conferences and e-learning or collaboration within a team and the respective networks. Particular attention should be paid to the training of First Stage Researchers (R1) the majority of whom are PhD candidates at the beginning of their research career[16].

Access to research training and continuous development

Employers and/or funders should ensure that all researchers at any stage of their career, regardless of their contractual situation, are given the opportunity for professional development and for improving their employability through access to measures for the continuing development of skills and competencies. Employers and funders should take action to support the development and provision of targeted training, including in the form of micro-credentials, to ensure up-skilling and re-skilling opportunities for researchers with a lifelong learning perspective and to foster inter-sectoral and inter-disciplinary mobility. Such measures should be regularly assessed for their accessibility, take-up and effectiveness in improving competencies, skills and employability.

Employers and funders should attribute adequate relevance to the need to foster entrepreneurial competences in researchers, with the objective of allowing those who undertake an entrepreneurial career path to couple their knowledge production capabilities with knowledge valorisation proficiency, turning innovative ideas into business and fostering innovation and progress.

Employers and funders should take steps to ensure that doctoral training is adapted for interoperable careers in all relevant sectors and for the practice of Open Science, including by making use of the European Competence Framework for Researchers (ResearchComp) and of any other future initiatives taken by the Commission for the purpose of strengthening transversal skills of researchers.

Validation of skills

As part of broadening researchers' skills sets, employers and/or funders should provide for the appropriate assessment and evaluation of formal and informal training including on-the-job skills and training, particularly within the context of international and professional mobility. The assessment should be done on harmonised criteria, in a fair and transparent manner within a reasonable timeframe.

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[16]For example, see Innovative Doctoral Training Principles (2011) https://euraxess.ec.europa.eu/sites/default/files/policy_library/principles_for_innovative_doctoral_training.pdf, Salzburg Principles (2016) https://www.eua-cde.org/downloads/publications/2016_euacde_doctoral-salzburg-implementation-new-challenges.pdf, Hannover Principles (2022) https://www.uclpress.co.uk/products/176626?_pos=1&_sid=d5bf44607&_ss=r.

<u>Teaching</u>

Teaching is an essential means for the structuring and dissemination of knowledge and is a valuable option within a researcher's career path. Teaching should benefit from and make use of scientific knowledge and promote research interest among students. Involvement of researchers in teaching should be fully supported and recognised, and might vary at different moments within a career. Special attention should be paid to researchers at the beginning of their careers, ensuring that they are rightly supported and that teaching responsibilities (including lecturing, tutoring, supervising and mentoring) are compatible with their research activities or research training.

Employers and/or funders should ensure that teaching duties are adequately remunerated and considered in the evaluation/appraisal systems from early stage of researchers' careers. It should also be ensured that time devoted by senior members of staff to the training and mentoring of First and Second Stage (R1, R2) researchers is counted as part of their teaching commitment. Suitable training should be provided for teaching and coaching activities as part of the initial training and professional development of researchers.

(4) Supervision and Mentoring

Proper people and team management are crucial in research working environments as science is by definition a joint endeavour. The necessary training, tools and evaluation mechanisms should be put in place as to ensure that senior and leading researchers are capable of managing their staff and teams in a fair and non-discriminatory manner, free of gender and other types of biases, and are capable of establishing fruitful and cooperative working relationships to their peers. This should contribute to healthy, fair, creative environments where every individual is respected, duly motivated, recognized and their general well-being fostered.

Employers and/or funders should ensure that a person or a group of persons is clearly identified to whom First Stage (R1) and Recognised (R2) researchers can refer for the performance of their professional duties and should inform the researchers accordingly.

Such arrangements should clearly define that the proposed supervisor/s have an adequate level of expertise in supervising research and have the time and commitment to be able to offer the research trainee appropriate support and provide for the necessary progress and review procedures, as well as the necessary feedback mechanisms.

Specific provisions for the integration, research support and career development of researchers, for their mentoring and wellbeing, for communication and conflict resolution as well as for the training and professional development of supervisors are provided in the Marie Skłodowska-Curie Actions (MSCA) Guidelines for Supervision[17]. The MSCA Guidelines on Supervision are a set of recommendations for individuals and institutions who receive MSCA funding. The Guidelines promote effective supervision, mentoring and appropriate career guidance.

<u>Relation with supervisors</u>

Researchers in their training phase should have a structured and regular relationship with their supervisor(s) and faculty/departmental representative(s) and be able to take full advantage of

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[17]   https://marie-sklodowska-curie-actions.ec.europa.eu/about-msca/msca-guidelines-on-supervision.

their relationship with them. Supervisors should also actively support especially early-stage researchers by organising feedback meetings with them and promoting training activities relevant to their work.

This includes keeping records of all work progress and research findings, obtaining feedback by means of reports and seminars, applying such feedback and working in accordance with agreed schedules, milestones, deliverables and/or research outputs.

<u>Senior researchers</u>

Senior researchers (R3 and R4) should devote particular attention to their multi-faceted role as supervisors, mentors, career advisors, leaders, project coordinators, managers or science communicators. They should perform these tasks to the highest professional standards and have access to the appropriate training. Regarding their role as supervisors or mentors of researchers, senior researchers should build up a constructive and positive relationship with the First Stage (R1) and Recognised (R2) researchers, in order to set the conditions for efficient transfer of knowledge and for the further successful development of their careers. This is a highly responsible role to support the career development of R1 and R2 researchers communicating experience and values in a trusted and confidential environment.