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Proposal for a

COUNCIL RECOMMENDATION

on a Pact for Research and Innovation in Europe

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

Evidence from 20 years of implementing the European Research Area (ERA) shows that while the ERA has contributed to major achievements in areas such as research infrastructures, open science, international cooperation, gender balance in research and innovation, joint programming and the mobility of researchers, more needs to be done.

On 30 September 2020, the Commission adopted a Communication on A New ERA for Research and Innovation (COM(2020) 628 final), in order to put in place a new European Research Area fit to deliver on the ambition of making a successful transition to a sustainable, digital and resilient Europe and to better prepare for the future.

The 2020 Communication calls for¹ a deepening of the ERA, moving from coordination of national policies to a deeper integration of these policies. It calls for mobilising Member States around key principles and values and for identifying priority areas for joint action. This is relevant at a time when increased and more focused national funding and reforms are needed, particularly in view of the pandemic, to accelerate the twin green and digital transition.

Research and innovation are largely national competences and building the European Research Area therefore relies to a great extent on national policy reforms and national initiatives. The Pact for Research and Innovation in Europe sets out commonly agreed values and principles and identifies the areas where Member States will jointly develop priority actions, supporting in this way the implementation of the vision and objectives of the new ERA.

To support the implementation of national ERA policies, this Pact is built on (i) common EU principles and values for research and innovation (R&I); (ii) shared priority areas for action; (iii) investments and reforms carried out through commonly agreed voluntary targets; and (iv) a simplified policy coordination and monitoring process. Bringing these elements together in a single legal act will reaffirm Member States' political commitment to mobilise their R&I policies towards the challenges that Europe faces today, notably the twin transition and the post-pandemic recovery. It will also guide and update new policy directions and help to monitor and assess progress made.

At the same time, the Pact will underpin the EU's efforts to lead by example internationally and to promote a level playing field based on reciprocity underpinned by fundamental values, as set out in the Commission Communication on the Global Approach to Research and Innovation².

It is proposed that the Pact takes the form of a single non-binding initiative, that is, a Council Recommendation, as a reflection of the common and shared ambition of progressing towards a new ERA.

¹ COM(2020) 628 final proposes four strategic objectives to ensure that a new ERA is fit for the challenges ahead: (i) prioritising investments and reforms, (ii) improving access to excellence, (iii) translating research and innovation results into the economy, (iv) deepening the ERA.

² COM(2021) 252 final.

2. LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

• Legal basis

The legal bases for this initiative are Articles 182(5) and 292 TFEU. In accordance with Article 292 TFEU, the Council can adopt recommendations and it will act on a proposal from the Commission in all cases where the Treaties provide that it must adopt acts on a proposal from the Commission. In accordance with Article 179 TFEU, the Union will have the objective of strengthening its scientific and technological bases by achieving a European research area in which researchers, scientific knowledge and technology circulate freely, and encouraging it to become more competitive, including in its industry, while promoting all the research activities deemed necessary.

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

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

• Subsidiarity (for non-exclusive competence)

The purpose of the European Research Area is to create an area where ‘researchers, scientific knowledge and technology circulate freely’ (Article 179 TFEU). As a multi-level governance initiative and implementing the whole-of-government approach – ensuring that policies are aligned at different levels of governance and across policy domains, it is in line with the principle of subsidiarity. It respects the competence of Member States in this area, while it aims at ensuring that research and innovation policy works in close synergy across all levels of government (local, regional, national and global) and it introduces initiatives providing most of the EU added value at the European level linked to and building on national and regional policy responses. Thus, the subsidiarity principle applies, given that the proposal does not fall under the exclusive competence of the European Union.

• Proportionality

The actions proposed are proportional to the objectives pursued. The proposal supports the achievement of the objectives of the new European Research Area. It complements Member States’ efforts in creating a researcher-centred, value-based, excellent and impact-driven research area. The proposal respects Member States’ practices and accommodates a differentiated approach reflecting Member States’ different economic, financial and social situations as well as the diversity of research systems and respective institutions and organisations. It recognises that different national, regional or local conditions could lead to differences in how the proposed recommendation is implemented.

