12 July 2021

Work stream 2 (Policy implementation): development of the ERA policy agenda

IMPL.1 – ERA Policy Agenda [refinement of the list of joint ERA actions]

State of play of the discussions

Following the meetings of the Forum on 8 June and 28 June, this note serves to set the state of play of the discussions on the development of the ERA policy agenda, in particular to make progress on the potential list of joint ERA actions (for the first policy agenda). To this end, this note reflects the comments and feedback received by Forum members after the meeting on 28 June and provides a tentative portfolio of potential actions for the policy agenda.

The Forum agreed that the actions in the first ERA policy agenda initially should be based on the ERA roadmap in the Commission's Communication of September 2020, as well as the actions identified in the Council Conclusions of December 2020. Moreover, the future Pact for R&I should define the priority areas for joint action from which the ERA policy agenda(s) shall flow.

The Forum generally agreed with the proposed criteria (relevance, viability, commitment), while a few refinements were suggested.

Concerning the methodology, the suggested elements did not encounter any particular objections in the Forum, but the Forum will have to return to the discussion once there is more clarity on the adoption of the policy agenda itself (related to GOV.2).

Concerning the illustrative list of potential actions presented on 28 June, the Forum supported the approach that the list should be seen as a basis for discussion on what to understand as an ERA action. However, there was agreement that discussions on the list need to continue based on a more detailed description of the individual actions.

To ensure impact, credibility and usefulness, the ERA policy agenda will have a reasonable number of implementable and achievable actions. In order for an action to be considered part of the policy agenda, a minimum number of Member States should support the action (e.g. at least 25% of Member States).

The set of criteria

a) Relevance:
   - In which priority area of the Pact does the proposed action fit? Actions might fall under more than one priority area.
   - How important, in relation to addressing the priority areas defined in the Pact, is the issue to be addressed by the action [problem/challenge description]? What contribution will the action provide to achieving the priority area?

b) Viability:
   - Can the action be implemented – and by whom? Does the description of the action clearly set out the objective and targets, the timing, the milestones, the actors, the governance model, and the funding
   - What is the expected impact of the action for the ERA as a whole?
   - Is the objective specific enough, measurable, relevant and time-bound to be achievable?

- Does the description set out clearly the monitoring, reporting and evaluation of the action?

c) Commitment:

- How many Member States are committed to implement the action? If the action is driven by Member States, how many are willing to co-create it? Should there be a minimum requirement (e.g. at least 25% of Member States)?
- Do stakeholders ask for this action; do stakeholders express a high commitment; will stakeholders be involved in a structured way?

Methodology to design and endorse the ERA policy agenda

The elements of a methodology as discussed at the meeting on 28 June have been broadly endorsed by the Forum. The following points have been considered:

a) While the ERA policy agenda might be revised or renewed after a certain period of time (e.g. every three years), the identification and selection of actions (that then will be included in the following policy agendas) might need to be a "rolling" process, e.g. in form of a "roadmap" or "pipeline"..

b) The definition and approval of the policy agenda should be a joint process between the Commission and the Member States.

c) Stakeholders should be involved throughout the process in a meaningful, structured way, for example, through the ERA Forum.

d) The process of selecting and endorsing actions will be adapted in accordance with the overall governance framework (see GOV.2)

A tentative list of actions

The following tentative portfolio of potential actions is based on both the roadmap defined in the Commission's ERA Communication and the Council conclusions.

The actions are ordered according to the four corresponding priority areas of the Pact for R&I: (i) Deepening a truly functioning internal market for knowledge, (ii) Taking up together the challenges posed by the twin green and digital transition, and increasing society's participation in the ERA, (iii) Amplifying access to research and innovation excellence across the Union, (iv) Advancing concerted research and innovation investments and reforms.

It should be noted that an action might be linked to more than one priority area or to more than one priority sub-area of the Pact. Each proposed action is introduced by a description, followed by an explanation of how the action relates to the set of criteria.

Question 1: Do you agree with this set of actions?

Question 2: How do you see your (Member State's) role/contribution in each action?

Question 3: Do you have additional actions to propose?

Annex – Table of Contents

Overview table for the proposed actions		
Action	Main sub area in the Pact	Link to other sub areas in the Pact
Priority area in the Pact: Deepening a truly functioning internal market for knowledge		
1. Analysis of authors' rights to enable sharing of publicly funded articles without restrictions	Open science	
2. Improving the Research Assessment System	Careers and mobility of researchers and research assessment and reward system	Open science
3. Development of a European Open Science Cloud (EOSC)	Open science	Research infrastructures
4. Sustainable, accessible and resilient research infrastructures for Europe	Research infrastructures	
5. Deepening the ERA through inclusive gender equality	Gender equality, equal opportunities and inclusiveness	
6. ERA4You, promoting balanced talent circulation and intersectoral mobility	Careers and mobility of researchers and research assessment and reward system	* Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems * Increased collaborative links and excellence-based integration of research-performing organisations from countries with lower research and innovation performance
7. ERA Talent Platform	Careers and mobility of researchers and research assessment and reward system	Global engagement
8. Guiding Principles for Knowledge valorisation and associated Codes of Practice	Knowledge Valorisation	
9. Seeking a common understanding and implementation of rules and value-based international cooperation in R&I	Global engagement	
Priority area in the Pact: Taking up together the challenges posed by the twin green and digital transition, and increasing society's participation in the ERA		

10.Revamping the SET plan	Challenge-based ERA actions	
11. Building an R&I ERA on hydrogen	Challenge-based ERA actions	Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems
12. Connected Universities	Synergies between R&I policy, Education policy and the Skills Agenda	
13. European Excellence Initiative	Synergies between research and innovation policy, education and the EU Skills Agenda	Increased collaborative links and excellence-based integration of research-performing organisations from countries with lower research and innovation performance
14. Developing an integrated European technology infrastructure landscape	Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems	
15. Action towards accelerating R&I results on digital design, manufacturing and standardisation in the transport & energy industrial ecosystems (RIDA)	Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems	
16. Develop common industrial technology roadmaps	Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems	
17. Plastic Pirates – Go Europe! : ERA pilot action	A more active citizen and societal engagement in research and innovation in all its dimensions	
Priority area in the Pact: Amplifying access to research and innovation excellence across the Union		
18. Roll-out of ERA Hubs	Increased collaborative links and excellence-based integration of research-performing organisations from countries with lower R&I performance	Synergies between EU, national and regional funding programmes Increased collaborative links and excellence-based integration of research-performing organisations from countries with lower R&I performance
19. Dedicated work stream in the ERA Forum for Transition to improve access to excellence	More investments and reforms in countries and regions with lower research and innovation performance	Synergies between Union, national and regional funding programmes
Priority area in the Pact: Advancing concerted research and innovation investments and reforms		

20. Support to prioritise, coordinate and direct future R&D investments	Support to prioritise and secure long-term research and innovation investments and policy reforms	Coordination of research and innovation investments

Deepening a truly functioning internal market for knowledge

1. Analysis of authors' rights to enable sharing of publicly funded articles without restrictions

Sub-area(s): Open Science

Source	*ERA Communication, Action 9: "The Commission will analyse authors' rights to enable sharing of publicly funded peer-reviewed articles without restriction"*	
Description	At the core of open access to scientific results lies the understanding that publications, which result from publicly funded research, should immediately be available in open access under open licenses to allow the widest possible access to them and their reuse. However, still very often, authors and research institutions give away their copyright to publishers -or endow them with extensive exclusive licenses- transferring to them the capacity to set the conditions for the dissemination of scientific publications (including whether open access is possible and under which conditions). The Commission has used several instruments to address this problem, including a legal requirement to retain sufficient intellectual property rights to comply with the Horizon Europe open access obligations, and recommendations to the Member States to ensure copyright retention to comply with the open access requirements. As a next step, the Commission would like to go beyond facilitating compliance with the open access obligations and explore whether particular actions could be taken to ensure that publications resulting from publicly funded research can be made open access by their original copyright owner, no matter the rights transferred to publishers and independently on whether there is a mandate from their funder or institution. Several Member States have already amended their national copyright legislation introducing secondary publishing rights that enable this, but a wider and more coordinated approach at EU level would increase access to, and reuse of scientific results. The analysis will cover the role played by authors´ rights (copyright) in enabling/deterring open access to scientific publications, which result from publicly funded research, and the main copyright obstacles authors encounter to provide open access. The analysis will present current institutional and national initiatives to address such barriers and explore possible EU legislative and non-legislative actions in the area of copyright to enable open access to scientific publications resulting from public funds.	
Criteria	Relevance	The analysis of authors´ rights - and the actions resulting from it - will facilitate open access to scientific publications and contribute to the circulation of knowledge, therefore

		addressing the priority area of deepening a truly functioning internal market for knowledge. Member States, researchers, and society in general will benefit from an increased availability and reusability of scientific publications in open access. An adequate management of copyright - and the appropriate framework conditions to enable it - will empower researchers and their institutions vis-à-vis the research outputs they generate.
	Viability	The analysis is expected to be finalised early 2022. It will serve as a basis for discussion with Member States and stakeholders in Q1 2022 and for launching any possible (legislative or non-legislative) actions in 2022.
	Commitment	At least five Member States (FR, DE, IT, BE, NL) have introduced amendments into their national copyright legislation enabling researchers to provide open access to the publications resulting from publicly funded research via repositories even when they no longer hold the copyright on such publications, or when they have contractually agreed to different conditions with the publishers. There are also institutional and international initiatives that seek to empower authors in exercising their rights to provide open access to their works.

