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Proposal for a

COUNCIL RECOMMENDATION

on the guiding principles for knowledge valorisation

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

In 2008, the Commission issued a Recommendation on the management of intellectual property (IP) in knowledge transfer activities and a Code of Practice for universities and other public research organisations (C(2008)1329). The research and innovation (R&I) landscape has changed considerably since 2008 in terms of actors and complexity of the R&I ecosystems, as well as in terms of global challenges. The COVID-19 pandemic has also demonstrated the urgent need to use and valorise the R&I knowledge generated in the European Union (EU). This requires policymakers to set new objectives and provide updated guidance on knowledge valorisation.

The guiding principles for knowledge valorisation will replace the 2008 Commission Recommendation by focussing on maximising the value of the R&I investments beyond the traditional knowledge transfer. Knowledge valorisation relies on different channels[1] and involve all actors in the R&I ecosystem and their knowledge assets. The guiding principles will also help fill knowledge valorisation gaps across Member States and ensure that citizens in all Member States can better benefit from R&I results.

The 2020 Commission Communication on 'A New ERA for Research and Innovation'[2] lays the foundations for developing and updating guiding principles for knowledge valorisation and a code of practice for the smart use of intellectual property, by the end of 2022. The Council Recommendation of 26 November 2021 'on a Pact for Research and Innovation in Europe'[3] identifies knowledge valorisation as one of the priority areas for joint action in support of the European research area (ERA).

The Council Conclusions on the 'Future governance of the European Research Area' adopted on 26 November 2021[4] endorsed the ERA Policy Agenda for 2022-2024. The ERA Policy Agenda includes 'Upgrade EU guidance for better knowledge valorisation' as ERA Action 7. The first outcome of this is to 'Develop and endorse guiding principles for knowledge valorisation'.

The guiding principles for knowledge valorisation will be further supported by two Codes of Practice providing more detailed guidance on the implementation of certain areas of knowledge valorisation for actors in the R&I ecosystem. ERA Action 7 foresees a *Code of practice on the smart use of intellectual property* and a *Code of practice for researchers on standardisation*.

The guiding principles build on the co-creation by the ERA Forum subgroup on knowledge valorisation established by the informal Commission expert group on the ERA Forum for Transition.

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1 European Commission, Directorate-General for Research and Innovation, Research & innovation valorisation channels and tools : boosting the transformation of knowledge into new sustainable solutions, Publications Office, 2020.

2 COM(2020) 628 final.

3 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.

4 Council document 14308/21.

The current proposal for a Council Recommendation will make it possible to adopt a common line on policy principles and measures for improving knowledge valorisation in the EU without imposing legally binding provisions.

The guiding principles on knowledge valorisation will support the updated Industrial Strategy for Europe[5] and the EU Intellectual Property Action Plan[6], by raising the research community's awareness of the importance of IP management, promoting the effective use and deployment of IP, and ensuring easier access to and sharing of IP-protected assets. They will also support the initiatives of the European Green Deal, and enhance the link between research and standardisation in line with the EU Standardisation Strategy[7]. In line with the Commission Communication on A New European Innovation Agenda[8], the guiding principles will also help leveraging the diverse talents, intellectual assets and industrial capabilities in Europe. They will also help improve knowledge valorisation in universities and put focus on creative and entrepreneurial skills supporting the European strategy for universities[9], the European Education Area (EEA)[10] and the European Skills Agenda for sustainable competitiveness, social fairness and resilience[11]. Furthermore, the guiding principles conform to the Council conclusions on Research assessment and implementation of Open Science adopted on 10 June 2022[12] which suggest that the evolution of the research assessment systems in Europe should take into consideration of knowledge valorisation. Finally, the guiding principles will strengthen the capacity of R&I systems to support evidence-informed policymaking, public administrations[13] and better regulation[14].

2. LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

• Legal basis

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

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

• Subsidiarity (for non-exclusive competence)

In accordance with Article 179 TFEU, the European Union (EU) will have the objective of strengthening its scientific and technological bases by achieving a European research area in which researchers, scientific knowledge and technology circulate freely, and encouraging it to

5 COM(2020) 102 final and COM(2021) 350 final.
6 COM(2020) 760 final.
7 COM(2022) 31 final.
8 COM(2022) 332 final.
9 COM(2022) 16 final.
10 COM(2020) 625 final.
11 COM(2020) 274 final.
12 Council document 10126/22.
13 SWD(2021) 101 final.
14 COM(2021) 219 final.

become more competitive, including in its industry, while promoting all the research activities deemed necessary by virtue of other Chapters of the Treaties. Article 180 TFEU states that the EU must carry out a number of activities complementing the activities carried out in the Member States. These include promoting cooperation with and between undertakings, research centres and universities, as well as disseminating and optimising the results of activities in EU research, technological development and demonstration.

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

The purpose of the guiding principles for knowledge valorisation is to adopt a common line on policy principles and measures for national, regional and local policymakers to improve knowledge valorisation. Implementation of the guiding principles will ensure that data, research results and innovation are efficiently transformed into sustainable products, processes, services and policies that are of socioeconomic value and benefit to society. The proposed initiative is in line with Articles 179 and 181 TFEU, giving the EU the overall competence to support, coordinate or supplement the Member States' actions for their research and technological development activities. By emphasising awareness raising, the exchange of best practices and peer learning about the key aspects of knowledge valorisation, this proposal for a Council Recommendation will improve the creation of value stemming from R&I results across Member States without imposing legally binding provisions.

Consultations of the Member States (under the ERA Forum for Transition set up as an informal Commission expert group) and stakeholders have also indicated that there is a need to update the 2008 Commission Recommendation on the management of intellectual property in knowledge transfer activities and to bring about a cultural change, moving away from the traditional concept of knowledge transfer to the valorisation of intellectual assets generated by a broad range of R&I activities, involving an increasing amount of co-creation by different types of actors across R&I ecosystems.

A Council Recommendation will provide added value in policy making by giving the guiding principles more visibility in the Member States and towards stakeholders. This will facilitate the adoption by the EU of a stance to obtain greater socioeconomic value from research results and innovation.

- **Proportionality**

The actions proposed are proportional to the objectives pursued. The proposal supports the achievement of the objectives of the new ERA. It complements Member States' knowledge valorisation efforts. The proposal respects Member States' practices and accommodates a nuanced approach reflecting Member States' different economic, financial and social circumstances, as well as the diversity of research systems and respective institutions and organisations. It also recognises that different national, regional or local conditions could lead to differences in how the proposed recommendation is implemented.

In accordance with Article 5(4) of the Treaty of the European Union, neither the content nor the form of the proposed Council Recommendation goes beyond what is necessary to achieve

its objectives. The commitments Member States will make are not binding, and each Member State remains free to decide what approach to take.

- **Choice of the instrument**

The 2008 Commission Recommendation on the management of IP in knowledge transfer activities was a game changer for many publicly funded knowledge producers. A study published in 2013[15] showed that almost all countries (92%) involved in the study indicated that national and regional governments supported the development of knowledge transfer capacity and skills in universities and other public research organisations. Some Member States have made strategic investments in knowledge transfer infrastructures and services, such as technology transfer offices and other intermediaries, and some have implemented IP-specific policies, such as the National IP Protocol in Ireland. Despite these achievements, the EU is still lagging behind its global competitors in turning science-based ideas into innovations[16], and knowledge circulation remains incoherent within the EU[17]. Digitalisation, Open Science and Open Innovation have drastically changed the ecosystem in which R&I actors operate and the EU needs to adapt accordingly.

Improving knowledge transfer and valorisation in the EU was identified as an outstanding challenge in the 2020 Commission Staff Working Document accompanying the Commission Communication 'A new ERA for Research and Innovation'[18]. We are lacking a comprehensive European valorisation strategy that provides direction and objectives and gives guidance on R&I relationship management to encourage valorisation collaborations, including advice on IP management and use. There is a need to take into account the more complex R&I ecosystems and involve a wider set of stakeholders and actors to ensure dynamic knowledge flows.

