C/2023/1640

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COUNCIL RECOMMENDATION

of 18 December 2023

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

(C/2023/1640)

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) Commission Recommendation 2005/251/EC ([1]) played an important role in supporting researchers and research careers in the Union. The European 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 (ERA) and supporting the development of a more attractive, open and sustainable Union 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.

(2) The Commission Communication entitled 'European Skills Agenda for sustainable competitiveness, social fairness and resilience', adopted on 1 July 2020 ([2]), 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 to allow, inter alia, 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 Union Pact for Skills, supports upskilling and reskilling through collaboration between industry, education and training providers, social partners and public authorities in largescale skills partnerships.

(3) The Commission Communication entitled 'A New ERA for Research and Innovation', adopted on 30 September 2020 ([3]), acknowledges that career development conditions to attract and retain the best researchers in the Union are necessary in the global race for talents, and that precarious employment, notably for early-career researchers, has not been adequately addressed over the past years. It also highlights the frequent misalignment between researchers' skills and the needs of society and the economy, and the importance to train and incentivise researchers to pursue a career outside academia, involving industry. That 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 exchange mechanisms between academia and industry, targeted training opportunities, and a one-stop-shop portal that researchers from the public and private sectors can all access for a wide range of support services. That Communication also foresees the improvement of the research assessment system to rightfully and properly recognise diversity of career paths and activities that better respond to the requirements of society.

([1]) 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).

([2]) 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.

([3]) 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.

(4) The Council Conclusions on the 'New European Research Area' of 1 December 2020 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 ERA, contributing to attracting and retaining excellent researchers.

(5) 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 recognise that researchers are at the heart of Union research and innovation systems, and that more coordinated action at Union level is needed to overcome the existing challenges faced by researchers in building interoperable and sustainable research careers – allowing for diversified and multiple career paths –, stimulating balanced talent circulation, and making the Union an attractive destination for researchers. Those conclusions suggest that an analysis of the possible evolution of the Charter and Code for Researchers towards a single and comprehensive framework, which addresses all challenges related to research careers beyond values and principles and focuses on all possible research employment domains, be carried out and request that the Commission make a proposal in 2022. Matters such as recruitment, incentives for early-career researchers, career diversification and progression, interoperability with all sectors of society including industry, researchers' assessment, gender equality, work-life balance, and an improved governance and services of EURAXESS and other instruments like Europass are suggested as elements to be included in that proposal.

(6) Council Recommendation (EU) 2021/2122 on 'a Pact for Research and Innovation in Europe' ([4]) 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 action by the Union and Member States in support of the ERA, and specifies a common set of principles and values to underpin research and innovation in the Union. 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.

(7) The ERA Policy Agenda annexed to the Council Conclusions on the 'Future governance of the European Research Area' of 26 November 2021 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 Union framework for research careers, together with the upgrading of existing instruments and initiatives and creation of new ones. That 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 Union; 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.

(8) The Commission Communication entitled 'A European Strategy for Universities', adopted on 18 January 2022 ([5]), envisages 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.

(9) The Commission Communication entitled 'A new European Innovation Agenda', adopted on 5 July 2022 ([6]), acknowledges that innovation depends on successfully attracting, nurturing and retaining talented individuals and a diverse array of skills and underlines the importance of inter-sectoral mobility.

([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]) 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.

([6]) 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.

(10) Council Recommendation (EU) 2022/2415 on the guiding principles for knowledge valorisation ([7]) emphasises 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 continuing professional development is essential to maximising 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 that Recommendation.

(11) The Council Conclusions on the European Universities initiative – Bridging higher education, research, innovation and society: Paving the way for a new dimension in European higher education ([8]) invite Member States and the Commission to promote synergies between the higher education dimension of the European Education Area (EEA), the ERA and the European Higher Education Area (EHEA).

(12) Researchers are a fundamental resource for society. They conduct research, foster innovation, contribute to solutions to societal challenges and provide policymakers with evidence for informed decision-making processes. Researchers are highly skilled talents who have great potential to better meet labour market demand. It is crucial to improve researchers' overall working conditions and environment, including by offering them attractive salaries.

(13) Enhancing the attractiveness and stability of research careers across the Union is a key element of the ERA. Therefore, there is a clear need to make research careers more attractive and inclusive for students and graduates, 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) 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 –higher education institutions, research organisations, enterprises etc. – by spreading good practices and increasing their international attractiveness and visibility, in particular through the development of excellent doctoral programmes. The MSCA contributes to inter-sectoral, inter-disciplinary and geographical mobility, develops researchers' skills, addresses gender imbalances, retains talented researchers and attracts new talent to Europe. In particular, the MSCA Industrial Doctorate scheme can be considered an example of best practice, where the research experience, location and supervision of a doctoral candidate are equally shared between an academic and a non-academic establishment with provisions to ensure academic standards. It is an important example of interaction and cooperation between ecosystem actors, fostering transversal skills and inter-sectoral mobility, and supporting industry's need for highly skilled talents and researchers' understanding of industrial challenges, aiming at greater recruitment opportunities within the ecosystem.

(15) Eurostat data show a growing trend in the number of full-time equivalent researchers in the Union. In 2021, there were 2 million researchers working in the Member States, which is 627 000 more than in 2011. Most researchers work in the business enterprise sector (56 %) and the higher education sector (32 %), followed by the public sector (11 %). It is important to sustain this growth with adequate investment, infrastructure and policies at national and Union level that support attractive research careers, including with regard to diversity, inclusiveness and gender equality, and that promote a culture valuing research careers in all sectors of society.