2. Improving the Research Assessment System

Sub-area(s): Careers and mobility of researchers and research assessment and reward system; Open Science

Source	• *ERA Communication, Action 9: "The Commission will incentivise open science practices by improving the research assessment system"* • *Council Conclusions on ERA: "ENCOURAGES the Commission, Member States and stakeholders to support and implement open science practices in their reward and evaluation systems for research, researchers and institutions, including RIs, and strengthen their European coordination"* • *Council Conclusions on Researchers Careers: "WELCOMES the Commission ongoing consultation on reforming research assessment, among policy makers (EU, Member States levels), research funders, research performers and other stakeholders + INVITES Member States, the Commission, higher education institutions (HEIs) and research performing organisations (RPOs) and Research Funding Organisations (RFO) to work together towards a broad development and application of modern assessment and rewarding practices in order to set the right incentives including for open science practices"*
Description	*The way researchers, research teams, research projects, and research institutions are assessed is fundamental to foster the best and most impactful research and is key for attractive and productive careers.* *However, the current system often uses inappropriate and narrow methods to assess quality and impact of research, making the Journal Impact Factor and the quantity of publications proxies for quality. Changes have happened in the ways research is practiced, with the mainstreaming of open science practices, but insufficient incentives and rewards hamper their further uptake. Moreover, the diversity of tasks related to the work of researchers needs to be better recognised and properly rewarded. This calls for an evolution of the research assessment system.* *The overarching objective of this ERA action is to facilitate changes to research assessment to evaluate researchers based on the intrinsic merit of their work rather than where and how much they publish, and to promote a more responsible use of quantitative indicators, combined with qualitative indicators, thereby empowering research organisations to achieve the highest possible quality in research and innovation.* *Some research funding and performing organisations are already taking steps for reforming the way they assess their research and researchers, but progress remains limited and fragmented across Europe. The Commission and the Member States have been encouraged to strengthen the European coordination and move forward towards a common understanding and*

	agreement between those research funders and performers willing and committed to reform the current research assessment system. *This 'coalition of the willing' approach might take the form of a Memorandum of Understanding (MoU), to be signed by an increasing number of individual research funding and research performing organisations, as well as umbrella organisations representing them. It would define the ambitions, principles and broad lines of action for a modernized research assessment system, with a roadmap and milestones for its implementation. It shall commit signatories to report on how they have acted in accordance with the MoU. Member States would ensure that appropriate national framework conditions enable changes in research assessment.* *An agreement would respect the autonomy of research performing organisations in setting their own recruitment/evaluation policies, respect the differences among scientific disciplines and allow for diversity in practices. Subsequently, the implementation of the agreement by signatories, and its impact, would be monitored.* *The action would also ensure that the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers, and the Human Resources Strategy for Researchers, embrace the new research assessment practices to provide a more ambitious framework aligned to labour market, employers, funders and researchers' needs.*	
Criteria	Relevance	*The action is highly relevant for both stakeholders and Member States as it aims to facilitate the implementation of an assessment system of research and researchers that supports research of the highest possible quality, stimulates creativity and originality, and contributes to build trust of society in science.* *As research is an international endeavour, the action will ensure coordination among research funders and performers so that researchers and research are assessed in a coherent manner across the European Research Area and fragmentation is avoided.* *As such, the main expected benefit of the proposed action will be to align funders, national agencies, universities and researchers in a research culture change, and create critical mass for the change to happen.*
	Viability	*<u>Timeline and milestones:</u>* • *The Commission is engaging with European stakeholders (researchers, research performing organisations, research funders) in view of road-mapping the reform of the current research*

		assessment system, gauging the level of commitment of stakeholders to move forward and discussing the possible core elements of a European agreement, through an assembly meeting in March 2021, and bilateral discussions over the period May-October 2021. • *By the end of 2021, the Commission intends to publish a consultation report that summarizes the outcome of the debate with stakeholders and identifies the core elements of an agreement between European stakeholders.* • *In 2022, the Commission will present a European initiative towards a reformed research assessment system, through an agreement between European research funders and performers. It will reach out to all European research stakeholders to encourage them to join the initiative and set mechanisms with stakeholders to monitor implementation.* *<u>Governance model:</u> The action is expected to be owned by research performing and research funding organisations. It is therefore expected that these organisations would decide on the governance and monitoring mechanisms to be put in place.* *<u>Financial support:</u> The 'Strengthening ERA' part of Horizon Europe will provide financial support to pilot new research assessment practices and foster mutual learning. The data infrastructure necessary for an independent system of research assessment is expected to be provided through the European Open Science Cloud (EOSC).*
	Commitment	*The ongoing consultation already demonstrated a high level of commitment by research performing and research funding organisations and strong support to a European initiative bringing together stakeholders. The action would be driven primarily by stakeholders. The Commission would act as a facilitator for stakeholders to achieve an agreement.* *All Member States seem committed to contribute to changes in the research assessment system, as demonstrated by the Council Conclusions on the new ERA (2020) and on Researchers Careers (2021) that invite Member States, the Commission, and stakeholders to work together to develop and apply modern assessment and rewarding practices.*

3. Development of a European Open Science Cloud (EOSC)

Sub-area(s): Open Science; Research Infrastructures

Sources	• *ERA Communication, Action 9: "The Commission will ensure a European Open Science Cloud that is offering findable, accessible, interoperable and reusable research data and services (Web of FAIR)".* • *Council Conclusions on ERA: "CALLS on the Commission and participating States to further develop and implement the European Open Science Cloud (EOSC) and its framework conditions as the ERA pilot action to deepen the ERA, notably by continuing to federate across Europe research data infrastructures and services and to foster open and collaborative knowledge and data sharing and interoperability within the ERA, to serve in an tripartite governance as a trusted, secured and functional research and innovation data space and service platform in Europe and to connect to thematic data spaces such as the common European health data space".*
Description	*The European Open Science Cloud (EOSC) has entered its second phase of implementation (2021-2030) to provide a "scientific knowledge commons" supporting the new ERA and ensuring that European R&I contributes in full to knowledge creation, to meet global challenges and support European economic prosperity.* *This action should enable a step change across scientific communities and research infrastructures in Europe towards open sharing, seamless access and reliable re-use of data and all other digital objects produced along the research life cycle (e.g. methods, software and publications). The ambition is to provide European researchers, innovators, companies and citizens with an accessible, trusted and open distributed environment where they can publish, find and re-use each other's data and tools for research, innovation and educational purposes, as well as access relevant services.* *As part of this action, the Member States (represented in the EOSC Steering Board) have prioritised the following policy and investment strategy issues of direct EOSC relevance:* - *Benchmarking of national contributions to leverage the EOSC European Partnership (including harmonised ways to estimate in-kind contributions and financing by the participating countries);* - *Planning the structure of the post-2021 EOSC Steering Board (including its adaptation to the new ERA-governance in its permanent form);* - *EOSC and commercially oriented initiatives (including an overview of possible synergies and areas of cooperation with the GAIA-X initiative, the industry specific data spaces, or other commercially-oriented initiatives that MS/AC are aware of or involved in).*

Criteria	Relevance	*The EOSC action catalyses the free circulation of research knowledge and reinforces the freedom of scientific research by enabling open sharing and reuse of research outputs.* *The EOSC action brings value creation by preparing the research community for data-intensive science and by boosting innovation through articulating EOSC with the sectoral data spaces of the European Data Strategy.* *The EOSC action (including its EOSC Steering Board) illustrates a concrete case of successful coordination, coherence and commitment, where Member States, with the EU's assistance, coordinate their R&I policies and programmes in EOSC-relevant areas of common interest. It is an inclusive process and infrastructure safeguarding public good interests and increasing performance across all Member States.* *Finally, EOSC is considered as an international driver for a global commons of research commons. It represents a multilateral benchmark for national and regional research commons developed across the world (e.g. Australia, China, Japan, South Africa, USA).*

	Viability	*An EOSC Strategic Research and Innovation Agenda (SRIA) has been co-developed over the last year involving the wide European research community and the EOSC governance (including the Member States). This Agenda sets the general, specific and operational objectives and the related action areas of the EOSC European co-programmed partnership until 2030.*
		
		EOSC timeline and key actions:
		• *Launch the new EOSC European Partnership and adopt its Strategic Research and Innovation Agenda (2021-2027) by Summer 2021;*
		• *Deploy EOSC core operations to serve EU researchers in 2021-2025;*
		  ○ *2021-2022: Deploy EOSC foundations and federating services (EOSC-Core);*
		  ○ *2023-2024: Deploy EOSC value-added services for scientists (EOSC Exchange);*
		• *Open up, connect and articulate EOSC beyond the research communities, with the wider public sector and the private sector in 2024-2030.*
		  ○ *2025-2027: Engaging with Industry & Society at large*

		Key performance indicators have been defined and will be integrated this year into a wider monitoring and reporting framework. This framework will be made coherent with those of the other European Partnerships and will take into consideration the relevant Key Impact Factors of Horizon Europe. *A concrete co-investment (in kind and in cash) by the EU and non-EU partners of at least €1 Billion is foreseen for the next seven years as stated in the Memorandum of Understanding signed between the European Commission and the EOSC Association.*
	Commitment	*All Member States are committed to the action at strategic and policy level and are represented in the EOSC Steering Board (an expert group of the Commission). In addition, nineteen member states have already mandated one of their national research institution to become member of the EOSC Association, to bring national commitments and contributions and to represent their national research landscape in the EOSC Association.*

