ERAC *ad hoc* Working Group on the future of the ERA

-Draft ERAC opinion on the future of the ERA-

Final Report

ERAC is invited to:

- **Take note and approve the changes to "Lighthouses" in deliverable 1;**
- **Discuss and approve deliverable 2 "Objectives and Priorities";**
- **Approve this final report as an ERAC opinion on "The Future of the ERA";**
- **Consider as future motto for the "ERA: Mobilising knowledge for a better future".**

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ERA
Mobilising knowledge for a better future

1. Introduction

The ERAC WG on the future of the ERA was approved by an ERAC written procedure on 26 April 2019. In total, 26 Member States and Associated countries nominated national representatives to the WG, namely AT, BE, BG, CZ, DE, DK, EE, ES, FI, FR, HR, HU, IE, IT, LT, LU, CH, NL, NO, PT, RO, SE, SI, SK, TR and the UK, although the average physical participation at the meetings was about 20 country representatives. The European Commission (DG RTD) participated in all the meetings.

The group had its first meeting on 24 May 2019, where Eduardo MALDONADO (PT) was elected as Chair and Alexander GRABLOWITZ (DE) as Rapporteur. Between May and November 2019, the WG had nine meetings in total. During this period, the WG offered ERA related groups and ERA stakeholders two opportunities to provide written comments and feedback on draft reports prepared by the WG. ERA Stakeholders were invited twice to face-to-face meetings. The following ERA stakeholder groups provided input to the deliberations of the WG: ALLEA, CEASAR, COST, EARTO, EIRO-Forum, ERIC-Forum, ERF, ERRIN, EU-LIFE, EUA, EUREKA, EURODOC, LERU, MSCA Alumni Assoc., Science Europe, TAFTIE and The Guild. ERA groups were invited once to a face-to-face meeting. All six ERA Groups provided useful and welcome written inputs at least once during the process.

A first set of conclusions and recommendations on the new ERA paradigm was discussed and approved by ERAC at its meeting of the 2nd of October, in Helsinki.

The outcomes and deliverables of the WG have only been made possible due to the high personal commitment of all the WG members and through a highly constructive, friendly, professional and results-oriented working atmosphere.

The WG had a very demanding schedule that consisted of nine meetings over seven months that included the Summer vacation period. Half of the meeting were two-days long. All meetings took place in Brussels except one, in early September 2019, that took place in Porto, Portugal. This demanding engagement of all the members of the WG underlines its high commitment to jointly develop a convincing and relevant new ERA paradigm for the coming decade.

2. Mandate

The mandate of the ad hoc WG has been approved by written procedure on 26 April 2019. The core elements of the mandate read as follows:

"*The Ad-hoc Working Group on the Future of the ERA is expected to advise ERAC on:*

- *options for a new narrative/paradigm on the future of the ERA, taking into account both the experiences of 20 years of ERA policies and emerging needs for policy reforms;*

- *possible future ERA priorities and other relevant trends, inter alia of Horizon Europe, which may feed into a new ERA policy framework post-2020.*

Taking forward the Council conclusions of 30 November 2018, the Ad-hoc Working Group will concentrate on the following aspects:

A.   Options for a new narrative/paradigm on the future of the ERA

The WG will provide its assessment of the current state of play and of the factors for success or failure of the ERA policy framework so far, drawing lessons from the experience since 2000. The group will also outline possible options for a new narrative/paradigm on the future of the ERA.

B.   Possible future ERA objectives and priorities

The WG will provide a rationale for possible future ERA objectives and priorities. To this purpose, the WG might also exchange with stakeholder organisations and other outside experts, and invite them to provide feedback. This work package is first and foremost future-oriented. It should enable ERAC to contribute to the Commission's reflections in view of a possible new Communication on the ERA in 2020.

The WG on the Future of the ERA shall not advise ERAC on the advisory structure of the ERA, as this will be the task of the next review cycle in 2021, after possible Council conclusions on the ERA priorities of the future in 2020".

Furthermore, the mandate defines two deliverables expected by the group, notably

"The WG will submit a draft ERAC Opinion with the following deliverables to ERAC:

1.   Options for a new narrative/paradigm for the ERA 2020-2030 (until September 2019)

2.   Possible future ERA objectives and priorities, taking into account, inter alia, relevant interlinkages with Horizon Europe, in particular the part 'Reforming and enhancing the EU Research and Innovation System' (until December 2019)

A draft ERAC Opinion should be available by 1 December 2019, with a view to the ERAC plenary on 17 December 2019".

The two deliverables (full version) are annexed to this final report. The final report includes the main messages in these two deliverables. This report was approved by the ad-hoc WG by written procedure on 3 December.

3. Assessment of current state of play

(1) The European Research Area (ERA) is about to celebrate 20 years of its implementation. It was launched in 2000 based on the idea that Europe needed a Research Area with a European dimension. In 2008, it acquired directionality with the grand challenges approach and the "Ljubljana Process", for governance along with a revised structure.