(16) There is a need for a clear and common definition and understanding of 'researcher' at Union level, for example the widely accepted definition from the Frascati Manual. Researchers should be understood as professionals performing research and innovation activities in all sectors, including academia – higher education institutions, research organisations, research infrastructures –, business – including industry, start-ups, spin-offs or small and medium-sized enterprises –, public administration bodies – including government, policy-making bodies, public laboratories and the health care system –, and the non-profit sector. Researchers may be additionally involved in different types of activities in any sector of the economy or society. Efforts are needed to achieve full recognition of researchers' careers, as well as to improve the comparability across Member States and sectors.

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

([8]) Council conclusions on the European Universities initiative – Bridging higher education, research, innovation and society: Paving the way for a new dimension in European higher education (OJ C 221, 10.6.2021, p. 14).

(17) Performing high-level research and innovation requires the support of other professionals. Amongst them, research management and research technician careers deserve proper recognition, including by way of further analysis and alignment at the level of the Union. Research management capacity should be strengthened by defining required skills and competences, developing relevant training, fostering comparability, and allowing their holders to effectively manage and support research and innovation.

(18) 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. The implementation of the ESCO classification in EUROPASS and in the European network of employment services (EURES) facilitates the uptake of that improved taxonomy in the labour market. The Commission needs to interact with the International Labour Organization to ensure the specific category of 'researcher' is included in future revisions of the International Standard Classification of Occupations (ISCO), on which the ESCO classification is based.

(19) 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, the European Higher Education Area Rome Communiqué of 19 November 2020, and Council Recommendation (EU) 2021/2122, academic freedom and freedom of scientific research must be safeguarded as essential prerequisites for researchers to advance research and innovation. A Staff Working Document on tackling research and innovation – R&I – foreign interference was published by the Commission in January 2022, outlining best practices to support higher education institutions and research organisations in safeguarding their fundamental values, including academic freedom, integrity and institutional autonomy, as well as to protect their staff, students, research findings and assets.

(20) There is a need to effectively address persisting gender inequalities – including the gender pay gap, gender biases in assessment and recognition, work-life balance issues as well as gender-based violence – in addition to possible intersections of gender with other conditions of vulnerability or marginalisation such as ethnicity, disability and sexual orientation in research careers, as they all affect participation and career progression. Instruments of institutional change, such as inclusive gender equality plans, can be important in this regard, taking note of the Gender Equality Strategy 2020-2025 ([9]). SHE FIGURES 2021 showed that women continue to be under-represented among researchers, constituting only 33 % of the total population of researchers in the Union. Additionally, that report also demonstrated that a higher percentage of researchers who are women are employed in the higher education sector, compared to researchers who are men, whereas their percentages are lower in the public and business sectors. Across the Union, a higher proportion of researchers who are women, compared to researchers who are men, work on a part-time basis and under precarious contracts in higher education – 11 % in the case of women and 7 % in the case of men – and women only occupy 26 % of the top academic positions, those of full professorship or equivalent researcher positions. Therefore, specific efforts are needed to address gender inequalities in research careers and women's under-representation in the science, technology, engineering and mathematics fields in research and innovation, as well as in the higher education sector as highlighted in the European Strategy for Universities.

(21) 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 aspects of employment and working conditions, such as differing student or employee status for doctoral candidates across the Member States, a frequent lack of open, transparent and merit-based recruitment, precarity linked to short-term project-based contracts, unsatisfactory access to equal opportunities, a lack of inter-sectoral mobility opportunities during doctoral training and postdoctoral work, a lack of work-life balance, family care, physical and mental health wellbeing measures, and weaknesses in social protection tools, including difficulties with the portability of entitlements between sectors and Member States.

([9]) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – A Union for Equality: Gender Equality Strategy 2020-2025, COM(2020) 152 final.

(22) The employability and career development of early-career researchers would benefit from dedicated incentives for their recruitment, such as financial and social protection incentives, including opportunities for permanent or open-ended contracts in line with Council Directive 1999/70/EC of 28 June 1999 ([10]). In this respect, a wider use of baseline funding or life-cycle research funding could be promoted alongside project-based funding. Baseline funding provides higher education institutions or research organisations 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.

(23) As asserted in Article 22 of the Universal Declaration of Human Rights, one has, as a member of society, the right to social security and an entitlement to the realisation of the economic, social and cultural rights indispensable for one's dignity and the free development of one's personality. Principle 15 of the European Pillar of Social Rights states that, in retirement, both the employed and the self-employed have the right to a pension commensurate to their contributions that ensures an adequate income. Yet, mobile researchers experience difficulties accumulating adequate supplementary pensions as a result of vesting periods, high transfer fees, limited knowledge of complex financial products and administrative burdens on retirement. Therefore, safeguards based on the Council Recommendation of 8 November 2019 on 'Access to social protection for workers and the self-employed' ([11]) should be ensured for researchers.

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

(25) Inter-sectoral, inter-disciplinary and geographically balanced mobility are essential to making 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, while promoting and enabling non-linear, diversified career paths. Those forms of mobility, including virtual mobility, should be promoted, incentivised and adequately integrated into researchers' professional development and action should be taken to address existing mobility obstacles of any nature, including the limited portability of grants, the administrative burden, for example, of business trips, or for the recognition of residence permits for mobile researchers, relocation challenges, or language barriers, or for the transfer of pension entitlements.

(26) A change of approach is needed to foster interoperable and inter-sectoral research careers, whereby the assessment and reward system would attribute equal value to careers undertaken in all sectors and would not penalise geographical, inter-disciplinary and inter-sectoral mobility, career breaks or career relocation, including sabbaticals or parental leave, and researchers would take into consideration indistinctly careers in academia and beyond. Multiple career paths, 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 linear career paths – to be understood as careers following a straight line of progression from one position to another, usually within the same field or discipline.