The previous guiding principles from 2008 were adopted as a Commission Recommendation. The chosen instrument for the current guiding principles is a Council Recommendation due to the political context notably the need to improve value creation and increase societal and economic impacts of R&I as stated in the Council Recommendation 'on a Pact for Research and Innovation in Europe'. This will give the Member States a greater sense of ownership of the principles, increase their visibility and encourage the adoption by the EU of a stance to obtain greater socioeconomic value from research results and innovation without imposing legally binding provisions.

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

- **Stakeholder consultations**

Stakeholder views have been gathered on several occasions. The current proposal is the result of a co-creation process with Member States in the ERA Forum for Transition (set up as an

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15 European Commission, Directorate-General for Research and Innovation, Barjak, F., Perrett, P., Es-Sadki, N., et al., *Knowledge transfer study 2010-2012 : final report*, Publications Office, 2014.

16 European Commission, Directorate-General for Research and Innovation, Science, research and innovation performance of the EU, 2020 : 11 recommendations for a fair, green and digital Europe, Publications Office, 2021.

17 European Commission, Directorate-General for Research and Innovation, *ERA progress report 2018 : the European Research Area : advancing together the Europe of research and innovation*, Publications Office, 2019.

18 SWD(2020) 214 final.

informal Commission expert group), in particular the Forum's subgroup on knowledge valorisation, which had the specific task and the necessary expertise to advise the Commission on the drafting of guiding principles for knowledge valorisation. A survey on 'Guiding principles for knowledge valorisation' addressed to Member States and European Economic Area countries was carried out between April and May 2021 to collect feedback on the state of play and impact of the 2008 Commission Recommendation on the management of IP in knowledge transfer activities. A public consultation on the guiding principles for knowledge valorisation was also conducted between July and September 2021 to get the views of a wide range of stakeholders[19].

The results of the these consultations clearly indicate the need for an update to foster a cultural change, moving from the traditional concept of knowledge transfer to valorisation of intellectual assets generated by a broad range of research and innovation activities involving increasing co-creation between different types of actors across in R&I ecosystems. In comparison to the 2008 Commission Recommendation the guidance should be extended from universities and public research organisation to a broader range of actors, such as individual researchers, innovators and businesses of all sizes, public administrations and civil society. Increased co-creation and sharing of research results require early consideration of control and ownership of all kinds of intellectual assets at every step of R&I process.

Relevant stakeholders and umbrella organisations were invited to share their views at the ERA Stakeholder Meeting on 16 March 2022. This proposal takes those views into account.

- **Impact assessment**

The current proposal does not require an impact assessment and none was carried out. However, as an action defined in the Commission Communication on 'A New ERA for Research and Innovation', it draws a great deal on the analytical work and evidence supporting the new European Research Area (2020 Commission Staff Working Document accompanying the Commission Communication 'A new ERA for Research and Innovation'). It concludes that many strategies, instruments and measures have been developed at the EU, national and regional level, by private and public actors, to improve knowledge transfer and valorisation. Nevertheless, more effective knowledge valorisation policy requires a move towards a more holistic approach in order to create value from knowledge and turn R&I results into sustainable solutions of economic value and benefit to society.

4. BUDGETARY IMPLICATIONS

Not relevant.

5. OTHER ELEMENTS

The current proposal as part of the ERA action plan will be subject to the appropriate monitoring, evaluation and reporting mechanism set out therein.

[19] European Commission, Directorate-General for Research and Innovation, Eerola, I., *Stakeholder consultation on the guiding principles for knowledge valorisation : report of the results*, Publications Office, 2021.

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on the guiding principles for knowledge valorisation

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular the first and second sentences of Article 292,

Having regard to the proposal from the European Commission,

Whereas:

(1) On 10 April 2008, the Commission adopted a Recommendation on the management of intellectual property (IP) in knowledge transfer activities and Code of Practice for universities and other public research organisations[20]. The Council welcomed and supported the Recommendation and the Code of Practice in its Resolution of 30 May 2008[21]. Together the Recommendation and the Code of Practice gave impetus to many publicly funded knowledge producers. Some Member States have made strategic investments in knowledge transfer infrastructures and services such as technology transfer offices and other intermediaries; and some have implemented IP-specific policies, such as the National IP Protocol in Ireland. Further activities promoting knowledge transfer at EU level have been developed as part of the Innovation Union (2010)[22].