4. Sustainable, accessible and resilient research infrastructures for Europe

Sub-area(s): Research Infrastructures

Source	*ERA Communication (Action 10); Council Conclusions on ERA; ESFRI White Paper ' Making Science Happen'*
Description	*The action comprises three sub-actions:* *A. To achieve a broader and more sustainable access to European Research Infrastructures* *B. The preparation of the next cycle of the ESFRI Roadmap in view of EU strategic* *C. To establish a robust monitoring framework for European Research Infrastructures* *A. <u>A broader and more sustainable access to European Research Infrastructures</u>* *The sub-action comprises the following key elements:* *1) Novel ways of funding transnational access to European RIs (end of 2024 – Commission)* *- Analysis of barriers to transnational access to European Research Infrastructures (end of 2022)* *- Identification of potential new funding mechanisms for operations and transnational access to RIs (mid-2023)* *- Stakeholder consultation on new transnational access schemes (end of 2023)* *- Implementation of pilot transnational access schemes based on new funding models (end of 2024)* *2) Revision of the European Charter of Access to Research Infrastructures (end of 2023 - Commission)* *- Analysis of the implementation of the Charter (end of 2022)* *- Stakeholder consultations on the update of the Charter (mid-2023)* *- Approval of the revised Charter (end of 2023)* *B. <u>The preparation of the next cycle of the ESFRI Roadmap in view of EU strategic priorities</u>* *The sub-action comprises the following key elements:* *1) Strategic gap analysis of the European RI landscape in view of EU priorities (end of 2023 – Member States and the Commission)* *- Identification of potential research infrastructure gaps in Europe* *- Identification of long-term opportunities for European Research Infrastructures* *- Identification of strategic areas for research infrastructure investments in the light of EU priorities* *- Analysis of different options to fill in the existing gaps*

	2) Implementation of the renewed ESFRI stakeholder engagement strategy (end of 2022 – Member States and the Commission) *- Establishing ESFRI Stakeholder Forum (end of 2021)* *- Implementation of the ESFRI stakeholder engagement platform (mid-2022)* *- Stakeholder consultation on the RI gap analysis (end of 2022)* *3) Renewal of the ESFRI Roadmap* *C. <u>A robust monitoring framework for European Research Infrastructures</u>* *The action comprises the following key elements:* *1) Implementation of the RI performance monitoring framework at ESFRI (end of 2024 – Member States and the Commission)* *- First round of the exercise with a representative group of ESFRI Landmarks – 2022* *- Adaptation of the framework – end of 2022* *- Monitoring of the remaining ESFRI Landmarks – 2023-24* *2) Monitoring framework of the ERIC regulation (end of 2023 - Commission)* *- Adoption of the ERIC Report (2022)* *- Development of a comprehensive information repository on existing ERICs (2023)* *- Performance monitoring of non-ESFRI ERICs (2023)*	
Criteria	Relevance	*The action is closely linked with the Research Infrastructure priority identified in the Pact, in particular:* *- developing further the open access to research infrastructures, employing a broader range of funding sources for world-leading Research Infrastructures and exploring novel ways of funding transnational access (sub-action A).* *- supporting European science to compete globally, contribute to decreasing the R&I gap and fostering inclusiveness in the ERA (sub-action B).* *- addressing the need to better exploit European research infrastructures, their integrative function in the knowledge and innovation ecosystem, their potential in forming partnerships and pooling resources (sub-action C).* *All sub-actions are expected to directly benefit the Member States as well as all research and innovation stakeholders in the ERA. Sub-action A will particularly establish new mechanisms of participation in transnational access schemes of European Research Infrastructures. It will directly benefit the research infrastructures by identifying new sources of funding for RI operation. The outcomes of the action will also benefit all researchers in the ERA as it will offer new*

		opportunities for access to the best research infrastructures in Europe. *Sub-action C will particularly establish a common source of information on performance of European RIs and their outlook for the future, facilitating the national decision-making process. It will also directly benefit the research infrastructures, as it will streamline the monitoring exercises to which they are exposed, limiting their administrative burden. The outcomes of the action will also be of significant interest to the broader R&I stakeholders.*
	Viability	*For each sub-action, the objectives, targets, timing, milestones, actors, the governance model, funding and expected impact are pertinent and clearly defined.* *Each action is fully achievable within the foreseen timeframe.*
	Commitment	*For each sub-action, all Member States and associated countries are interested in the action.* *While sub-action A is driven by the European Commission and will be implemented in close collaboration with the Member States, sub-action B is largely driven by Member States in collaboration with the Commission. As concerns sub-action C, the first part of the action is driven by Member States, while the second part by the Commission.* *In all sub-actions the research infrastructure community as well as research and innovation stakeholders are closely involved at all stages.*

5. Deepening the ERA through inclusive gender equality

Sub-area(s): Gender equality, equal opportunities and inclusiveness

<table>
<tr><td>Source</td><td colspan="2">Communication of 30 Sept 2020 on “A New ERA for R&I”: Action 12
Council Conclusions of 1 Dec 2020 on “The new ERA”
Council Conclusions of 28 May 2021 on “Deepening the European Research Area: Providing researchers with attractive and sustainable careers and working conditions and making brain circulation a reality”
Horizon Europe legal base strengthening gender equality as a crosscutting priority, and also supporting actions strengthening the ERA through the promotion of inclusive gender equality
Ljubljana Declaration on Gender Equality in Research and Innovation</td></tr>
<tr><td>Description</td><td colspan="2">Develop inclusive gender equality policies and plans with Member States and stakeholders in order to promote EU gender equality in R&I and foster an inclusive ERA for all.
This would entail in particular the following:
Facilitate mutual learning opportunities between Member States, the Commission, and Stakeholders on inclusive gender equality, including through an appropriate ERA governance structure
Co-develop with Member States a policy coordination mechanism on Gender Equality Plans as well as a dedicated EU network on their implementation, and explore the possibility to devise a European certification scheme for inclusive Gender Equality Plans, which could potentially stem from an adaptation of the existing HRS4R HR Excellence in Research Label, to ensure commensurability by building a common framework that recognises national difference
Have a dedicated action on counteracting gender-based violence including sexual harassment in the European R&I system, including through the development and adoption of a zero-tolerance policy on gender-based violence in R&I organisations, also addressing international mobility, band adopted by Research Funding Organisations, Research Performing Organisations and other relevant stakeholders across the ERA
Co-develop with Member States and Associated countries tools to be embedded in the ERA scoreboard for the monitoring and evaluation of national gender equality policies in R&I and in particular uptake and implementation of gender equality plans in R&I institutions, considering also intersectional data</td></tr>
<tr><td rowspan="3">Criteria</td><td>Relevance</td><td>The action reflects the reaffirmed priority placed on gender equality and inclusiveness, which will benefit the ERA.</td></tr>
<tr><td>Viability</td><td>Timing set in the September 2020 ERA Communication was “as of 2021” and actions are already starting through the 2021 Horizon Europe Work Programme and through the commitment of the Slovenian Presidency.</td></tr>
<tr><td>Commitment</td><td>Two Presidency Trios (the current DE-PT-SI one and the forthcoming FR-CZ-SE one) have jointly drafted the “Ljubljana Declaration on Gender Equality in Research and Innovation”, that will be presented on 9 July in the SI Presidency Conference “Deepening the ERA through Gender Equality”. The aim of the Ljubljana Declaration is to strengthen the commitment of Member</td></tr>
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		States to gender equality and gender mainstreaming in the new ERA, and to outline the priority areas to be addressed to foster an inclusive ERA for all. The SI Presidency and the Trios will invite other Member States to sign the Ljubljana Declaration at the COMPET Council of 28 September. The SI Presidency also intends to integrate the Declaration in some form in the Council Conclusion on the ERA Governance of November 2021. There is thus a sound base of Member States willing to commit to, and co-create, this action.

6. ERA4You, promoting balanced talent circulation and intersectoral mobility

Sub-area(s): Careers and mobility of researchers and research assessment and reward system; Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems; Increased collaborative links and excellence-based integration of research-performing organisations from countries with lower research and innovation performance

Source	ERA Communication. Council Conclusions on Research Careers.
Description	*The ERA4You initiative concerns a policy initiative that intends to promote intersectoral mobility (such as short- and long-term secondments or fellowships or cooperation) and flow-through of talents from academia to business and other non-academic sector entities and vice-versa, including to new careers of knowledge brokers, investor's associates, technology transfer specialists, research infrastructure operators etc.* *The initiative will include:* • *Framework conditions to nourish talent (linked to the new European Framework for Research Careers)* • *Identification of models of practice and implementation mechanisms (on the basis of ongoing analyses)Incentives to promote intersectoral mobility on the basis of intersectoral mobility action plans (including targets and KPIs)* • *Establishment of platforms of cooperation and service level agreements at European, national, regional, and local levels* • *Implementation of training and guidance schemes* • *Rolling out of new mobility actions promoting balanced talent circulation (such as coordination actions for ecosystem actors, fellowships andvouchers for short-term intersectoral mobility)* • *Identification of co-funding mechanisms* • *A portal section focussed on intersectoral mobility funding opportunities, and a network of decentral Talent Management Offices (both as part of the ERA Talent Platform, one-stop-shop for researchers, the extended successor of EURAXESS)* *Anticipated outcome:* • *Increased set of research and transferable skills and competences for researchers, leading to improved employability and career prospects of fellows within academia and beyond* • *Increased alignment of working conditions for researchers in accordance with the principles set out in the Charter & Code* • *Increased global attractiveness, visibility and reputation of the participating organisations for a wide range of PhD expertise; more researchers attracted to widening countries*