([10]) 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).

([11]) 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).

(27) In some instances, doctoral training continues to be directed primarily at future careers in academia, and does not sufficiently take into consideration the wider range of occupations across relevant sectors, or the importance of fostering entrepreneurship among researchers. Equipping researchers with transversal skills through formal and informal trainings, in addition to strong research skills, is highly important for creating better career opportunities, inter-sectoral mobility and innovation, and for making research careers in the Union more attractive.

(28) The European Competence Framework for Researchers (ResearchComp) developed by the Commission in consultation with Member States and stakeholders, will play an important role in equipping researchers with a wide set of transversal skills and closing the skills gap between academia and all other relevant sectors. Researchers' training – including doctoral training – could be developed according to the competences described in the framework and based on the exchange of best practices in order to allow for lifelong up-skilling and re-skilling of researchers. Adequate recognition of, and validation mechanisms for, formal and informal training opportunities, including on-the-job training, would be needed.

(29) To ensure that researcher training is developed or co-developed on the basis of actual skills needs, the interaction and cooperation of academia, industry, business, public administration, the non-profit sector, and all other relevant ecosystem actors could be promoted, including for example in relation to internships, traineeships or job shadowing. The Principles for innovative doctoral training included in the Report adopted by the ERA Steering Group on Human Resources and Mobility of 2011, as well as Council Recommendation (EU) 2022/2415 of 2 December 2022 on the Guiding principles for knowledge valorisation ([12]) which points out the need to have a system conducive to entrepreneurial activities for the benefit of researchers, could be taken into consideration in this regard.

(30) Fostering an entrepreneurial mindset and related competences among 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. Following a successful entrepreneurial path requires that intellectual assets such as publications, data, know-how and intellectual property are properly understood and efficiently managed as set out in Council Recommendation (EU) 2022/2415 of 2 December 2022 on the Guiding principles for knowledge valorisation ([12]).

(31) Cross-sectoral talent circulation and improved interoperability of research and innovation jobs among sectors demand a combination of different and complementary measures at national and Union levels in accordance with the principles of academic freedom and institutional autonomy, including system reform. A policy approach that involves mutual learning on the basis of successful models for inter-sectoral mobility schemes can contribute to strengthening a mutually beneficial academia/non-academia cooperation, and reinforcing innovation ecosystems, improving training and lifelong learning for researchers, innovators, and other research and innovation talents, including up-skilling to build support capacity, and enhancing the recruitment system, and boosting researchers' development of entrepreneurial skills.

(32) Researchers are not always aware of the crucial role of policy making in the field of research and innovation and the role of science in policy making. Both dimensions can have an impact on the research careers overall as well as on the research and innovation system. It is important for doctoral training to include and instil this awareness, in order to ensure greater involvement of researchers in the policy making process and recognise their activities in science for policy throughout their career.

(33) Researchers, in particular early-career ones, should be made aware of opportunities available in all sectors and of the possibility of pursuing those opportunities to widen their personal and professional development spectrum. Career advisory and support services, tailored to the needs of researchers, have an important role to play by stimulating inter-sectoral, inter-disciplinary, geographical and virtual mobility, and through the possibility of developing entrepreneurial activities. Interinstitutional mobility, notably between different profiles of higher education

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

institutions and research organisations 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.

(34) 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 a broad consultation with stakeholders, in the Council Conclusions on 'Research assessment and implementation of Open Science' of 10 June 2022, and in the Agreement on Reforming Research Assessment published in July 2022, a proper evaluation of performance requires a recognition of increasingly diverse research outputs, activities and practices, including collaboration and open sharing of outputs, and ensuring high research integrity standards and societal impact of research. Researcher 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.

(35) In order to reinforce careers in academia leading to the most senior positions, a transparent, structured, inclusive and gender-equal career accession and progression system is needed. The development of tenure-track-like systems, to be understood as defined frameworks where a fixed-term contract has the prospect of 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.

(36) Despite efforts at Union, national and regional level, the issue of talent drain from less developed regions in the Union persists, as highlighted in the Commission Communication entitled 'Harnessing talent in Europe's regions' ([13]), and additional measures are required to achieve more balanced geographical mobility for researchers. The Commission talent circulation analyses 2021-2022 indicate the positive contribution of existing actions at Union level to encouraging more balanced talent circulation, but they also identify persistent challenges and provide pathways for brain gain. Excellent research environments – including research infrastructures –, attractive working conditions and a level of 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 have enabled establishing a more balanced circulation of talents in Member States.

(37) Supporting researcher 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 information and support services free of charge to researchers and their families. To further support this objective, EURAXESS could expand its information delivery and support activities for researchers and higher education institutions and research organisations, 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 strong national bridgehead organisations.

(38) To remain globally competitive, the Union needs to become more attractive for talent from around the world while avoiding talent drain affecting developing countries. The Commission Communication entitled 'Attracting skills and talent to the EU', adopted on 27 April 2022 ([14]), emphasises the necessity for the Union to enhance its appeal to global talent, notably by promoting innovation and entrepreneurship in the Union and by exploring further potential avenues for legal migration to the Union in the medium to longer term. The revision of Directive (EU) 2021/1883 of the European Parliament and of the Council ([15]) was an important step to improve the Union's attractiveness allowing highly qualified migrants to benefit from improved rights as well as quicker and more

([13]) 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.

([14]) 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.

([15]) 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).

streamlined procedures. Directive (EU) 2016/801 of the European Parliament and of the Council ([16]) also contributes to those objectives by making it easier and more attractive for students and researchers to come to the Union while at the same time promoting the circulation of knowledge and skills through enhanced intra-Union mobility rights.