3. RESULTS OF EXPOST EVALUATIONS, STAKEHOLDER CONSULTATIONS AND IMPACT ASSESSMENTS

- **Stakeholder consultations**

The views of multiple stakeholders have been gathered at a number of events. In particular, the ERA Forum for Transition (set up as an informal Commission expert group) has provided advice to the Commission, and allows the views of the Member States and stakeholders to be taken into account in a structured way. Relevant stakeholders and umbrella organisations were invited to share their views (e.g. at workshops on 20 April and 25 May 2021) and are properly taken into account.

A public consultation was also conducted between 15 April and 13 May 2021 to gather the views of the broader public.

As this initiative is provided for in the recent Commission Communication on ‘A New ERA for Research and Innovation,’ (COM(2020) 628 final), it relies heavily on the analytical work and evidence supporting the new European Research Area Communication (SWD(2020) 214 final).

- **Impact assessment**

No impact assessment was carried out, as the accompanying roadmap describes that this initiative was provided for in the Commission Communication on ‘A New ERA for Research and Innovation’, (COM(2020) 628 final). Therefore, it relies heavily on the analytical work and evidence supporting the new European Research Area Communication (SWD(2020) 214 final).

4. BUDGETARY IMPLICATIONS

Not relevant

5. OTHER ELEMENTS

Not relevant

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THE COUNCIL OF THE EUROPEAN UNION,

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

Having regard to the proposal from the European Commission,

Whereas:

- (1) On 30 September 2020, the Commission adopted a Communication on ‘A New ERA for Research and Innovation’,³ in which it sets out a new vision for the European Research Area (ERA) and announces the intention to propose a Pact for Research and Innovation.
- (2) The Council Conclusions on the New European Research Area, adopted on 1 December 2020⁴, calls on the Commission and the Member States in 2021 to develop an ERA policy agenda and a multi-level governance model to deliver on the new European Research Area.
- (3) Over the past two decades, the implementation of the European Research Area has contributed to some major achievements in areas such as research infrastructures, open science, international cooperation, gender balance in research and innovation, joint programming, research careers and the mobility of researchers. However, progress on research and innovation (R&I) investment has recently slowed down and more needs to be done to reverse this trend.
- (4) In order to address global challenges, international cooperation through ERA should take into account the priorities of the Union’s external relations, should be based on multilateralism and purposeful openness and should promote a level playing field and reciprocity underpinned by fundamental values and common framework conditions.
- (5) To deliver on an ERA fit for the future, it is necessary to move from an approach of coordination to a deeper integration between national policies. Therefore, the Commission Communication ‘A New ERA for Research and Innovation’ calls for mobilising Member States around key principles and values and for identifying shared priority areas for action. This is particularly relevant at a time when increased and more focused national funding and reforms are necessary to accelerate the twin green and digital transition and to implement the Paris Agreement goals, in line with European Green Deal objectives.
- (6) A common set of principles and values is necessary to reaffirm solid foundations for research and innovation in the Union, underlining values (ethics and integrity; freedom

³ COM(2020) 628 final.

⁴ 135673567135673567/20.

of scientific research; gender equality and equal opportunities), setting out better working conditions (free circulation of researchers, knowledge and technology; pursuit of excellence; value creation) and increasing cooperation (coordination, coherence, commitment; global outreach; inclusiveness; societal responsibility).

- (7) Jointly agreed shared priority areas should constitute a clear indication to stakeholders of the areas and actions that the Union and its Member States consider as their common priorities and where they commit to work together, creating a stable framework for policymakers, public funders, private investors and performers.
- (8) In order to prioritise investments and reforms, Member States should reaffirm the target of investing 3% of EU GDP in research and development and update the target to reflect new Union priorities, including a new 1.25% EU GDP public effort target to be achieved by Member States by 2030 in an EU coordinated manner, to leverage and incentivise private investments. Member States should also voluntarily commit 5% of national public research and development funding to joint programmes and European partnerships by 2030. Member States lagging behind the Union average for research and development investment as a percentage of GDP should direct their investment efforts to increase their total investment in research and development by 50% over the next 5 years.
- (9) Strengthening the ERA requires closer cooperation between the European Commission and Member States. This can be achieved by setting up a simplified monitoring and coordination system for mutual learning and enhanced bilateral dialogue.
- (10) The coordination of Union and national investments and reforms should be ensured in order to strengthen national research and innovation systems and increase their impact at Union level: while national research and innovation policies drive the development of national systems towards national objectives, they also contribute to ERA objectives and other shared Union priorities in strategic areas of common interest.