	• *Better support and recognition of the diverse careers of R&I talents, including research infrastructure experts and operators, R&I facilitators in higher education institutions and research organisations such as data stewards and knowledge brokers, research managers and administrators, as well as junior researchers in non-academic sector and starting entrepreneurs.* • *Improved flow-through of R&I talents from academia to other sectors; improved mobility of R&I talents from businesses to higher education institutions*	
Criteria	Relevance	The initiative is relevant as it will facilitate access to intersectoral mobility opportunities and support researchers to improve their skills for excellence in the labour market. MS will benefit from models based on successful existing intersectoral mobility schemes and from concertation between the European and national actions in terms of policy and programmes. It will also promote and monitor access to excellence of researchers and institutions from Widening Countries, spread good working conditions and improve overall attractiveness. This should support low R&I performing countries to increase the excellence of their R&I systems, and Member States in general to reinforce intersectoral mobility of research and innovation talents.
	Viability	*The proposed objectives, targets, timing, milestones, and actors are described above and will be decided in close collaboration with the MS, ensuring viability. The governance model for the ERA4You will be object of a consultation with MS.* *EU funding for the ERA4You is foreseen under Horizon Europe (widening participation and strengthening the ERA part: ERA Fellowships, ERA Talents, ERA Talent Platform) and the MSCA, RRF, ERDF/ESF, and could be complemented by national, private or other funding sources.* • *The following workflow is envisaged:* • *Step 1a, intersectoral mobility : mapping of intersectoral mobility, modelling of practices, recommendations for an intersectoral mobility policy toolbox (analysis ongoing)* • *Step 1b, talent circulation: analysing main reasons for brain drain per Member State (focussing on framework conditions and institutional reasons), recommendations for appropriate solutions at EU level for diverse careers of R&I talents (analysis*

		ongoing)Step 2: build ERA4You action plan (end 2021) • *Step 3a, intersectoral mobility chapter: creation of a market place and policy support with models of intersectoral mobility schemes, facilitating access to these schemes through the ERA Talent Platform, piloting calls under the WIDERA* • *Step 3b, talent circulation: further develop balanced brain circulation actions under Widening (ERA Talents, ERA Fellowships), in coordination with MSCA*
	Commitment	*Member States asked in the Council Conclusions on Research Careers, to co design the ERA4You scheme towards fostering mobility and access to excellence, including for those researchers in countries with low R&I performance; for the MS, the action should primarily target early-stage career researchers preparing them for career opportunities beyond academia. Results of an ongoing analysis with a proposal for action will be discussed with the ERA Forum for Transition in autumn 2021.*

7. ERA Talent Platform

Sub-area(s): Careers and mobility of researchers and research assessment and reward system; Global engagement

Source	*ERA Communication. Council Conclusions on the new ERA. Council Conclusions on Research Careers.*
Description	*As outlined in the ERA Communication, the EURAXESS services, network and portals will be broadened into an online one-stop-shop with improved structure and governance, exploiting links to Europass and EURESS. The Council Conclusions on the new ERA acknowledge this action and consider EURAXESS a pilot action that will foster inclusiveness within the ERA to address existing barriers to unbalanced mobility patterns by supporting researchers in their career development, connecting researchers and institutions and improving employability and talent absorption and mobility schemes. The Council Conclusions on Research Careers welcome the reform of EURAXESS adding links to other transnational networks, in particular Widening national contact points, bridging researchers and institutions and helping absorb talent in countries and regions while ensuring seamless quality services across the network.* *This action comprises three main strands:* 1. *Intensification of European services for researchers and institutions:* • *Support for career development of talented researchers via different layers of specialisation* • *Enhanced services for social-cultural and labour integration of researchers and their families in the host country* • *Assistance for institutions in the creation of communities of practice on the sub-processes of talent management* • *Organisation of networking activities to connect researchers with employers and the local/regional R&I communities* *2. A stronger international dimension* • *Development of a portfolio of support services and tools to create transnational ties with researchers and scientific communities within the global R&I ecosystem with a mission to:* o *promote the European values and R&I landscape as a favourable environment for excellent research,* • *facilitate knowledge and skills transfer, scientific collaboration and recruiting processes, while lifting obstacles to return,* • *strengthen S&T links with home countries through policy feedback tools and dialogues, and* • *improve data to a better understanding of European researchers living and working outside of Europe, as well as on mobility and research careers policy in general.* *3. Revamped portals and tools* • *Expanded towards a comprehensive recruitment, career development and social networking web-platform*

	• *Aligned with Charter & Code and Skills Agenda* • *Interoperable with European websites such as EURES and Europass* • *Facilitating matching between researchers and employers* • *Integrating ERA4You, a portal gathering EU and national programmes and schemes for intersectoral mobility* • *Enabling data gathering for policy feedback and mobility trends*	
Criteria	Relevance	*The action is closely linked to the priority area as it addresses directly the mobility and career development of researchers, including research assessment and reward system via the expansion of its support services, while fostering global engagement through the international dimension of the ERA Talent Platform.* *The action will benefit directly Member States by enabling a market place for researchers and employers, fostering collaboration, matchmaking and networking, increasing visibility and employability, as well as best practice sharing and talent absorption.*
	Viability	*The objectives, targets, timing, milestones, actors, the governance model, funding and expected impact are pertinent and clearly defined.* *The action is fully achievable within the foreseen timeframe .*
	Commitment	*All Member States and associated countries are committed to the action. The action is largely driven by Member States in collaboration with the Commission. It will also closely involve a broad range of research and innovation stakeholders via the organisation of surveys and consultation workshops organised by the European Commission or by contracted studies.*

8. Guiding Principles for Knowledge valorisation and associated Codes of Practice

Sub-area(s): Knowledge Valorisation

Source	*New ERA Communication of 30/09/2020: ERA action 7;* *Council Conclusions of 01/12/2020: point 21.iv*
Description	**Update and develop guiding principles for knowledge valorisation and a code of practice for the smart use of intellectual property, including facilitating the implementation of the unitary patent, to ensure access to effective and affordable intellectual property protection.** The Guiding Principles for knowledge valorisation and the Code of Practice for the smart use of IP will be achieved by revising, updating and broadening the scope and content of the 2008 Commission recommendation on the management of intellectual property in knowledge transfer activities and the Code of Practice for universities and other public research organisations1. The revision should broaden the scope and reflect the current dynamic R&I landscape underpinned by Open Science and Open Innovation. It should encompass new challenges such as the international context, increasingly complex knowledge value-chains and new market opportunities created by emerging technologies and new forms of industry-academia collaborations. The **Guiding Principles** will constitute a political commitment co-designed with and endorsed by Member States. The objective of the Guiding Principles is to respond to the needs and feedbacks of knowledge valorisation actors and to provide a legal reference to stimulate knowledge circulation and valorisation in Europe. They will also help to address knowledge valorisation gaps across Member States and ensure that widening countries can better benefit from R&I results. The **Code of Practice for smart use of IP** will be a bottom-up initiative co-created with the widest possible range of R&I stakeholders. The objective of the Code of Practice is to provide help to R&I stakeholders on how to handle intellectual property in the new ERA context. As announced in the Commission Communication 'The Global Approach to Research and Innovation' of 18/05/2021, the Code shall also consider the international context to raise awareness among universities, research organisations and businesses. In addition, it is proposed to go beyond a classical helpdesk function and to create opportunities for digital collaborative exchanges where actors can interact and exchange their experiences and examples. These activities will be hosted on the Knowledge Valorisation Platform. A **Code of Practice for researchers on standardisation** is foreseen for 2022. The objective of this Code of Practice is twofold: First, to create an evidence base to help understand success factors of Horizon 2020 projects in relation to the valorisation of their results thanks to the involvement in standardisation activities. Second, to provide a set of recommendations on how beneficiaries of public R&I funding can best valorise project results through standardisation. The recommendations shall help future beneficiaries of public R&I programmes to identify opportunities, strategies and tools to use standardisation for valorising results from their projects.

[1] https://op.europa.eu/en/publication-detail/-/publication/4cc4d955-3140-442e-b1e6-104abd0a5fd8

	Both Codes will contribute to and be part of the implementation of the Guiding Principles for Knowledge Valorisation that will follow the development phase. Based on feedback from Member States and stakeholders, it will be possible to discern in which other fields Codes of Practice should be co-created with the relevant R&I stakeholders	
Criteria	Relevance	The suggested action was proposed by the Commission in the New ERA Communication following up on the Council Conclusions of 29 May 2018 on 'Accelerating knowledge circulation in the EU' that called on the Commission to develop a strategy to accelerate the potential uptake of R&I results and data and to review the 2008 EC Recommendation on the management of intellectual property in knowledge transfer activities and Code of Practice. The Council welcomed the proposed new ERA action in its Conclusions of 1 December 2020. Member States also confirmed the relevance in the survey 'Towards a Policy Dialogue and Exchange of Best Practices on Knowledge Valorisation', published in February 2021. Recently, the Council Conclusions of 28 May 2021 on 'Deepening the European Research Area: Providing researchers with attractive and sustainable careers and working conditions and making brain circulation a reality' stressed, among key principles and the vision for ERA, in particular transfer of knowledge and cooperation between industry and academia. Moreover, the European Industrial Strategy (2020 & update 2021) underlined the importance of IP management, notably IP awareness raising for the research community, and announced a strategy on standardisation to support a more assertive stance on European interests.
	Viability	The ERA Forum for Transition discussed the implementation of ERA action 7 at its meeting of 3 March 2021 and agreed to set up an ERA Forum Knowledge Valorisation Subgroup. The mandate of the subgroup is to co-design and draft the European Guiding Principles for knowledge valorisation and to report to the ERA Forum for Transition in December 2021. This work will be based on the results of a survey of Member States and EEA countries in April/May 2021 and take account of a stakeholder consultation launched on 1 July and open until 6 September 2021. In line with the 'ERA Roadmap' of the new ERA Communication, this action shall be completed in 2022. The co-creation of the Code of Practice for the smart use of IP is envisaged to be launched in autumn 2021 by setting up a community of practice. The interest of stakeholders to engage in this process is currently been collected by a survey on IP. The work shall be finalised by the end of 2022. The work on the Code of Practice for researchers on standardisation is based on the results of a comprehensive survey of a large sample of Horizon 2020 project beneficiaries in

		May/June 2021. The results of the survey will be analysed by a scoping study to be published in December 2021. The draft Code of Practice are planned to be discussed with Member States/EEA countries within the ERA governance structures and to be submitted to a public consultation. The publishing of the Code is expected for summer 2022.
	Commitment	See point 21.iv of the Council Conclusions of 01/12/2020: '*WELCOMES the initiative of the Commission to review the 2008 EC Recommendation on the management of intellectual property in knowledge transfer activities and Code of Practice in accordance with the New Industrial Strategy for Europe'.* Member States and EEA countries confirmed their interest at the meeting of the ERA Forum for Transition on 3 March 2021 and at the ERAC meeting on 4 June 2021, including the enhanced consideration of standardisation. There is also great stakeholder interest in modernising and broadening the scope of the 2008 EC Recommendation and paying special attention to IP management and standardisation for knowledge valorisation. This was made clear, not least, at dedicated sessions of the European Research & Innovation Days 2019 and 2020 and highlighted in bilateral contacts with various stakeholder organisations and entities (e.g. TTO circle of JRC, ASTP, EARTO, EUIPO/EPO, CEN/CENELEC, CERN). It has also been reflected in the feedback to the current survey on IP, in which over 70% of respondents want to be engaged in co-creating the Code of Practice for the smart use of IP. The exceptionally high response rate of Horizon 2020 beneficiaries to the survey on standardisation activities in R&I projects demonstrates the great relevance and interest in this channel of knowledge valorisation.