(39) The Charter and Code for Researchers is being revised to respond to the new reality and the current challenges faced by researchers and institutions, including a better integration of gender balance, gender equality and inclusiveness comprising measures aiming at research environments that are free from gender-based violence, as well as open science practices. The new Charter for Researchers, in Annex II of this Recommendation, is streamlined in order to simplify its implementation and to promote its uptake beyond the academic sector. All organisations employing or providing funding for researchers are invited to endorse the new Charter for Researchers. Organisations that have endorsed the principles of the existing Charter and Code for Researchers are considered as continuing to endorse the new Charter for Researchers. This should apply in particular to institutions that have entered or completed the HRS4R process, for which the endorsement of the Charter for Researchers constitutes the first step.

(40) An observatory on research careers, combining the best of the current Union data in a single place, is needed to monitor the implementation of measures to strengthen research careers and system reforms. It should support the 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. Where relevant, links with the European Higher Education Sector Observatory proposed in the European Strategy for Universities could be considered. Data collected in application of Regulation (EU) 2019/1700 of the European Parliament and of the Council ([17]) could be adapted to respond to the needs of the research careers observatory's users.

(41) In order for the European framework to attract and retain research, innovation and entrepreneurial talent in the Union to succeed, commitments from the Member States and all stakeholders involved are needed. In particular, alliances of higher education institutions, such as those 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, research organisations and all relevant stakeholders, could be encouraged to participate on a voluntary basis and following a bottom-up approach, to contribute to a broad implementation of the framework by piloting relevant activities.

(42) Those recommendations should be implemented with due regard to the broad diversity of national research and innovation systems and circumstances and to the principle of institutional autonomy of higher education institutions and research organisations across the Union,

HAS ADOPTED THIS RECOMMENDATION:

Researchers, research managers and research technicians in the European Research Area

1. For the purposes of this Recommendation:

'Researchers' means professionals engaged in the conception or creation of new scientific knowledge based on original concepts or hypotheses. They conduct research and improve or develop concepts, theories, models, infrastructures, techniques, instrumentation, software or operational methods. Researchers may be involved fully or partially in different types of activities – such as basic or applied research, experimental development, operating research

([16]) 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).

([17]) 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).

equipment in any sector of the economy or society and disseminating and valorising research results. They may also be partially involved in, among others, project management, teaching, mentoring, supporting evidence-informed policy making, open science practices, knowledge and technological transfer activities, and science communication. 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 experience.

2. Researchers can conduct their activities with equal relevance in all sectors performing research and innovation, including academia, industry, business, public administration and the non-profit sector, where their skills, knowledge and attitudes can be beneficial to European society, the research and innovation system, and the economy.

3. Research management careers can be undertaken by researchers and other professionals to manage and support research and innovation activities. Research management careers should be adequately framed and recognised at the level of the Union, by defining relevant skills and competences, in order to strengthen research managers' professional capacity, to enable the development of relevant training, and to foster comparability. Research managers can perform different tasks, for example:

   (a) streamlining or facilitating the planning, development, management, FAIR data management, administration, monitoring, 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 research and innovation projects or systems;

   (d) enhancing the impact of research and innovation on policy and society;

   (e) supporting the design and implementation of research and innovation policies, programmes and projects.

4. Research technicians are professionals whose main tasks require high levels of technical knowledge, training, and experience in one or more fields of engineering, the physical and life sciences, or the social sciences and humanities. They participate in scientific and technical tasks involving the application of concepts and operational methods and the use of research equipment, normally under the supervision of researchers. Research technicians have a crucial support role in the performance of high-level research and innovation. Member States should consider adequately framing and recognising research technicians' careers at national level.

5. All researchers, regardless of their status and sector of employment, 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 have not yet established a significant level of independence in developing their own research, attracting funding, or leading a research group.

   (c) R3 – Established Researcher: Researchers with a PhD or equivalent level of competence and experience who are able to independently develop their own research, attract funding, and lead a research group.

   (d) R4 – Leading Researcher: Researchers with a PhD or equivalent level of competence and experience who are recognised as leading their research field by their peers.

6. 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 or, where relevant, to invite higher education institutions and research organisations to do so.

   Profiles should not necessarily be considered as stages on a progressive career path.

A non-exhaustive list of examples of occupations for researchers across sectors along the R1-R4 profiles is set out in Annex I.

Recognition, interoperability and comparability of researchers' careers

7. Member States and the Commission are recommended to promote and support a full recognition of researchers' careers as well as an equal esteem and reward of the different paths regardless of the sector of employment or activity, and to take supportive measures to allow for their full interoperability and comparability across Member States, sectors and institutions.

8. Non-linear, multi-career and hybrid paths could be encouraged and supported by Member States, and should be recognised on a par with linear career paths with multiple professional outcomes.

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 5 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 non-linear, multi-career, and hybrid paths.