HEREBY RECOMMENDS THAT MEMBER STATES:

1. VALUES AND PRINCIPLES FOR RESEARCH AND INNOVATION

- (1) Agree on a common set of values and principles for research and innovation in the Union as set out below, and apply them in their internal research and innovation systems, in close collaboration with stakeholders. These values and principles should also be promoted by the Member States and the Union in their interactions with third countries in order to achieve a level playing field and common framework conditions.

Upholding values

- (a) **Ethics and integrity of research and innovation:** researchers, research processes and the research and innovation system overall should comply with strict ethics and integrity rules and practices, which are the foundation of responsible and trustworthy research free from undue influence, a prerequisite for achieving excellence, and underpin the responsibility of researchers to guard against biases and methodological shortcuts;
- (b) **Freedom of scientific research:** as part of a research culture that is inherent to the ERA, and a necessary condition for researchers to freely define their

research questions, theories and methods in an open and secure manner and to produce, share and disseminate knowledge, data and other results;

- (c) **Gender equality and equal opportunities:** encompassing gender balance in research teams at all levels, gender balance in decision-making, and the integration of the gender dimension in the content of research and innovation, and taking account of diversity in the broader sense, including, inter alia, gender, ethnic, and social diversity, people with disabilities and combating discrimination on all grounds;

Working better

- (d) **Free circulation:** of researchers and support staff, scientific knowledge and technology; this involves sharing scientific knowledge, data and tools as early as possible, notably through open science practices, attractive and merit-based careers, recognition of researchers' and technical staff's skills, enhancing framework conditions for researchers' mobility and encouraging exchanges between academia and industry (as well as other sectors) and diffusing innovation and open access to research infrastructures, technology infrastructures and their services;
- (e) **Pursuit of excellence:** meaning the commitment to programme, perform or support research of the highest possible quality, with the aim of achieving and rewarding excellence as a prerequisite for scientific, technological, economic, policy and societal impact and expanding Europe's overall knowledge base. This implies that public support for research and innovation should aim to select and fund high quality ideas – quality implies that the research is world-class, produces open, verifiable and reproducible results and is carried out through transparent research processes and methodologies and through research management which allows systematic re-use of previous results. The research assessment system – for research, researchers, teams and institutions – should comply with this principle and reward quality accordingly; public support should strike the right balance between 'curiosity-driven' and 'mission-oriented' research;
- (f) **Value creation:** this means increasing the impact of research and innovation by transforming Europe's leadership in knowledge creation into relevant and sustainable products, services, processes and solutions that support the wellbeing of citizens, economic prosperity, open innovation, evidence-based policymaking and open strategic autonomy; this involves, inter alia, working across different policies, encouraging a stronger interconnection between actors in multi-disciplinary and cross-sectorial collaboration and promoting investigator-driven basic research and its role in generating breakthrough discoveries and developing a broad knowledge base;

Working together

- (g) **Coordination, coherence and commitment:** where Member States bring the European dimension into national research and innovation policies and ensure national buy-in and commitment to the successful implementation of the ERA priorities. Member States, with the Union's assistance, coordinate their research and innovation policies and programmes in areas of common interest, including by ensuring complementarity with the EU framework programmes for research and innovation, thereby facilitating transnational cooperation in

the ERA, and direct research and innovation investments and reforms towards achieving the ERA and speed up the green and digital transition;