(2) The Council Conclusions on Accelerating knowledge circulation in the EU, adopted on 29 May 2018[23], consider that the EU needs to make full use of the relevant scientific and technological knowledge it produces and ensure a more effective transfer of R&I project results to society and industry in order to maximise the impact of R&I investment. It also invites Member States to examine and share best knowledge transfer practices, and calls on the Commission to develop and implement a strategy for the dissemination and practical application of results to further increase the availability and use of R&I project results and accelerate their potential uptake.

(3) The Commission Communication 'A New ERA for Research and Innovation', adopted on 30 September 2020[24], includes strengthening innovation ecosystems for knowledge circulation and valorisation as one of the key objectives of the new ERA and an action to 'Update and develop guiding principles for knowledge valorisation and a code of practice for the smart use of IP'.

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20 C(2008) 1329.

21 Council Resolution on the management of intellectual property in knowledge transfer activities and on a Code of Practice for universities and other public research organisations, 10323/08.

22 COM(2010) 546 final.

23 Council document 9507/18.

24 COM(2020) 628 final.

(4) A New Industrial Strategy for Europe[25] and its 2021 update underline the importance of IP management, notably raising the research community's awareness of IP, and announced a strategy on standardisation to support a more assertive stance on the EU interests. Among the key priorities of the EU IP Action Plan[26] are 'promoting effective use and deployment of IP' as well as 'ensuring easier access to and sharing of IP-protected assets'.

(5) The EU Strategy on Standardisation[27] emphasises the importance of raising strategic awareness of standardisation among researchers and engaging the research and innovation community early on in standardisation, as a way of developing relevant expertise and skills. The strategy also states that by mid-2022 the Commission will develop a Code of Practice for researchers on standardisation to strengthen the link between standardisation and R&I.

(6) The Council Conclusions on 'The New European Research Area', adopted on 1 December 2020[28], welcomed the Commission's initiative to review the 2008 Recommendation on the management of IP in knowledge transfer activities and the Code of Practice in accordance with the New Industrial Strategy for Europe.

(7) The Council Recommendation 'on A Pact for Research and Innovation in Europe' of 26 November 2021[29] identifies knowledge valorisation as one of the priority areas for joint action in support of the ERA. The Pact also recognises value creation and societal and economic impact as part of the common set of values and principles for R&I in the Union that Member States should take into account in developing their R&I systems.

(8) The ERA Policy Agenda for 2022-2024 annexed to the Council Conclusions on the 'Future governance of the European Research Area' of 26 November 2021[30] includes an action to 'Upgrade EU guidance for better knowledge valorisation'. The first outcome of this will be to 'Develop and endorse Guiding Principles for knowledge valorisation'. The action also includes the development of a Code of Practice for the smart use of IP and a Code of Practice for researchers on standardisation to provide more detailed guidance on how to implement certain aspects of knowledge valorisation.

(9) Open science[31] is a standard method for working under the EU framework programmes for research and innovation and another priority area for joint action in the ERA Policy Agenda for 2022-2024. The Commission Recommendation 'on access to and preservation of scientific information'[32] encourages Member States to set and implement national policies for dissemination of and open access to scientific publications and for the management of research data notably through the European

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25 COM(2020) 102 final and COM(2021) 350 final.
26 COM(2020) 760 final.
27 COM(2022) 31 final.
28 Council document 13567/20.
29 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.
30 Council document 14308/21.
31 Open science means an approach to the scientific process based on open cooperative work, tools and diffusing knowledge, as defined in Regulation (EU) 2021/695, OJ L 170, 12.5.2021, p. 15.
32 Commission Recommendation (EU) 2018/790, OJ L 134, 31.5.2018, p.12.

Open Science Cloud. The final report of the Open science policy platform[33] lists boosting the awareness of the value of IP and the management of IP assets among the elements that a shared research system for innovation must include. The Council conclusions on 'Research assessment and implementation of Open Science' adopted on 10 June 2022[34] suggest that the evolution of the research assessment systems in Europe should take into consideration of knowledge valorisation.