12. Member States are recommended to encourage respect of collective agreements and effective social dialogue, and to take support action so that employers and funders provide attractive, inclusive and competitive research and working conditions, where researchers are valued, encouraged and supported. Such support action could include:

(a) providing commensurate remuneration, work-life balance and flexible working conditions that help bring together personal life, family, caring, health, safety, and overall wellbeing, without prejudice to careers;

(b) ensuring gender equality, gender balance, 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, implementation and monitoring of instruments of institutional change, such as inclusive gender equality plans open to intersections between genders 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 action to counter the phenomenon of precarity and to support job security and stability. This could, on a voluntary basis, incentivise the establishment of a maximum threshold for the number of fixed-term contracts per organisation in researcher human resources overall. Whenever permanent, long-term or highly recurrent research tasks are being fulfilled, permanent or open-ended contracts are recommended as the appropriate instrument. Researchers under fixed-term contracts should benefit from specific measures – as referred to in point 29 of this Recommendation – that promote their career development and continuity;

(f) considering the use of different funding models – e.g. baseline, life-cycle, or project-based –, to allow research organisations to develop more long-term research strategies and engage in more stable commitments towards employees;

(g) providing access to adequate social protection irrespective of the form of employment, without prejudice to the right of Member States to define the fundamental principles of their social security systems. Such measures could 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 leave and related benefits;

(4) invalidity benefits;

(5) old-age benefits and survivor benefits;

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

13. Member States are recommended to ensure researchers' 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/or transferable across all types of employment and self-employment statuses and across borders, economic sectors, throughout the person's working life or during a certain reference period 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 encourage specific measures in support of early-career researchers, corresponding to the R1 and R2 profiles referred to in point 5 of this Recommendation. Taking into account national circumstances, such specific measures could include:

(a) providing First Stage Researchers with social protection and working conditions applicable to researchers in other career stages and with adequate income;

(b) providing early-career researchers with 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 recognising interinstitutional, inter-sectoral, inter-disciplinary and geographical mobility, including virtual mobility;

(e) promoting cooperation between academia, research funders and other relevant ecosystem actors, notably industry and other businesses as well as public and non-profit organisations, with regard to skills needed and skills provided, so as to foster recruitment of highly-skilled researchers meeting the targeted skills needed in the sectors concerned;

(f) promoting involvement of early-career researchers into research teams avoiding the demand of tasks unrelated to their scientific training.

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

16. The goal of the first-stage researcher is to cultivate the research mindset, to nurture flexibility of thought, creativity, and intellectual autonomy through an original, concrete research project. Member States are recommended to take appropriate steps to encourage that doctoral training is geared towards those goals, and furthermore compatible with interoperable careers in all relevant sectors and for the practice of Open Science, including by making use of ResearchComp, the Principles for Innovative Doctoral Training, the European Code of Conduct for Research Integrity, and of any other future initiatives taken for the purpose of strengthening the transversal skills of researchers.

17. The Commission is recommended to take action to support and facilitate the use of 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 emphasis on schemes aiming to strengthen the transversal skills needed by researchers to engage in knowledge valorisation activities and entrepreneurship. Such schemes could include awareness raising activities and trainings on relevant topics, including intellectual assets management, standardisation, industry-academia, academia-public administration sector collaboration, including science for policy activities, and engagement with 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 State level.

    The support of such interaction and cooperation is particularly recommended 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 entrepreneurship and innovation among women and on the creation of women-led spin-offs. The same approach should be envisaged for minority and marginalised groups.

    Member States could consider measures to mitigate the potential risks for researchers undertaking an entrepreneurial career, including through the possibility to return to their previous career path.

21. Member States are recommended to take action to support the development and provision of targeted training, to encourage up-skilling and re-skilling opportunities for researchers with a lifelong perspective and to foster inter-sectoral and inter-disciplinary mobility. Member States are also recommended to take the necessary steps to promote a fair and transparent validation procedure of formal and informal training opportunities, including on-the-job training.

22. The Commission is recommended to take the following action 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 entrepreneurship, transversal skills and engagement among researchers in activities increasing social impact;

    (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 33 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 necessary effort to promote the elimination of existing structural and administrative barriers which can hamper or obstruct mobility between sectors, including by supporting researchers in overcoming family and personal barriers to mobility, by supporting the interoperability of careers, where applicable, and by facilitating temporary or permanent mobility, without hindering linear research career paths.

25. Member States and the Commission are recommended to promote inter-disciplinary mobility of researchers, including by adequately taking into consideration and addressing hurdles such as lack of recognition and difficulties in securing funding from traditional sources.

Career assessment, development and progression

26. Member States are recommended to support the recognition of the value of geographical, inter-sectoral, interinstitutional, inter- and trans-disciplinary mobility as important means of enhancement of scientific knowledge and professional development at any stage of a researcher's career. Virtual mobility has been proved as a valid asset and can also be considered. The assessment and reward system should not penalise non-linear, multi-career and hybrid paths.

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

    (a) are based on qualitative unbiased judgement provided by peers and other pertinent experts, supported by the 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; a diversity of activities, inter alia mentoring, research supervision, leadership roles, entrepreneurship, FAIR data management – following the principles of Findable, Accessible, Interoperable and Reusable –, peer review, teaching, knowledge valorisation, industry-academia cooperation, support for evidence informed policy-making, interaction with society; and a diversity of practices, inter alia Open Science, early knowledge and data sharing, and open collaboration, in addition to all mobility experiences referred to in point 26 of this Recommendation;

    (d) ensure that the researcher's professional activity meets high standards of ethics and integrity, applies appropriate conduct of research, and values good practices, including 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 inter-disciplinarity;

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

    To ensure coherence in the implementation of the recommendations listed in this point, Member States are encouraged 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, within their area of competence, national administrative or legal barriers to such evolution of research assessment and help prevent 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 organisations.

29. Member States are recommended to promote measures, including advisory and mentoring mechanisms, 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 are recommended to support the provision of career advisory and support services, e.g. EURAXESS, to stimulate inter-sectoral, inter-disciplinary and geographical mobility, as well as the creation and development of entrepreneurial activities.

30. Member States are recommended to promote 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 developing tenure-track-like systems, to be understood as defined frameworks where a fixed-term contract has the prospect of a progression to a permanent position, subject to positive evaluation.