- (h) **Global outreach:** Member States engage in mutually beneficial collaboration and joint activities on research and innovation with partners from third countries and regions, based upon the Union's values and the principles laid out in the present Pact, in the UN Sustainable Development Goals and other pertinent international instruments;
- (i) **Inclusiveness:** Member States should strive to develop the full potential of the ERA in order to be competitive at global level; accordingly, less performing Member States and regions should step up their efforts to increase the performance and size of their research and innovation systems and develop their capacities, both human and infrastructural, including by ensuring synergies between their national funding and Union funds. Efforts should be supported at the Union level to connect research and innovation performers from less performing regions with excellent European networks across the Union;
- (j) **Societal responsibility:** striving to be responsive to society's needs to expand collective capacities and achieve greater societal impact and to increase trust in science and innovation by engaging stakeholders, local communities, and citizens in the design and implementation of research and innovation policies and by ensuring that policies are agile and able to adjust to unexpected challenges.

2. PRIORITY AREAS FOR JOINT ACTION

- (2) Agree on the following priority areas for joint action in support of the ERA, on the basis of which the actions in the ERA policy agenda will be designed and agreed between the Commission and the Member States. These actions should ensure close alignment with and appropriate support for the commonly agreed values and principles for research and innovation in the Union, as referred to in the present recommendation:

Deepening a truly functioning internal market for knowledge

- (a) **Open science:** Support a true open science culture across the Union, including mainstreaming open access to scholarly publications and research data⁵ and the diffusion and uptake of open science principles and practices, whilst considering disciplinary and cultural differences, including multilingualism, supporting the development of open science skills, and further developing and integrating the underpinning digital infrastructure and services;
- (b) **Research infrastructures:** Develop further the open access to, and better exploitation of, European and national research infrastructures, including e-infrastructures, their integrative function in the knowledge and innovation ecosystem and their potential in forming partnerships and pooling resources and connection to the European Open Science Cloud. Doing so will help European science compete globally, contribute to narrow the research and innovation gap and foster inclusiveness in the ERA; this will require, inter alia,

⁵ i.e. following the “as open as possible, as closed as necessary” principle

employing a broader range of funding sources for world-leading research infrastructures and exploring novel ways of funding transnational and virtual access;

- (c) **Gender equality, equal opportunities and inclusiveness:** Support women's wider participation in science and innovation and work to remove inequities regardless of gender, racial or ethnic origin, religion or belief, disability, age or sexual orientation;
- (d) **Careers and mobility of researchers and research assessment and reward system:** Give greater recognition to researchers' careers, make their careers more attractive and equip them with the training and skills required to meet the changing needs of the researcher role across the Union; building-upon and ensuring consistency with instrumental programmes such as Marie-Sklódowska-Curie Actions, this will be achieved by creating stable, attractive, inclusive, supportive and transparent working and employment conditions and by providing clear, well-known career paths and guidance to make informed career choices; boost the balanced circulation of researchers across the Union as well as across sectors and public administrations; increase attractiveness towards talents from the world. Further develop current research assessment systems for research, researchers, teams and institutions, to reward quality, impact, open science practices, leadership and engagement with society and collaboration with industry; consider a wide range of research outputs and activities and allow for diverse career paths. Reward systems should pay due attention to ensuring transparency, avoid bias, discrimination and unfair treatment. This should be made transparent through the use of adequate indicators;
- (e) **Knowledge Valorisation:** Increase cooperation and interlinkages between research and innovation actors, including those not currently active, and better coordinate policies and programmes at European, national and regional level, notably through frameworks for knowledge valorisation, uptake of research results, upskilling and intellectual asset management;
- (f) **Global engagement:** Develop a coherent global engagement strategy and common tools, promoting shared European values and principles for research and innovation in terms of international cooperation and capitalising on the attractiveness of European research; ensure Europe's scientific and innovation strategic autonomy while preserving an open economy; promote a level playing field and reciprocity underpinned by fundamental values; enhance research and innovation partnerships and strengthen collaboration with third countries and regional organisations.