(10) The Commission Communication 'A European strategy for data' adopted on 19 February 2020[35] urges to seize the opportunity presented by data for social and economic good and that this potential should be put to work to address the needs of individuals and thus create value for the economy and society. Data-driven innovation will bring enormous benefits for citizens, for example through improved personalised medicine, new mobility and through its contribution to the European Green Deal.

(11) The Commission Communication 'Better regulation: Joining forces to make better laws' adopted on 29 April 2021[36] underlines that scientific evidence is one of the cornerstones of better regulation, vital to establishing an accurate description of the problem, a real understanding of causality and therefore intervention logic and to evaluate impact. High quality research cannot be done overnight, so ensuring pertinent evidence is available when needed requires to better anticipate and coordinate the needs for evidence. It also means better mobilising and engaging the research community in the regulatory process.

(12) Fostering transversal skills such as entrepreneurship, creativity, critical thinking and civic engagement are among the objectives of the Commission Communications 'on achieving the European Education Area by 2025'[37], 'the European strategy for universities'[38] and 'the European Skills Agenda for sustainable competitiveness, social fairness and resilience'[39]. The European Education Area strategic framework promotes collaboration and peer learning between the Member States and key stakeholders e.g. in the form of working groups.

(13) The research and innovation ecosystem has profoundly changed since the 2008 Commission Recommendation on the management of IP in knowledge transfer activities. An update is needed, to focus on valorisation of all knowledge assets generated by different types of actors in a dynamic research and innovation ecosystem. New challenges have to be addressed, such as the increasingly complex knowledge value-chains, new market opportunities created by emerging technologies, new forms of industry-academia and public sector-academia collaborations and the involvement of citizens, as well as reciprocity in the management of intellectual assets in the context of international R&I cooperation.

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33 European Commission, Directorate-General for Research and Innovation, Mendez, E., *Progress on open science : towards a shared research knowledge system : final report of the open science policy platform*, Lawrence, R.(editor), Publications Office, 2020.

34 Council document 10126/22.

35 COM(2020) 66 final.

36 COM(2021) 219 final.

37 COM(2020) 625 final.

38 COM(2022) 16 final.

39 COM(2020) 274 final.

(14) The diversity of knowledge valorisation channels and tools[40] should be reflected to address sustainability, social and policy innovation and encourage multidisciplinary collaborations that go beyond technological areas involving disciplines such as social sciences, the humanities and the arts, e.g. looking at the interlinkages between social and environmental or economic and environmental policies.

(15) The aim of the guiding principles for knowledge valorisation is to adopt a common line on measures and policy initiatives for improving knowledge valorisation in the EU.

HAS ADOPTED THIS RECOMMENDATION:

GUIDING PRINCIPLES FOR KNOWLEDGE VALORISATION

CONTEXT AND SCOPE

In 2008, the European Commission issued a Recommendation on the management of IP in knowledge transfer activities and Code of Practice for universities and other public research organisations. The recommendation was mainly aimed at public research organisations[41].

Knowledge valorisation is the process of creating social and economic value from knowledge by linking different areas and sectors and transforming data and research results into sustainable products and solutions that benefit society in terms of economic prosperity, environmental benefits, progress and better policymaking. Focusing on knowledge valorisation makes it necessary to broaden the scope of the 2008 Recommendation, to encompass the whole R&I ecosystem and its actors.

Knowledge valorisation is a paradigm shift bringing in new aspects that will create value of existing and future research and innovation and knowledge assets, including tacit knowledge[42]. Knowledge valorisation will lead to benefits for policymaking and to new ways of monitoring and evaluating research and innovation through the development of indicators and measurement tools. It will affect research and innovation funding and add value to science and research and their results. Knowledge valorisation requires the participation of the actors in the R&I ecosystem and the knowledge and innovation users/beneficiaries, with particular emphasis on the use and re-use of knowledge for the benefit of society. As such, it is a broader concept than dissemination, that involves making knowledge and results known and accessible.