Balanced circulation of talents and making the Union an attractive destination

31. 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 from abroad. 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 support to networking within and beyond the Union, to connect and integrate national research and innovation systems to European research networks and provide higher visibility of national capabilities and high-level research and technology infrastructures;

(d) the exchange of best practices with regard to creating an attractive, safe, inclusive, gender-equal and competitive research and innovation environment, even as regards the improvement of remuneration, working conditions and services, and the reduction of administrative and language barriers for foreign and internationally mobile researchers;

(e) return and career reintegration 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, skills development, collaboration, and preventing talent drain;

(g) exploring options for a common approach for the staff of the Research Infrastructures, especially in the case of a European Research Infrastructure Consortium (ERIC).

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

32. 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, within the Union and with third countries, through an interactive talent circulation map in the observatory on research careers referred to in point 40 of this Recommendation;

(c) facilitating transnational ties with the research and innovation diaspora and third country communities and facilitating the attraction or return of talents, via a branch of the ERA Talent Platform referred to in point 33 of this Recommendation;

(d) promoting a balanced talent circulation of researchers at Union level, by strengthening the human capital base with more entrepreneurial, managerial and better-trained researchers and innovators.

Support actions for research careers

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

34. 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 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.

35. Member States and the Commission are recommended to acknowledge the importance of the endorsement and implementation of the Charter for Researchers referred to in point 36 of this Recommendation.

36. The new Charter for Researchers set out in Annex II to this Recommendation should replace the Charter and Code for Researchers set out in the 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 a structural tool in support of researchers and research careers.

37. 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 of 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.

38. 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.

39. 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, research and innovation 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

40. In addition to the overarching European Research Area monitoring systems, the Commission and Member States are recommended to monitor relevant aspects of research careers in the Union and the implementation of this Recommendation through a dedicated Observatory, to the benefit of the research community, policy makers, public administration and relevant organisations at European and national level. The Observatory should support better understanding of challenges and opportunities by researchers, and it should also promote the attractiveness of Union research performing organisations for the best talents, while guaranteeing the protection of data privacy throughout implementation.

41. The Observatory should carefully consider and identify the type of support data that would be relevant to observe research careers. Where possible, links to existing data should be considered and prioritised in order to reduce administrative burden for Member States and all relevant stakeholders. 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.

42. The Commission is invited to propose – on the basis of the data provided by the Observatory on research careers – further measures that encourage and promote the development of research careers.

43. The Commission, in collaboration with Member States, is recommended to consider relevant links between the Observatory on Research Careers and the European Higher Education Sector Observatory proposed in the European Strategy for Universities, where relevant, and thereby enhance synergies between the European Research Area and the European Education Area.

44. Member States and the Commission are recommended to consider the adaptation to the data needs of the observatory referred to in point 40 of this Recommendation of the data collected in the context of Regulation (EU) 2019/1700.

Done at Brussels, 18 December 2023.

For the Council
The President
T. RIBERA RODRÍGUEZ

ANNEX I

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

With due regard to national competences and to facilitate the use of references to the profiles in all vacancies specifically addressed to researchers, this annex provides examples for each sector with the aim to make researchers' careers comparable and interoperable across employment sectors and countries.

Entities concerned should be mindful of the understanding of the Researcher's definition and its profiles as reflected in the Recommendation 1, 2, 5 and 6.

Table 1

Examples of Occupations in the European Framework for Research Careers

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

About the examples of researcher occupations per the R1-R4 profiles listed in Table 1, it is important to signal that:

— 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

— The examples consist only of titles in English although it is acknowledged that titles will differ across sectors and countries and that titles will differ across different languages

— Some researcher occupations may appear in multiple R1-R4 where the decision of profile will be dependent on the level of independence, experience, and recognition

— The final decision on whether an individual and occupation is to R1-R4 will be determined case-by-case and will be dependent upon the individual and occupation

ANNEX II

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 European Charter for Researchers ('Charter for Researchers') is the rights and responsibilities of researchers, employers, funders and policy makers; it consists 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). This includes:

(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) and Social Sciences and Humanities (SSH). 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 RESEARCHER
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 revitalised 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 the rest of the principles.

(1) Ethics and Research Integrity ([1])

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 and conflict of interest). They are a prerequisite for achieving excellence, and they underpin the responsibility of researchers to guard against biases and methodological shortcuts.

([1]) Research Integrity – Council conclusions (adopted on 1 December 2015) – Council doc. 14853/15.

Researchers should adhere to the recognised ethical practices and fundamental ethical principles 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 stakeholders involved, such as research integrity in research environments; training and capacity building on research integrity; research processes and policies embedding research integrity; data, publication, dissemination, review, evaluation and editing policies. Equally, mechanisms to identify, report and deal with research misconducts should be put in place.

Researchers should avoid plagiarism of any kind. Particular attention should be paid to the principles of joint ownership when research is carried out in collaboration with supervisors and/or other researchers – as appropriate to the discipline – as well as to intellectual property rules. This should apply at all stages of the research process including conception, prepaation of funding applications and 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.

The values of ethics and integrity are also of great importance when researchers are in a supervisory role. These shoud be applied promptly to ensure a safe, inclusive and gender equal research environment for all involved and especially when discrimination, sexual or moral harassment, hindrance to learning or research work, or unjustified personal appropriation of data or results occur.

(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. Researchers should focus their research on the good of humanity and expanding the frontiers of human knowledge, while enjoying 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. intellectual property rights, budgetary or infrastructural reasons.