9. Seeking a common understanding and implementation of rules and value-based international cooperation in R&I

Sub-area(s): Global engagement

Source	Communication on ERA; Council Conclusions on ERA; Communication on the Global Approach to Research and Innovation; Policy Debate on the informal meeting of Research Ministers, 19 July 2021; Council Conclusions on the Global Approach (to be adopted September 21).	
Description	The EU will, in 2021, in coordination with Member States in the ERA Forum for Transition, develop principles for international cooperation in research and innovation, and then promote the principles in a multilateral dialogue with partner countries and international fora.	
Criteria	Relevance	The proposed action in 2021 and 2022 forms a key element of the Global Approach to R&I and a precondition for the elements on global engagement in the proposed Pact (see sub area Global engagement).
	Viability	Work has already begun in the ERA Forum for Transition, in SFIC and in the Research Working Party on the definition of the values and principles which should form the basis of a wider international consensus. The forthcoming French Presidency intends to organise an international conference on this issue in the first half of 2022 in order to launch the debate with key partner countries.
	Commitment	All Member States and stakeholders are committed to this process and discussion has already begun in the ERA Forum for Transition and with stakeholders in the R&I Days.

Taking up together the challenges posed by the twin green and digital transition, and increasing society's participation in the ERA

10. Revamping the SET plan

Sub-area(s): Challenge-based ERA actions

Source	ERA Communication, Council conclusions on ERA point 14 , 15, 17 and 21	
Description	The European Strategic Energy Technology Plan (SET Plan) is a key stepping-stone to boost the transition towards a climate neutral energy system through the development of low-carbon technologies in a fast and cost-competitive way. By improving new technologies and bringing down costs through coordinated national research efforts, the SET Plan helps promote cooperation among EU countries, companies and research institutions, and in so doing also deliver on the key objectives of the energy union. The SET plan is thus an instrument that inherently includes many aspects of an ERA, as • work towards a more efficient national research systems and prioritise investment and reforms in research and innovation (as e.g. through the European Energy Research Alliance (EERA)), • increase transnational cooperation and competition including jointly addressing "grand challenges" and "research infrastructures" (as through the European Technology and Innovation Platforms (ETIPs)), • strengthen mobility of researchers and free flow of knowledge and technology knowledge (e.g. through the SET Plan Information System (SETIS) , and • transfer results to economy through collaboration between research and industry. A revamping of the SET plan is foreseen for 2022, through which the ERA aspect of the SET plan can be strengthened and better shaped. The SET plan ERA, together with the Clean Energy Technology Partnership and the ERA on Hydrogen will create the necessary European synergies and the impact needed for reaching a clean energy transition based on renewables and hydrogen.	
Criteria	Relevance	Addresses several priority areas of ERA, contributes significantly to clean energy transition
	Viability	SET plan is already in place working, its revamping to align with the European Green Deal objectives is already foreseen for 2022, ERA aspect of the SET plan still to be developed
	Commitment	All Member States will be interested

11. Building an R&I ERA on hydrogen

Sub-area(s): Challenge-based ERA action; Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems

Source	Council Conclusions	
Description	The Council conclusions of 1 December 2020 on invite the Commission and interested Member States to carry out an agenda process for a green Hydrogen R&I ERA pilot action. In this context, Germany has set up a (member states-driven) bottom-up agenda process towards joint R&I activities. DG R&I will support this green hydrogen ERA pilot with a portfolio of actions at EU level, most notably: • Developing a common data sharing area for hydrogen technologies, market statistics, socio-economic indicators, policy, regulations and financial support, together with a common knowledge area, built on the existing TRUST data base and the hydrogen observatory of the Fuel Cells and Hydrogen partnership (FCH 2 JU). The observatory can be further developed along the model of the EUON, which is progressively serving, in addition to researchers and technicians, media and citizens; • A mapping of industry's needs for skills or re-skilling/upskilling linked to new hydrogen technologies, with a potential dedicated workshop before end of 2021, building on preliminary work performed by the industrial stakeholders of the European Partnerships to access the skills agenda and the Employment Pact; • Designing potential Open Innovation Test Beds, providing services of testing and piloting through market access for priority hydrogen technology, including assessment of regulated compliance, to be funded by Horizon Europe (potentially through the Annual Work Programme 2021 or 2022 of the European Partnership on Clean Hydrogen) involving the JRC (currently setting up an electrolyser testing facility to support the standardisation of performance measurement); • Continue cooperation with GROW, JRC, REGIO and ENER on links between the R&I and industrial and regional policy on hydrogen.	
Criteria	Relevance	The proposed action addresses several priority areas, in particular: • Support open access to and uptake of research data;

		• Create synergies between R&I policy and the skills agenda; • Create synergies between R&I policy and industrial policies by developing open access to, and better exploitation of, national research and technology infrastructures. There is a well-coordinated collaboration with a consortium of member states (see below). Industrial stakeholders and RTOs from the FCH 2 JU are involved.
	Viability	The action is still in an early phase. Commissioner's guidance and agreement has been requested on an overall strategic approach to EU R&I activities on hydrogen, including on building an R&I ERA on hydrogen. DG R&I will continue to develop the actions on the ERA for hydrogen within the existing inter-service coordination group on hydrogen including ENER, MOVE, GROW, CLIMA, ENV, EMPL, EAC and JRC, as well as with the FCH 2 JU and the new Clean Hydrogen Partnership.
	Commitment	This action has both Member States'-driven and Commission-driven elements. The so-called 'Agenda Process on Green Hydrogen' led by Germany is built around three thematic workshops throughout 2021 to identify urgent research and innovation questions for Green Hydrogen competitiveness. Member States that are currently involved in this Agenda Process are AT, BG, CH, CZ, DE, EE, EL, ES, FIN, ISL, ISR, IT, LV, PT, RO, SI and SK. In a final 'Trio-Presidency' conference together with Portugal and Slovenia at the end of 2021, the results of these thematic workshops will be summarised in a joint strategic research and innovation agenda. Once this agenda is complete, the real work will begin through concrete research projects and cooperation.

12. Connected Universities

Sub-area(s): Synergies between R&I policy, Education policy and the Skills Agenda

Source	*ERA Communication (action 11, support for universities). Council Conclusion on the new ERA (skills for green and digital transformation, connecting ERA-EEA, synergies education & research).*	
Description	*Universities in Europe are reliant on non-European private service providers and subject to externalities such as rights for access to information, interactions between users and user data. University autonomy is at stake as data ownership and stewardship may not be guaranteed or even leading to buying own data back from such providers. In the education sphere, this pertains to organisation of virtual courses using these platforms, learning analytics, learning content, student authentication and software for these purposes. With the rise of platform companies, interactions between teacher and student are also changing due to new learning environments and commercial productivity tools.* *On the research side, steps have already been taken towards Open Science. EOSC will soon grow into a trusted research and innovation data space and service platform in Europe that is fully articulated with sectoral data spaces. The European COVID-19 Data Platform demonstrated the importance of such open approaches and infrastructure.* *Building on EOSC, this action aims at setting up a co-creation platform involving universities with a view to establishing and interconnecting distributed, reliable and trusted knowledge infrastructure composed of: (i) platforms; (ii) data, information and AI-enabled services; (iii) information and services policy. The infrastructure should be widely and securely accessible to students, academic staff, researchers as well as citizens in all higher education institutions within the EU, promoting open and connected universities and allowing to share education and research data, information and services through a secure European toolbox.*	
Criteria	Relevance	*The action will realise synergies between R&I policy, education policy and the Skills Agenda. It will allow mapping and interconnecting national, university and EU infrastructure, defining European standards for data, AI-enabled services and policy. It will reinforce collaborative links between higher education institutions through infrastructure.* *The action will also benefit Member States by enabling policy support for national or regional policies and investments in connecting universities, sharing of e-infrastructures, facilitating open science practices, enable the protection and management of data.* *Society will benefit because of the creation of closer connectivity through increased critical mass regarding upskilling of talents and research capacity.*

	Viability	*In the first ERA policy agenda, it is proposed to set up a cooperation platform involving universities in order to define needs, strategic objectives, map and identify gaps and design an implementation action plan including governance and funding.* *The action comprises the following key elements:* *1. Connected universities platform* *- Set up a platform with universities and Member States (Q1 2022)* *- Development of a concept and implementation approach (Q2 2022)* *- Consultation with Member States and stakeholders (Q3 2022)* *2. Connected universities pilot* *- Call for expression of interest and identification of the pilot universities (Q4 2022)* *3. Technical specifications towards a strategic agenda (2023)*
	Commitment	*There is strong political momentum to empower higher education sector in its institutional transition, taking a holistic approach by realising synergies between all higher education institutions' missions (education, research, innovation, service to society). This is exemplified by the Council Conclusions on the new ERA (institutional transformation) and the Council Resolution on the European Education Area (connectivity).* *Connected universities and the core role of universities in amplifying the digital transition of society is considered crucial by MS and stakeholder organisations, as feedback showed from a series of consultation meetings (2021) on the transformation of universities, complemented by Commission studies (2020 and 2021) and stakeholder surveys. The digital transition has been highlighted as one of the priority areas for institutional transformation of HEI sector at the R&I Days.*