Management of intellectual assets is crucial for efficient knowledge valorisation. Intellectual assets cover any result or products generated by any R&I activities (e.g. patents, copyrights, trademarks, publications, data, know-how, prototypes, processes, practices, technologies,

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40 European Commission, Directorate-General for Research and Innovation, *Research & innovation valorisation channels and tools : boosting the transformation of knowledge into new sustainable solutions*, Publications Office, 2020.

41 The term 'public research organisation' includes both specialised technology research organisations and higher education institutions that engage in research and development and research training (RDT) activities with substantial funding support from public and quasi-public (e.g. charitable and non-profit organisation) sources, https://ec.europa.eu/invest-in-research/pdf/download_en/metcalfe_report5.pdf.

42 Tacit knowledge is any knowledge that cannot be codified and transmitted as information through documentation, academic papers, lectures, conferences or other communication channels. Such knowledge is more effectively transferred among individuals with a common social context and physical proximity, as explained in the OECD Report *Global Competition for Talent: Mobility of the Highly Skilled*, P.9 of the executive summary.

inventions, software etc.)[43]. Focusing on the management and protection of IP rights limits value creation opportunities. Leveraging the full value of intellectual assets generated by R&I activities require organisations performing R&I activities to manage intellectual assets in a broad sense, both those that can be legally protected (patents, copyrights, trademarks etc.) and other intellectual assets that could be used in valorisation activities. This requires the development of management strategies and promotion of specific and transversal skills to leverage the full value of intellectual assets generated.

Openness as a principle supports value creation[44] and the use of intellectual asset management tools can lead to better use of results, positively contribute to innovation and increase the overall added value of scientific results[45]. With the principle of 'as open as possible and as closed as necessary' it is important to recognise that both Open Science and Open Innovation[46] use and draw on the tools for intellectual asset management. Sensible use of research results to create socioeconomic benefits will also add to the overall value and importance of scientific research for society.

Entrepreneurial practices, processes and skills and those that facilitate engagement with citizens, civil society and policy makers are necessary components of successful knowledge valorisation initiatives. Turning knowledge into novel value, regardless of whether it concerns incremental or disruptive innovations, evidence-based policymaking, or wellbeing of citizens, requires proactive/enterprising and co-creation/cross-sectoral engagement attitudes or cultures combined with entrepreneurial efforts at some or all stages of the valorisation process. In this way, the valorisation process could inspire adjustments in the educational systems so that they better cater for the skills, competences and attitudes that would lead to higher creativity and societal value creation. Developing and using entrepreneurial and engagement/collaboration oriented approaches is therefore crucial for valorisation to be effective.

Entrepreneurial processes and methods[47] are experiment-based discovery, co-created actions spanning organisational boarders and involving many complementary competences. Such processes and methods require the necessary social-entrepreneurial skills and capacities to facilitate social knowledge spillovers beyond commercialisation. Using open method coordination networks, tools and instruments from the European Education Area (EEA) strategic framework, will stimulate the knowledge valorisation and development of related skills.

Guiding principles should therefore cover the development, use and management of entrepreneurial practices, processes and skills at all levels of society in the private and public sectors involved in knowledge valorisation. This new scope requires policymakers to align

43 Intellectual assets may also include the results and products of teaching activities where relevant.

44 OECD, *Making Open Science a Reality*, OECD Science, Technology and Industry Policy Papers, No. 25, OECD Publishing, Paris, 2015.

45 European Commission, Directorate-General for Research and Innovation, *Open science and intellectual property rights : How can they better interact? : state of the art and reflections : executive summary*, 2022.

46 The basic premise of Open Innovation is to open up the innovation process to all active players so that knowledge can circulate more freely and be transformed into products and services that create new markets, fostering a stronger culture of entrepreneurship, European Commission, Directorate-General for Research and Innovation, *Open innovation, open science, open to the world : a vision for Europe*, Publications Office, 2016, p.13.

47 Here the entrepreneurial process is viewed as a discovery-driven method to address market- and society-related challenges and opportunities by experimentally developing and exploiting intellectual assets into novel and useful values (innovations) for a given set of stakeholders.

their policy objectives accordingly and put in place new approaches necessary for knowledge valorisation. These guiding principles aim to help policymakers in Member States do so.