(3) Open Science

Researchers should target engagement in all aspects of Open Science ([2]) and be facilitated by their employers and funders in this regard. They should share their results openly, e.g. through open and FAIR-Findable, Accessible, Interoperable and Reusable data, open access publications, and open software, models and algorithms. They should take measures to ensure reproducibility of research results. They should aim at practicing Open Science methodologies and at engaging in open peer review. Employers and funders should support, provide the necessary tools and infrastructure, 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, while considering differences among disciplines and cultural differences, including multilingualism, supporting the development of Open Science skills, and further developing and integrating the underpinning digital infrastructure and service.

([2]) The transition towards an Open Science system – Council conclusions (adopted on 27 May 2016) – Council doc. 9526/16.

Citizen Science

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 STEM and 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 equality and gender balance in research teams, managerial and decision-making bodies, recruitment and promotion committees, and advisory groups. This 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 should be understood from an intersectional perspective, where different systems of power among gender and other social categories and identities intersect and reinforce each other. Sustainable institutional changes, channelled through Gender Equality plans ([3]) or similar, that allow for proper reporting of infringements and include monitoring and evaluation systems, are adequate mechanisms to promote gender equality.

A key component of the transformation of an organisation's culture for advancing gender equality is work-life balance. Work-life balance is relevant for both women and men and involves ensuring that all staff are properly supported to advance their career alongside personal responsibilities that they may hold outside of the workplace, including caring responsibilities.

(5) Embracing Diversity

A core principle of the 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 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 reviewing tasks, and compensating for them where possible is also needed, particularly in the realm of science.

(6) The Researcher

All researchers are engaged in the conception or creation of new scientific knowledge based on original concepts or hypotheses. Researchers are profesionals whose work should be valued, independently of the sector in which they operate. This should commence at the beginning of their careers, namely at postgraduate level, and should include all levels, regardless of their classification at national level.

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

Professional Attitude

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 by allowing a better understanding of the world, and does not needlessly duplicate research previously carried out elsewhere. This involves efficient research results' valorisation.

([3]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – A Union of Equality: Gender Equality Strategy 2020-2025, COM(2020) 152 final.

There should be clear communication among 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 early or suspended for any 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 during 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

Employers and funders should promote free circulation of researchers, scientific knowledge and technology, while attracting talent and avoiding potential talent drain. They should recognise the value of geographical, inter-institutional, inter-sectoral, inter-disciplinary and trans-disciplinary mobility 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. Virtual mobility has been proved as a valid asset and can also be considered. 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 current and future policy initiatives adopted to progress society such as 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.

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

PILLAR 2 – RESEARCHERS ASSESSMENT, RECRUITMENT AND PROGRESSION

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

Researchers' 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

Researchers' assessment should enable evaluating the performance of researchers and research to achieve the highest quality and impact. This requires recognition of increasingly diverse activities, practices and research outputs. Consequently, assessment should be based primarily on qualitative judgement, for which peer review and review by other pertinent experts is central, supported by the responsible use of quantitative indicators. Contributions to innovation 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 their impact on society, science and innovation, the diversity of activities performed, Open Science practices, and the value of geographical, inter-disciplinary and inter-sectoral mobility. Such a system should:

(a) be based on qualitative unbiased judgement provided by peers and pertinent experts, supported by the 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, models, theories, algorithms, workflows, exhibitions, strategies, policy contributions; a diversity of activities, *inter alia* mentoring, research supervision, leadership roles, entrepreneurship, FAIR data management – following the principles Findable, Accessible, Interoperable and Reusable –, peer review, teaching, knowledge valorisation, industry-academia cooperation, support for evidence-informed policy-making, interaction with society, management and leadership, supervision, teamwork, services to society, science communication and methodological rigor; and a diversity of practices, *inter alia* Open Science, early knowledge and data sharing, and open collaboration, in addition to all mobility experiences including geographical, inter-sectoral, inter-institutional, inter- and trans-disciplinary;

(d) ensure that researchers' activity meets high standards of ethics and integrity, applies appropriate conduct of research, and values good practices, including 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 inter-disciplinarity;

(g) ensure gender balance, 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

In accordance with the principles of academic freedom and institutional autonomy, employers and funders are recommended to establish recruitment and selection procedures which are open, transparent and merit-based, without penalisation for career breaks or non-linear, multi-career and hybrid paths. They should seek excellence, gender equality, diversity, and be tailored to the type of position advertised. Advertisements should include a comprehensive description of the knowledge and competencies required, including a 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 career development prospects. Committee members should also be made aware of and trained about fair recruitment principles.

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 multi-dimensional 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 they are applying.

Seniority

The level of qualifications required should be in line with the needs of the position and not 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.

(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 – as assessed on the basis of their innovative research methods, approaches and outputs – and level of independence should also be considered. Selection committees should bring together diverse expertise, competences and experience relevant to assess the candidate. Selection committees should also have adequate gender balance and, where appropriate and feasible, include members from different sectors – public and private – and disciplines, and from 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 minimising gender bias or any other possible unconscious biases. All candidates should be informed after the selection process about the strengths and weaknesses of their application.

Non-discrimination

Employers and 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 funders should introduce for all researchers, including senior researchers, evaluation/appraisal systems for assessing the performance of their duties on a regular basis and in a transparent manner by an independent – and, in the case of senior researchers, preferably international – committee. Non-linear and multi-career paths, 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 linear career paths – to be understood as careers following a straight line of progression from one position to another, usually within the same field or discipline.

Such evaluation and appraisal procedures should take due account of researchers' overall potential, their research creativity, their research output – 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. The development of tenure-track-like systems – to be understood as defined frameworks where a fixed-term contract has the prospect of a progression to a permanent position subject to positive evaluation – could be considered for this purpose at the level of the Member States and research performing organisations.