13. European Excellence Initiative

Sub-area(s): Synergies between research and innovation policy, education and the EU Skills Agenda; Increased collaborative links and excellence-based integration of research-performing organisations from countries with lower research and innovation performance

Source	ERA Communication (action 11). ERA Council Conclusions (« linking ERA, EEA and EHEA »). Horizon Europe legal base (recital 17, excellence initiative).
Description	Development of a European excellence initiative that would empower European higher education institutions to actively shape the transformation of the European research and innovation ecosystem, in synergy with higher education policies. Aims: • Successful transformation and upgrading of higher education institutions through integrated collaboration between institutions and with other actors in local ecosystems • Mainstreaming a culture of excellence and value creation amongst higher education institutions Areas of institutional change supported by the initiative include: • Developing a common R&I agenda, more critical mass for solutions to major societal challenges, notably to the twin transitions • Sharing of capacities, resources, and infrastructures • Strengthening human capital, including equipping researchers with all the skills required by the labour market, and fostering balanced talent circulation • Reinforcing academia-business cooperation, including the central role of universities in innovation ecosystems, and intersectoral mobility • Mainstreaming open science practices and reforming research and academic career assessment systems • Engaging citizens in research and innovation and strengthening outreach to society Anticipated outcome: • It will mainstream a culture of excellent science in higher education sector, and improve access to excellence for laggard institutions (sharing practices, 'lifting all boats') • It will improve global competitiveness of Europe's higher education sector, and contribute to attracting and retaining top talents • It will enable better access to research infrastructures as well as optimal access to and circulation of scientific knowledge through engagement with ecosystems and science communication. • It will help turning the knowledge and research results into new solutions for the economy and society

Criteria	Relevance	The action will realise synergies between R&I policy, Education policy and the Skills Agenda, by supporting the transition of higher education sector and system towards higher cooperation, inclusion, excellence and value creation, inter alia by supporting the further development of the European Universities Initiative. It will as well increase collaborative links and excellence-based integration of research-performing organisations from countries with lower R&I performance into European scientific networks and innovation ecosystems. The action will empower higher education institutions in institutional changes in the areas of their own choice; it will mainstream a culture of scientific excellence and value cooperation through integrated and inclusive cooperation between strong and laggard institutions with a good geographical balance (lifting all boats). MS will benefit from models based on successful existing national excellence initiatives (or alike) and from concertation between the European and national actions in terms of policy and programmes. The action will also benefit Member States by enabling policy support for national or regional policies and investments in institutional reform, and increased attractiveness of the participating entities for students and researchers. Society will benefit because of the creation of increased critical mass regarding upskilling of talents and research capacity through the integrated cooperation.
	Viability	The proposed objectives, targets, timing, milestones, and actors are described above and will be decided in close collaboration with the MS and stakeholders, ensuring viability. The governance model for the European Excellence Initiative will be object of a consultation with MS. The strategic recommendations will help aligning foreseen public and private funding. EU funding for the European Excellence Initiative is foreseen under Horizon Europe (widening participation and strengthening the ERA part). Funding for the education dimension is foreseen under Erasmus+ (European Universities Initiative). An aspect for consideration, potentially hampering optimal and simple execution if not realised, is appropriate alignment

		between Horizon Europe and Erasmus+ support, both in terms of objectives and conditions. Action and investment plans will be subject to monitoring and evaluation. The following workflow is foreseen: • Step 1: mapping of national practices and modelling (2021-2022) • Step 2: build excellence initiative action plan (includes central peer-review system, MS policy support, and community of practices) (2022) • Step 3: pilot joint Horizon Europe and national funding schemes (RRF, and Structural Funds), supporting networks of higher education institutions, compatible with Erasmus+ European Universities Initiative (2023-2024)
	Commitment	There is strong political momentum to empower higher education sector in its institutional transition, taking a holistic approach by realising synergies between all higher education institutions' missions (education, research, innovation, service to society). This is exemplified by the Council Conclusions on the new ERA (institutional transformation) and the Council Resolution on the European Education Area. MS and stakeholder organisations are closely involved via a series of consultation meetings (2021) on the transformation of universities and the further roll-out of the European Universities Initiative, complemented by Commission studies (2020 and 2021) and stakeholder surveys. An additional specific mapping and modelling exercise on excellence initiatives involving MS will be performed (2021-2022).

14. Developing an integrated European technology infrastructure landscape (alternative title: *Developing a European strategy for technology infrastructures)*

Sub-area(s): Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems

Source	*New ERA Communication, COM(2020) 628, Action 10; and ERA Council Conclusions , 13567/20, 21.iv*	
Description	*The action comprises four main strands:* *Mapping and prioritisation* • *Consolidating existing technology infrastructure mappings by integration into one single tool. This will increase the visibility of technology infrastructures and support tasks such as gap analyses.* • *Gap analysis and prioritisation at EU and Member States' level towards high priority areas in synergy with the common industrial roadmaps, industrial alliances, partnerships, and industrial ecosystems under the EU industrial strategy.* *Operations* • *Following the identification of high priority areas, an action plan will be developed in partnership with relevant actors and including options for their long-term sustainability.* • *An investment agenda taking into account private and public investments will be developed.* *Access conditions and networking* • *Facilitate access through a European voluntary code to help increasing the number of technology infrastructure users and in particular the number of "first time" users.* • *Support networks of technology infrastructures to help connecting existing infrastructures and bundling all technology infrastructure services for specific technology areas. This will further facilitate the accessibility. Furthermore, it will help integrating smaller players (TI operators and users).* *Governance and investment* • *Development of a European coordination mechanism that engages all levels (regional national and EU) and related stakeholders, including both providers and users of infrastructures, to ensure buy-in in from all sides.*	
Criteria	Relevance	○ *Technology infrastructures are one of the key elements in the successful establishment of innovation ecosystems. They provide SMEs and industry with the testing, validation, and upscaling facilities that are needed to accelerate the market entry of innovative developments that are needed for the twin green and digital transition.* ○ *The activity will also help supporting innovation cohesion as visibility and accessibility of existing*

		technology infrastructures will be enhanced across Europe.
	Viability	○ *The governance model for technology infrastructures will be object of a consultation with stakeholders and MS.* ○ *The European technology infrastructure strategy's objectives, targets and timing will be decided in close collaboration with the MS and stakeholders, ensuring viability.* ○ *EU funding for technology infrastructures is foreseen under Horizon Europe and under the cohesion policies. The strategic recommendations will help aligning foreseen public and private funding.* ○ *Action and investment plans will be subject to monitoring and evaluation.*
	Commitment	○ *The findings of the staff working document on technology infrastructures [SWD(2019) 158] and the reactions to its publication suggest that there is a critical momentum for the EU together with MS to be more ambitious, for exploring, with relevant national and regional stakeholders, a shared vision, and for jointly developing a European strategy for technology infrastructures to support industry scale-up and technology diffusion across Europe.*

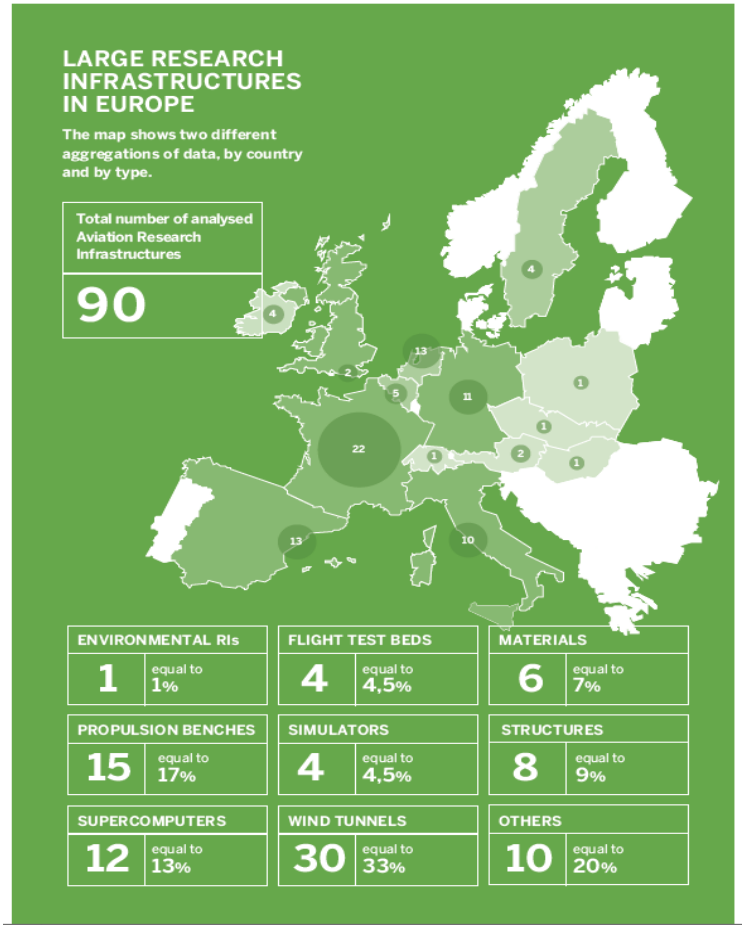
15. Action towards accelerating R&I results on digital design, manufacturing and standardisation in the transport & energy industrial ecosystems (RIDA)