The guiding principles in this Recommendation therefore concern policy initiatives aimed at all categories of ecosystem actors involved in R&I activities, such as:

- academia, universities, research and technology organisations and other public research organisations, as well as academies and learned societies
- civil society organisations, citizens and non-governmental organisations
- private investors, funding and investment organisations including foundations and charities
- individuals, e.g. innovators, researchers, scientists and students
- industry including small and medium-sized enterprises (SMEs), start-ups, spin-offs, scale-ups and social enterprises
- intermediaries (e.g. knowledge and technology transfer professionals, incubators, science parks, regional, national and European innovation hubs, IP experts, consultants and innovation support professionals, science communication and policy engagement teams, knowledge for policy / science advice organisations, citizen engagement professionals etc.)
- national, regional and local authorities, policymakers and public and private service providers (e.g. hospitals, public transportation and energy providers)
- private research organisations
- research and innovation infrastructures and state-of-the-art pilot facilities
- standardisation bodies.

The guiding principles below are formulated to be applicable to all or most of the categories above. However, the implementation of the principles must be adapted to the target actors through Code of Practice documents to be co-created with stakeholders. Each Code of Practice could be thematic (i.e. on intellectual assets, academia-industry collaboration or academia-public sector collaboration) or more directed to one or several of the actors above (e.g. knowledge transfer professionals, start-ups or companies of all sizes). The Codes of Practice will benefit from exchanges with the European Institute of Innovation and Technology (EIT) Community.

GUIDING PRINCIPLES

These guiding principles will be non-binding. This means that application of the guiding principles should respect international and national legislation as well as EU law (including State aid rules) and they should be taken into account in efforts to make the EU legal framework supportive of knowledge valorisation. All the guiding principles must be applied

with the broadest possible societal use[48] in mind including contribution to sustainable society in accordance with the EU guidelines for tackling R&I foreign interference[49].

Knowledge valorisation is a complex process requiring significant resources to ensure that the necessary range of skills and scalable capacity is developed and maintained in the EU. There should be continued and up-scaled investment in the development of knowledge transfer and brokerage professionals and facilitators who act as intermediaries between relevant research and innovation actors. It is especially important to encourage SMEs through strong university-based regional innovation ecosystems, as well as encouraging proactivity in start-ups, scale-ups and companies of all sizes and persuading industrial partners to be open to taking risks.

Member States, policymakers and other relevant actors should do the following in the following areas.

Knowledge valorisation in research and innovation policy

- Ensure that national support structures are in place to help organisations become aware of the scope of this recommendation on knowledge valorisation, assess its implications for them, mobilise financial and non-financial resources to put it into practice and develop the necessary strategies and practices to implement and publicise it.
- Ensure that value creation policies and practices are defined, implemented and publicised at organisational level.
- Ensure that government-funded R&I activities consider the broadest possible societal use and valorisation of intellectual assets generated by R&I activities and involving all ecosystem actors, in compliance with EU State aid rules.
- Strengthen structures processes and practices in the use of research results and scientific knowledge for designing and implementing public policy and developing and revising standards.
- Promote equality, diversity and inclusion in knowledge valorisation activities, its objectives and the people involved in such activities, for example through diverse research teams and R&I content, which reflect the perspectives, behaviors and needs of diverse groups in society.

Skills and capacities

- Promote and support the development of the skills and capacities needed to develop and practice knowledge valorisation operations involving all stakeholders from students, researchers and inventors to professional intermediaries, and from technology users to policymakers.
- Ensure that mobility schemes are in place between academia, industry and the public sector to facilitate skill development and cross-fertilisation of competences and practices among knowledge valorisation actors at national and EU level.

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48 Where possible and depending on the context, valorisation activities should consider the needs of and the benefits for society, besides traditional profit drivers. One example is socially responsible licensing, where the licensing of intellectual assets must ensure that the price-setting of the final products and services does not undermine accessibility.

49 European Commission, Directorate-General for Research and Innovation, Tackling R&I foreign interference : staff working document, 2022.