Co-authorship

Co-authorship should be viewed positively by institutions when evaluating staff, as evidence of a constructive approach to the conduct of research. Employers and 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, 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 supervisors. They should also offer training and workshops to researchers, especially early-career researchers, on ethical authorship practices, including the understanding of individual contributions and their rights and responsibilities.

Recognition of mobility experience

Any relevant 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 and to the definition of researchers' labour rights and obligations, subject to national legislation and circumstances. The need for employers and funders to develop a research culture for research excellence and facilitate a thriving researcher community is also emphasised.

(1) Working conditions, funding and salaries

Employers and 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 circumstances, and with national or sectoral collective-bargaining agreements. They should aim to provide working conditions for combining personal life, family, caring, health, safety, and overall wellbeing, without prejudice to research careers. 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 working conditions and environment that promote the mental health and physical wellbeing of researchers, including appropriate procedures for preventing and tackling gender-based violence, including sexual harassment.

Research environment

Employers and 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 and 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. research managers and administrators.

Complaints/appeals

Employers and 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 among supervisors and First Stage (R1)/Recognised (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 working conditions and environment.

Participation in organisation governance

Employers and funders of researchers should recognise 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 and to actively contribute to the workings of the institution.

Funding and salaries

Employers and funders of researchers should ensure that researchers, irrespective of their status, enjoy fair and attractive remuneration conditions – funding and salaries – with adequate and equitable social security provisions – including sickness, healthcare and parental benefits, pension rights and unemployment benefits, old-age and survivor's 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 should include researchers at all career stages, including First Stage Researchers (R1), commensurate with their legal status, performance and level of qualifications and 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 with transparent information on social protection rights such as national pension rights.

(2) Stability of employment

Employers and funders should take resolute actions to counter the phenomenon of precarity and to support job security and stability. This could, on a voluntary basis, include the establishment of a maximum threshold for the number of fixed-term contracts per organisation in the overall researchers' human resources. Whenever permanent, long-term or highly recurrent research tasks are being fulfilled, permanent or open-ended contracts are recommended as the appropriate instrument. Researchers under fixed-term contracts should benefit from specific career development and advisory services to ensure career continuity.

Early-career researchers (R1-R2)

Precarity of employment is a particular issue in academia. To counter this situation is recomended the implementation – subject to national legislation and circumstances – of specific measures in support of early-career researchers with regard to providing First Stage researchers (R1) with social protection and working conditions applicable to researchers in other career stages and with adequate income, promoting involvement of early-career researchers into research teams avoiding the demand of tasks unrelated to their scientific training and recognising inter-institutional, inter-sectoral, inter-disciplinary and geographical mobility, including virtual mobility. Additionally, appointing institutions should establish clear rules and explicit guidelines for the recruitment and appointment of recognised researchers (R2), including the maximum duration and the objectives of these appointments. Such guidelines should consider time spent in prior postdoctoral appointments at other institutions and take into consideration that the postdoctoral status 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-term contract or tenure.

Employers and funders should make their best effort as regards informing early-career researchers about career opportunities, within and beyond academia, offering broad professional development, especially during the R2 stage, more transparent and predictable career prospects, and work-based learning opportunities in a diversity of sectors.

(3) Contractual and legal obligations

Researchers at all levels should be familiar with the national, sectoral or institutional regulations governing training and 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. Employers 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, etc. – as set out in the terms and conditions of the contract or equivalent document.

Given the increasing focus on knowledge security, 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, and 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 and/or made accessible to the public 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 practices 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 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 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 peer-reviewed publications, data, know-how, standards –, and support Open Science practices.

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.

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 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.

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 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, management and leadership, supervision, mentoring, knowledge valorisation, and technology transfer activities, entrepreneurship and collaboration with industry, developing evidence-informed policymaking activities, science communication and interaction with society, and Open Science practices, team science, among others as well as mobility.

Employers and 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, mentoring 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 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 funders should ensure, either in the institutions concerned or through collaboration with other structures, accessible and up-to-date career guidance and job placement assistanceproviding information, guidance and support for career development both within and beyond the institution concerned. This should 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.

Access to research training and continuous development

Employers and 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, to encourage 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 compatible with 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, the European Code of Conduct for Research Integrity, and of any other future initiatives taken for the purpose of strengthening transversal skills of researchers.

Validation of skills

As part of broadening researchers' skills sets, employers and 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, intersectoral and inter-disciplinary mobility. The assessment should be done in a fair and transparent manner within a reasonable timeframe.

Teaching

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 funders should ensure that teaching duties are adequately remunerated and considered in the evaluation/appraisal systems from an early stage of researchers' careers. It should also be ensured that time devoted by senior members of staff to the training and mentoring of early-career researchers – R1, R2 – 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 so as to ensure that senior and leading researchers manage their staff and teams in a fair and non-discriminatory manner, free of gender bias and other types of biases – such as biases based on religion, sexual orientation, race, ethnicity, socioeconomic background, etc. –, and establish fruitful and cooperative working relationships with their peers. This should contribute to healthy, fair, creative environments where every individual is respected, duly motivated, recognised and their well-being fostered.

Employers and 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 duties and should inform researchers accordingly.

Such arrangements should clearly stipulate that the proposed supervisor have an adequate level of expertise in supervising research and have the time and commitment to offer the research trainee appropriate support; moreover, they should provide for the necessary progress and review procedures, as well as for 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 MSCA Guidelines on Supervision. 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.

Relations with supervisors

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

Senior researchers

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 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. Supporting the career development of R1 and R2 researchers in communicating experience and values in a trusted and confidential environment is a high-responsibility role.