Sub-area(s): Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems

Source	*ERA Communication*
Description	The proposed action (RIDA) focuses on digitalisation of transport (with emphasis on aviation) technologies and the cost-effective and accelerated translation of R&I results to industrial ecosystems. Digital technologies are today an integral part of transport and energy industries - from **design and manufacturing to operations and regulations**. The New-ERA can play a vital role in accelerating the translation of R&I results and enabling synergies between R&I policy and Industrial Policies. For the industrial aviation ecosystem in particular, digitalization enables: • collaborative design processes in the **industrial supply chain**; • the forth **manufacturing revolution** in aeronautics and aerospace at large, where data exchange, human-machine interfaces, advanced robotics and 3D printing fuse the Internet of Things and result in an unprecedented quality, eliminate expensive rework and part rejections, while minimising the environmental footprint of all processes; • the development of **new standards;** • the development of new **urban/peri-urban air-mobility vehicles** and services; • **efficient operations** (i.e. SESAR, NextGen), via software/hardware driven collaborative processes towards optimal flight paths from gate to gate; • efficient ticketing and other services, allowing **seamless connectivity and mobility** of people and freight. As the new-ERA will focus also to fundamental research and synergies with National policies, the RIDA action is proposed to: • **Develop roadmaps towards further accelerating and enabling new aviation Physical-Digital synergies** Successful innovation in transport lies in **synergies** between and across different fields. Physical-digital aeronautic innovations are happening

	now but it is expected they take-off and multiply exponentially by the end of the decade. • **Promote synergies through co-financing towards an aligned European vision for digital/physical research and technology infrastructures** Digital-physical synergies will be further enabled and accelerated by new and updated technology infrastructures for the validation of new cleaner technologies. Wind tunnels, new generation of "iron and copper birds", new ground testing facilities for new architectures should be coupled to Behavioural Digital Aircraft (BDA). Advanced Computational Fluid and Structural Dynamics codes, new model-based systems engineering methodologies should be optimised for High Performance Computers in order to accelerate the aviation contributions to the European Green Deal. • **Develop roadmaps towards an accelerated and aligned digital transformation, linking fundamental R&I results to European industrial competitiveness** While more and more companies have dedicated digital transformation managers, Europe will profit from a coherent approach to digital transformation, enabling resilient, secure and efficient aviation supply chains. While Horizon Europe as well as dedicated Regional SME funds will play a big role in this transformation, it is vital to connect better the development of new digital twins, digital certification and development of standards. • **Promote fundamental-industrial collaboration and synergies on AI/big data R&I** Aviation-enabled use of artificial intelligence and big data play already a big role in aviation safety and efficiency. The new ERA is proposed to pay more attention to synergies between R&I policy, education policy and the skills agenda for transport and energy ecosystems at large. • **Explore synergies between aviation, maritime, railway and automotive** industries where possible.	
Criteria	Relevance	The proposed action RIDA addresses **four priority areas** of the Pact for R&I in Europe, namely: • Enabling and enhancing synergies between R&I policy and Industrial Policies, in order to establish innovation ecosystems; • Coordination of R&I investments; • Better exploitation of European and national research infrastructures; • Synergies between EU, national and regional funding programmes

		The expected benefits to Member States and stakeholders are well-justified and build upon: • strengthening the ERA – based on closer cooperation between the European Commission and Member States; • synergies between R&I and industrial policies. The proposed action RIDA will benefit from past ERA achievements in areas such as EREA (European Research Establishments in Aeronautics) research infrastructures and joint programming. It will primarily aim towards delivering **value creation** and accelerated digital transformation through cost-effective and accelerated translation of academic R&I results to industrial ecosystems.
	Viability	The objectives, targets and governance model are clear, coherent and simplified as they build upon long-standing experience and excellence of EREA and academia. Key performance indicators are coherent and aligned with the ones delivered in the "Research Infrastructures – Needs, gaps and Overlaps" from H2020-RINGO (GA: 724102) and the digital transformation (STRIA – TRIMIS – Transport) roadmaps. A co-investment by Horizon Europe (Research Infrastructures of Pillar I, Cluster 4 & 5 of Pillar II and European Innovation Ecosystems of Pillar III), Regional, NextEU and Members States funds of at least €0.2 billion will be required for the next seven years.
	Commitment	Nearly all Member States have expressed pronounced interest and are committed to the action. The following graph (H2020-RINGO- final deliverable- CORDIS) will be further updated with digital research infrastructures as well as further links between EREA, Academia and SMEs.


LARGE RESEARCH INFRASTRUCTURES IN EUROPE
The map shows two different aggregations of data, by country and by type.
Total number of analysed Aviation Research Infrastructures
90
4
13
2
5
11
22
1
1
2
1
13
10
4
1
ENVIRONMENTAL RIs
1
equal to 1%
FLIGHT TEST BEDS
4
equal to 4,5%
MATERIALS
6
equal to 7%
PROPULSION BENCHES
15
equal to 17%
SIMULATORS
4
equal to 4,5%
STRUCTURES
8
equal to 9%
SUPERCOMPUTERS
12
equal to 13%
WIND TUNNELS
30
equal to 33%
OTHERS
10
equal to 20%

16. Develop common industrial technology roadmaps

Sub-area(s): Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems

Source	ERA Communication; Updated Industrial Strategy; Zero Pollution Communication	
Description	The Commission will, in cooperation with Member States and stakeholders support the implementation of the New Industrial Strategy by jointly developing common industrial technology roadmaps by the end of 2022 to align and link key partnerships under Horizon Europe with industrial ecosystems. European business expenditure in R&D lags behind the EU's main competitors and public investment stagnated since 2012 and even decreased in several Member States. This reduces the capacity of the EU to keep pace with the speed of industrial innovation at global level. Investments in research and innovation are often risky and require long-term commitments. Industrial technology roadmaps developed with Member States and industry will include R&I investment agendas from basic research to deployment helping to de-risk investment by industry. They shall sketch out the way forward to support development and promote the deployment of technologies with a high potential to contribute to achieving EU policy objectives for a more sustainable and circular, digital, resilient and competitive economy, across and in Member States. Their approach shall be fact-based, making best use of research and innovation results from Horizon partnerships and projects, breakthrough innovation supported by the European Innovation Council and outreach to the European Institute of Innovation and Technology (EIT).	
Criteria	Relevance	The roadmaps will inform Member States about R&I results, priorities and options to support the industrial transition in their countries, also through cross-border cooperation, and for a faster technology spill over across industries and industrial ecosystems. The roadmaps will link Strategic Research and Innovation Agendas (SRIAs) of Horizon Europe partnerships with the main EU and national support programmes to support the uptake of new industrial technologies. The roadmaps will provide input to the Industrial Strategy's transition pathways for industrial ecosystems, developed by the Commission starting 2021. Therefore, the roadmaps are a valuable R&I driven policy tool that underpins the EU's industrial ecosystems' green and digital transformation. The first ERA roadmap will address low carbon technologies for energy intensive industries, i.e. an

		industrial eco-system for which one of the first transition pathways under the updated Industrial Strategy will be developed. In the session reCO2very at the R&I Days 2021, the industry representatives saw technology roadmaps as a link from R&I to regulation and investment agendas, which themselves need coherence across EU and Member States. Coordinated investments could be a tool to support the greening of energy-intensive industries.
	Viability	Key milestones: - Selection of areas: o Low carbon technologies for energy-intensive industries (steel, cement, chemicals, etc.) o Circular industrial technologies (scoping ongoing) o Further roadmaps TBD - Deliverables and timelines o Description of evidence on technologies and investments: ▪ Low carbon industrial technologies: • Pilot Industrial Technology Prospect report on Industrial Low Carbon Technologies – published 18/06/2021 • Final Industrial Technology Prospect report as part of the technology roadmap ▪ Circular industrial technologies • Evidence collection for Technology Prospect report Q1 2022 o Delivery of roadmaps (validated by the ERA Forum of Transition) ▪ Low Carbon Technologies for energy-intensive industries: April 2022 ▪ Circular Industrial technologies: autumn 2022 ▪ Others – TBD Consultation and co-creation with:

		- Member States, through a dedicated sub-group within the ERA Forum of Transition (Q1/2021), with first meeting scheduled on 15/07/2021; - Input from industry, RTOs, universities, EIT, partnerships) will be delivered through workshops (at least 2/roadmap) and consultations (web-based consultation to be launched in July 2021 for the low-carbon industrial technologies roadmap)
	Commitment	So far, 17 Member States have nominated participants to the sub-group to the ERA Forum of Transition. Meetings with Horizon Partnerships showed industry interest to contribute, building on the Strategic Research and Innovation Agendas of the partnerships. EARTO explicitly supports common industrial technology roadmaps in their position papers on the ERA as well as on the updated industrial strategy.