- Ensure that the tacit knowledge of those generating the intellectual assets to be valorised is part and parcel of the valorisation process. This means it is important to promote participatory approaches that make it possible to include talents, skills and tacit knowledge in innovation and valorisation.
- Encourage and facilitate multidisciplinary collaborations going beyond technological areas and involving disciplines such as social sciences, the humanities and the arts, as well as co-creative approaches.

System of incentives

- Develop a relevant and fair system of incentives and ensure that these incentives are in place for all R&I ecosystem actors, in particular researchers, innovators, students and the staff of universities and public research organisations, for them to learn, apply and practice knowledge valorisation, as well as to attract and retain talents.
- Provide measures for SMEs, civil society, citizens, end-users and public authorities to be active partners in co-creating value-adding innovation, thereby improving access to and the use of knowledge, and skills acquisition, and encourage joint experimentation.

Intellectual asset management

- Ensure that policies and practices for intellectual asset management are defined, implemented and publicised in all organisations involved in knowledge valorisation.
- Raise awareness among universities, research organisations, public authorities and businesses of the importance of managing intellectual assets in an international environment.
- Ensure that intellectual assets developed by publicly funded R&I activities in the EU is managed and controlled in such a way that the socioeconomic benefit including contribution to sustainability for the EU as a whole is taken into account and maximised.
- Increase awareness and uptake of intellectual asset management practices and tools in Open Science to facilitate the use of results and data for innovation.
- Ensure that intellectual assets are efficiently managed in Open Innovation processes e.g. by helping active portfolio building and supporting platforms linking offer and demand for intellectual assets to maximise value creation for all involved.

Relevancy in public funding schemes

- Ensure that government funding of R&I takes into account and strengthens the application of knowledge valorisation principles in the research to be funded.
- Consider specific funding schemes to complement research funding in order to ensure that valorisation is incentivised early on in research with guidance on complementary funding opportunities for knowledge valorisation.

Peer learning

- Promote and support national and transnational peer learning processes and practices for disseminating and encouraging the sharing of best practices[50], case studies, role models, lessons learned and developing common specifications for knowledge valorisation.
- Benchmark successful knowledge valorisation organisations, ecosystems and initiatives in order to develop and promote common concepts, models and incentives to serve as a guide for assessing and implementing knowledge valorisation management and processes. Also, use the expertise, networks and lessons learned from relevant organisations, such as the European Union Intellectual Property Office, the European Patent Office, the Enterprise Europe Network, EIT and their Knowledge and Innovation Communities and other international, European or national organisations.
- Encourage universities and public research organisations to pool their resources, expertise, data and infrastructure across disciplines, countries and regions to promote more peer-learning practices.

Metrics

- Ensure that a sufficient number of indicators for knowledge valorisation reflect and cover the inputs, behaviour and outputs of the valorisation process, including the whole range of channels and paths for valorising knowledge. Make sure that relevant quantitative and qualitative metrics are used in defining the indicators.
- Promote collaborative efforts to adopt common, agreed definitions, metrics, and indicators to help improve the EU's knowledge valorisation performance, taking into consideration the contextual differences among Member States and knowledge valorisation actors and specificities of different sectors.
- Encourage, support and incentivise knowledge valorisation performing organisations to collect, share and use metrics that improve learning and the performance of knowledge valorisation actors in the EU.

Monitoring and evaluation

- Ensure that the monitoring and evaluation practices used to assess and evaluate knowledge valorisation operations are cross-cutting, take into account existing frameworks and consider all kinds of benefits for various stakeholders and a variety of knowledge valorisation outcomes including contribution to sustainability.
- Develop further knowledge valorisation monitoring and evaluation tools to gauge the progress and maturity of intellectual assets and innovation efforts during the knowledge valorisation process. These tools should address both the creation of value and its contribution to the transition towards a sustainable society. Once it has been developed, promote the use of this model and develop synergies with other relevant ERA policy actions.

[50] A repository of best practice examples is available on the knowledge valorisation platform of the European Commission which is continually open for submissions of new best practice examples.

The Commission Recommendation of 10 April 2008 on the management of intellectual property in knowledge transfer activities and the Code of Practice for universities and other public research organisations is hereby repealed.

Done at Brussels,

For the Council
The President