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

- (g) **Challenge-based ERA actions:** where the Commission and Member States, including their regions, cities and municipalities, work more closely together in order to drive the design and implementation of more resilient and sustainable sectoral policies to foster research and innovation based solutions and mitigate potential threats; these actions can encompass various collaborative forms such as Horizon Europe Missions, European partnerships including EIT Knowledge and Innovation Communities (EIT KICs), joint programming initiatives, support for multilateral alliances and others and could be set up to address new

and persistent challenges such as climate change, energy and digital transitions, migration, pollution by plastics, cancer or public health threats; these actions should build on the contribution of the full spectrum of disciplines, allowing the challenges to be addressed comprehensively; they can draw from experiences of existing coordination initiatives such as the Strategic Energy Technology Plan (SET Plan) and the example of the ERAvsCorona initiative, which has shown the importance of leveraging combined strength through close coordination, co-design, cooperation, data sharing and joint funding between the Union, the Member States and Associated Countries to quickly advance in an answer to a common goal;

- (h) **Synergies between research and innovation policy, education and the EU Skills Agenda:** Research and innovation and (higher) education are key drivers of innovation, knowledge creation, diffusion and use. Actions are required to develop and exploit synergies between the ERA and the European Higher Education Area (EHEA), notably through higher education institutions and research infrastructures, including e-infrastructures, as well as the European Institute of Innovation and Technology and their Knowledge and Innovation Communities (EIT KICs); to provide guidance and support with relevant stakeholders to the transition of the higher education system towards higher cooperation, inclusion, excellence and digitisation, inter alia by supporting the further development of the ‘European University’ initiative as a testbed for modern, inclusive and future-oriented higher education institutions in the Union; and to develop and implement initiatives for equipping researchers with all the skills required by the labour market and for upskilling and reskilling through targeted training;
- (i) **Synergies between research and innovation policy and industrial policy, in order to boost innovation ecosystems:** Research and innovation and an agile industry are two key drivers of competitiveness and open strategic autonomy. Therefore actions are required to develop and exploit the synergies between the ERA and the updated industrial strategy⁶, notably through research and technology infrastructures, higher education institutions (HEIs), Horizon Europe partnerships including EIT KICs, Industrial Alliances and common industrial technology roadmaps (from basic research to deployment) in key strategic areas; these actions should be co-developed with Member States, industry (including SMEs) and other research and innovation stakeholders and should prioritise specific technology areas to help align public and private investments;
- (j) **A more active citizen and societal engagement in research and innovation in all its dimensions:** e.g., contribution of and capacity to benefit from citizens’ views and involvement, will raise awareness of the benefits and impact of research and innovation in people’s daily lives, ensure a greater diversity of approaches for designing and implementing research and innovation policy and make R&I more relevant for society, in particular making it more acceptable for citizens and making new solutions more affordable;

⁶ Updating the 2020 New Industrial Strategy: Building a Stronger Single Market for Europe’s Recovery (COM2021)350 final).

Amplifying access to research and innovation excellence across the Union

- (k) **More investments and reforms in countries and regions with lower research and innovation performance:** this means mobilising Union and national funding for research and innovation investment, in combination with support and assistance to engage in the necessary research and innovation reforms;
- (l) **Synergies between Union, national and regional funding programmes:** synergies between the Union's funding programmes and national and regional research and innovation funding schemes need to be encouraged and enhanced, in particular between Horizon Europe, cohesion policy and the Resilience and Recovery Facility;
- (m) Increased collaborative links and excellence-based integration of research-performing organisations from countries with lower research and innovation performance into European scientific networks and innovation ecosystems;

Advancing concerted research and innovation investments and reforms

- (n) **Support to prioritise and secure long-term research and innovation investments and policy reforms:** at all governance levels (Union, national and regional), including regulatory sandboxes and experimentation clauses; their design, implementation and assessment should go hand in hand in order to maximise synergies and impact;
- (o) **Coordination of research and innovation investments:** by supporting the identification and implementation of potential for coordinated investments and reforms in order to strengthen the ERA dimension across all governance levels in the Union and maximise its impact for the benefit of Union's science and innovation systems.