17. Plastic Pirates – Go Europe! : ERA pilot action

Sub-area(s): A more active citizen and societal engagement in research and innovation in all its dimensions

Source	ERA Communication, Council Conclusions
Description	*Plastic Pirates – Go Europe!* is a citizen science initiative, launched by the Trio Presidency DE-PT-SI. RTD, EAC and JRC are working in partnership with the Trio Presidency to support the European rollout of the Plastic Pirates citizen science campaign. The campaign involves schoolchildren to investigate plastic pollution of rivers in Europe, providing didactically elaborated educational material. In addition to raising the awareness of plastic pollution among children and youth, the campaign aims at presenting a comprehensive overview of plastic pollution in and along European rivers (and possibly seas and ocean), the importance of rivers as pathways to ocean pollution, and will allow to identify sources of and mitigation measures for plastic pollution. The following potential path for upscaling the initiative has been discussed with the Trio-Presidency: 1. **A Mutual Learning Exercise under the Policy Support Facility**: To take stock of ongoing policies and practices related to citizen science at national level, different approaches are possible for further defining the scope and objectives of the MLE. The MLE would in particular aim to 1) mutually learn about the similarities and differences in approaches to citizen science in Member States and Associated countries, as important elements to consider for developing transnational projects; 2) to exchange information, experiences and lessons learned on existing transnational citizen science projects; 3) to identify other national citizen science projects suitable for upscaling to a European level with "Plastic Pirates - Go Europe!" as a good practice example. 2. **A workshop to mobilise Member States and stakeholders**: There are a number of Horizon 2020-funded projects related to plastic pollution of the waters and seas and on citizen science. These projects could be mobilised to further support citizen science campaigns on plastic pollution and thus contribute to the upscaling and Europeanisation and internationalisation of the initiative. To ensure further policy relevance of the data collected by the initiative – on top of the already excellent science and awareness-raising – the connection to established European data portals such as EMOD-Net should be enhanced. The Joint Research Centre should continue to be consulted on how to better link the collected data to the national monitoring efforts under the Water Framework Directive and Marine Strategy Framework Directive. 3. **A CSA under an amended ERA WP 2021-2022:** To mobilise Member States and stakeholders more broadly. This would depend on the

	availability of additional budget and timing of a general amendment of WP 2021-2022. 4. **Actions under the Mission Ocean, Seas and Waters**: The Mission Implementation Plan foresees the EU wide scale of the *Plastic Pirates Go Europe!* Citizen science campaign in the first phase of the Mission implementation, to achieve the full scale up at the latest by 2024. Further support to the campaign and citizen science would also be provided under the Mission Horizon Europe WP.	
Criteria	Relevance	The Action addresses one of the central priorities of the European Green Deal, the Zero Pollution ambition and will contribute to the better monitoring of the implementation of the Water Framework Directive and Marine Strategy Framework Directive. It will engage citizens and society on a broad basis to help close an existing knowledge gap: a comprehensive assessment and monitoring of plastic pollution in our freshwaters and marine environment.
	Viability	- The Pilot phase of the campaign was successfully carried out by the Trio-Presidency DE-PT-SI. - The scoping phase for the European scale-up is underway. - The planned Mutual Learning Exercise drawing out the lessons learnt from the governance and funding model and will help to identify future funding needs. - The future Mission Ocean, Seas and Waters as well as the European partnership A climate-neutral, sustainable and productive Blue Economy are suitable instruments to support the scale up and Europeanisation of the campaign.
	Commitment	As a Member State -led initiative, the Trio Presidency has already dedicated budgets and implemented a first funding phase. Several other Member States and international partners expressed an interest to join the campaign during the Informal Competitiveness Council in July 2020 and more recently at the Portuguese Presidency All-Atlantic Ministerial Conference on 4 June 2021, where a dedicated side-event on the Plastic Pirates campaign took place. Commissioner Gabriel invited MS and international partners to join the campaign.

Amplifying access to research and innovation excellence across the Union

18. Roll-out of ERA Hubs

Sub-area(s): Increased collaborative links and excellence-based integration of research-performing organisations from countries with lower R&I performance; Synergies between EU, national and regional funding programmes

Source	*ERA Communication (Action 6)*
Description	*The aim of this action is to maximise value from knowledge creation, circulation, use, by (i) strengthening territorial cohesion, place-based growth and regional development, (ii) stimulating excellence and incentivize less developed ecosystems, (iii) creating a networking framework to collaborate and exchange of best practice, (iv) interconnecting ecosystems to make them interoperable and compliant with common criteria, (v) better attracting and retain talent in countries/regions.* *Through the ERA Hubs concept, EU and MS will be able to fill territorial gaps, make sure ecosystems pop up across the ERA, and ensure that successful ones get easier access to talents and investments.* *Conceptually, the ERA Hubs initiative will:* - *Be based on existing collaborative structures and capacities, i.e., no new structures or capacities are foreseen as part of the initiative* - *Connect within and between local research and innovation ecosystems, i.e., enhance both local interactions and collaborations as well as across ecosystems* - *Connect critical R&I infrastructures to ensure the strategic sovereignty of the EU in crucial technologies and to facilitate disruptive innovation* - *Provide services supporting knowledge transfer/circulation and exploitation/use, focusing those on actors with limited transfer and exploitation competences and resources* - *Ensure that research results are applied faster in the economy and society, addressing both transfer and exploitation, but also directionality of and links to (fundamental) scientific research* - *Promote mutual learning, and thereby over time facilitate defragmentation and cohesion* - *Link to and collaborate with existing SME and start-up service networks, such as the Enterprise Europe Network and StartUp Europe* - *Link to scientific research, to ensure excellence, attractiveness, and competitive edge especially in long-term* - *Create a competitive European approach to promote the fundamental values of the EU through R&I*

	The Commission has contracted a study to perform the preparatory work including mapping of existing structures, identification of gaps, technical analysis and support to consultation.	
Criteria	Relevance	*This action is set to implement Action 6 listed in the ERA Communication as supported in the ERA Council Conclusions adopted in December 2020 to develop and test a networking framework in support of European R&I ecosystems.* *The action will directly benefit Member States by strengthening the regional and local knowledge ecosystems, improving effective brain circulation and linking better research with innovation. By fostering collaboration of all relevant ecosystem actors, it will also reinforce regional development, addressing simultaneously excellence and cohesion. It will also strengthen local higher education institutions, research and technology organisations and industry.*
	Viability	*The objectives, targets, timing, milestones, actors, the governance model and expected impact have been elaborated within an existing large-scale study on knowledge ecosystems in Europe. They are pertinent and clearly defined.* *The action is fully achievable within the foreseen timeframe. The mapping, modelling and concept development are ongoing (Commission study); funding is foreseen for the pilot phase under the Horizon Europe Strengthening the ERA part, and roll-out can be supported i.a. through the Excellence Hubs action under the Widening Participation part.* *The action comprises the following key elements:* *1. ERA Hubs concept and implementation approach* *- Development of an ERA Hubs concept and implementation approach (Q3 2021)* *- Consultation with Member States and stakeholders (Q4 2021)* *2. ERA Hubs pilot* *- Defining technical specifications including selection criteria for pilot ERA Hubs (Q2 2022)* *- Call for expression of interest and identification of the pilot ERA Hubs in collaboration with Member States (Q3-4 2022)* *- Assessment of the pilot (Q3 2023) and finetuning of technical specifications for ERA Hubs* *3. Roll out of ERA Hubs*

		Full roll-out of the ERA Hubs across the EU (2024)
	Commitment	*All Member States, but also their regions, are interested in the action, as well as all research and innovation stakeholders in Europe, as they will be able to directly benefit from it.* *The action will be implemented by the Commission in close collaboration with Member states and stakeholders.*

19. Dedicated work stream in the ERA Forum for Transition to improve access to excellence

Sub-area(s): More investments and reforms in countries and regions with lower research and innovation performance; Synergies between Union, national and regional funding programmes

Source	ERA Communication (Action 4)	
Description	The Commission will create a dedicated work stream in the ERA Forum for Transition with the general objective of supporting low R&I performing countries to increase the excellence of their R&I systems. This work stream will, in particular, have the following specific objectives: - promote and monitor access to excellence of researchers and institutions from Widening Countries, with Cohesion Policy support; - support Member States to better integrate researchers in smart specialisation strategies in cooperation with industry; and - help them design measures to support researchers in Widening Countries to improve their skills for excellence in the labour market.	
Criteria	Relevance	The proposed action addresses the priority area of "Amplifying access to R&I excellence across Europe", as it seeks to support low R&I performing countries.
	Viability	The action requires setting up a work stream in the ERA Forum and in that sense is viable. It will also require achieving the specific objectives mentioned above, the success of which will need to be assessed once the dedicated work stream is operational.
	Commitment	The action should, in principle, involve all member states, as it takes place in the context of the ERA Forum. Stakeholders will also be involved, in particular researchers.

Advancing concerted research and innovation investments and reforms

20. Support to prioritise, coordinate and direct future R&D investments

Sub-area(s): Support to prioritise and secure long-term research and innovation investments and policy reforms; Coordination of research and innovation investments

Source	ERA Communication, Council Conclusions, draft ERA Pact, ERA Forum for Transition, ERAC	
Description	Provision of support to the Member States in the coordination and prioritisation of national R&D funding and structural/systemic reforms, between countries and with the EU; i.a. through policy dialogues, target setting and monitoring as well as technical support. This action will assist Member States in voluntarily translating the R&D investment targets at national level, while also taking into account their specificities in terms of socio-economic structure as well as research and science systems development. The main objective of this activity is to build evidence and foster debates strengthening the transformative power of R&I policy. It also aims at maximising the impact of R&D investments directed e.g. to the green and digital transitions, as well as the future economic recovery.	
Criteria	Relevance	The ERA Commission Communication presents the proposal for a revitalised ERA based on a set of ambitious political objectives and R&D investment targets. Those targets have either been endorsed or taken note of by the Council Conclusions of 1 December 2020. This action covers the four targets currently proposed under the future European Research Area (ERA) Pact under the Objective "Prioritising investments and reforms".
	Viability	In order to implement this process, the action will: a) Provide new knowledge and evidence on the R&D investment targets and the need for directionality, duly considering existing capacities in R&I areas, domains and technologies. The action will provide solid analytical work and targeted analyses for each Member State, including through a dedicated study, which will fully underpin this process. b) Contribute to the organisation of joint policy and technical discussions with Member States, experts and

		stakeholders to reflect on the targets and commonly agree on their specificities as well as on the process and methodology for their roll out at national level. It will be carried out through the ERA Forum for Transition, ERAC, the Research Working Party, providing them with strategic advice. c) Frame the setting up of bilateral debates with Member States to voluntarily translate the EU-wide targets in the national contexts, with the help notably of the future ERA Scoreboard. This action will provide quantitative information, including from joint work and cooperation with Eurostat, as well as potentially the OECD.
	Commitment	In principle, all MS as well as associated countries, as debated and endorsed by the ERA Forum for Transition.