3. PRIORITISING INVESTMENTS AND REFORMS

- (3) Prioritise investments and reforms that address the ERA priorities and provide the necessary conditions and support for stronger private research and innovation investment at national and regional level by setting realistic, but ambitious Union and national voluntary targets for research and development investment:
 - (a) Public research and development expenditure and private research and innovation investments require an adequate policy and regulatory framework to maximise their effectiveness and efficiency and ensure an economic and social impact; conversely, reforming the research and innovation policy framework or implementing a transformative agenda requires mobilising appropriate resources (e.g. funding, human resources, skills, research posts) to drive change and improve the performance and output of the research and innovation system;
 - (b) Research and development investment targets not only spur the overall rate of increase of research and development expenditure but also reflect more qualitative objectives, in terms of scientific, technological, societal, or industrial orientations; this applies notably to public research and development expenditure supporting the ERA priorities, including reforms of national research and innovation systems, a sustainable and competitive economy and the twin transitions;

- (4) Confirm their intention to raise the Union-level investment in research and development in the following manner:
 - (a) Increase the total expenditure on research and development to 3% of EU GDP ('3% target');
 - (b) Increase the total public effort on research and development to 1.25% of EU GDP by 2030;
 - (c) Increase the share of national public research and development expenditure committed to joint programmes, research infrastructures and European Partnerships to 5% of national public R&D funding by 2030;
 - (d) a 50% increase in total research and development expenditure over the next 5 years for Member States lagging behind the EU average research and development expenditure as a percentage of GDP.
- (5) Establish, on a voluntary basis, national investment targets for the:
 - (a) intended public effort in research and development, expressed as a percentage of GDP;
 - (b) percentage of national public research and development expenditure committed to joint programmes, research infrastructures and European Partnerships;
 - (c) expected increase in total research and development expenditure, for those Member States lagging behind the EU average research and development expenditure as a percentage of GDP.

4. POLICY COORDINATION

- (6) Implement an enhanced monitoring and coordination mechanism, to ensure progress towards the ERA priorities. This requires the following:
 - (a) Union-level coordination and support, from the strategic planning and design stages to the implementation and monitoring stages, through a range of simpler and less burdensome policy tools and processes:
 - **A common ERA policy agenda**, which sets out the jointly agreed ERA actions to be implemented in a coordinated manner, in support of the common principles for research and innovation and ERA priorities set out in this Pact. The ERA policy agenda should be clear and actionable, defining and describing each action with a view to its implementation (at the Union and/or national level);
 - **A dedicated ERA policy online platform** for reporting on (i) the implementation of the ERA policy agenda (at Union level and national level) and on (ii) other investments, reforms and activities supporting the principles and ERA priority areas set out in this Pact;
 - **An ERA scoreboard**, which monitors progress towards the ERA objectives at national and Union level, through a combination of indicators and qualitative analyses related to the ERA priorities. The ERA scoreboard should be regularly updated;
 - **Regular policy dialogues between the Member States and the Commission** – both bilaterally and multilaterally – to support the implementation of the ERA policy agenda, notably through the sharing of best practices and mutual

learning exercises, take place in the ERA Forum for Transition. The Commission will provide further support through the Horizon Policy Support Facility (PSF) and the Technical Support Instrument (TSI).

- (b) Joint agreement of the Commission and the Member States on a common ERA policy agenda, informed by the ERA scoreboard and the strategic advice provided by the European Research and Innovation Advisory Committee (ERAC), and following appropriate engagement with stakeholders. The ERA Forum for Transition prepares the draft of the ERA policy agenda.
- (c) Following the agreement on the ERA policy agenda, the Member States and the Commission share information on their policies and programmes that contribute to implementing the ERA policy agenda, and more broadly contribute to the principles and priorities set out by this Pact. This includes information about the implementation of current policies and programmes and the planning of future ones, and is shared through the ERA policy online platform.
- (d) The Commission reviews the implementation of the ERA policy agenda at national level and publishes an annual report on the state of play of the ERA implementation, including individual reports on the progress of each Member State. This will provide the basis for engaging in regular policy dialogues between Member States and the Commission.

Done at Brussels,

*For the Council
The President*