(2) The European Commission confirmed its engagement in the ERA with its ERA communication in 2012, with an ensuing renewed partnership between Member States, the Commission and research stakeholders adopted in Council Conclusions[1].

(3) With the adoption of the ERA Roadmap 2015-2020 and the related national ERA action plans, the national focus and dimension of ERA was strengthened and improved, while the European Commission focused more on a supporting and monitoring role.

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[1] https://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/intm/134168.pdf

(4) Over the last two decades, a wide range of ERA related policy reforms and initiatives have been successfully implemented, contributing towards the overarching objective to realise the ERA.

(5) The need for a new ERA paradigm is recognised in the European Leader's agenda 2019-2024 which underlines that 'we must step up investment in people's skills and education, do more to foster entrepreneurship and innovation and increase research efforts, in particular by addressing the fragmentation of European research, development and innovation'.

(6) The policy approach of the ERA Roadmap 2015 – 2020 to focus on national policy reforms and actions strengthened the role of ERA at national level because conditions at EU level were considered to be well in place by the European Commission. So, the ERA Roadmap 2015 included fewer initiatives and action at EU level, including those based on the essential role of the EU framework programmes for research and innovation in delivering a fully-functioning ERA.

(7) Progress on ERA implementation has been slowing down in recent years and there are still major disparities between countries and regions, some of which are even diverging rather than converging, as stated in the ERA Progress Report 2018.

(8) Despite the multiple achievements of the ERA, an effective European dimension is missing in many national, including regional, R&I policies, hindering joint multi-level action, which is an essential element of a fully functioning ERA.

(9) This deficiency is leading to an insufficient co-evolution of European, national, including regional, R&I systems, that is building-up an unhealthy level of concentration of R&I pockets of excellence pockets across Europe. Moreover, it leads to an unbalanced mobility and knowledge circulation pattern that contradicts ERA policy objectives.

4. Lessons learned

From past experience, the following key lessons can be identified:

a) Sustained political ownership and continuous commitment at all levels (European, national and regional) are key to achieving the ERA and fostering progress towards a fully functioning European area for research and, *mutatis mutandis*, for innovation, that acknowledges the value of diversity among MS/AC and their regions and raises scientific excellence across the whole of Europe;

b) A new ERA paradigm needs to contribute more to a better quality of life for European citizens, driven by a new knowledge-based and innovation-led sustainable growth model, in line with wider economic, societal and environmental policy objectives, namely the transition to a healthy planet;

c) There is a need for a better acknowledgement of the shared competence and responsibility of R&I policies and of the multi-level reality in Europe. A new ERA needs to ensure relevance, impact and visibility across Europe, and this should be achieved through tangible, larger and more impactful joint actions;

d) A new ERA paradigm should be based on an integrated, coherent approach between education, research and innovation policies and instruments in order for the ERA to effectively achieve its wider objectives.

e) Education plays a key role for the future ERA and, thus, a special emphasis should be placed on a coordinated approach with the higher education sector, in particular the European Higher Education Area (EHEA) and ERASMUS+;

f) The design and implementation of a new ERA paradigm must be done in close interaction with all the relevant R&I stakeholders, as well as, whenever possible, the wider society, to provide a greater focus on outcomes and impacts to ensure that the ERA delivers benefits for them all;

g) Existing barriers at national, including regional, and European level to a fully functioning ERA cannot be overcome by R&I policy alone. They need to be addressed by a broader set of horizontal and sectorial policies in a coherent whole-of-government approach;

h) There must be monitoring mechanisms in place from the start to assess progress, identify gaps, impacts and successes, to steer the ERA and enable it to adapt to evolving demands and needs.

i) A new ERA paradigm and its corresponding narrative must build on all its many achievements since 2000, upgrade the future vision underpinning the ERA according to new forms of knowledge production, dissemination and use, to the changed environmental, economic and societal context and to the need for a knowledge-based and innovation-led sustainable growth model, and provide solutions to the societal challenges and to the identified shortcomings that have so far prevented the achievement of a fully-functioning ERA.

5. Recommendations for a new ERA narrative/paradigm

Building on the lessons learned and conclusions presented above, as well on the changed socio-economic environment and the need to better address future challenges in Europe and globally, the new ERA paradigm[2] and its underlying narrative should:

1. (OVERALL OBJECTIVE): Exploit the significant contribution that R&I plays in achieving Europe's wider policy goals and make ERA more responsive to society. Promote the adoption of ambitious knowledge policies, targeting researchers, innovators, R&I organisations and citizens, in order to broaden the outreach of ERA related initiatives while also improving communication activities.

2. (CORE VALUES): strengthen the focus on science, research and knowledge as core values of Europe. Define a set of core principles for ERA and promote them.

3. (SCOPE ON KNOWLEDGE): aim to realise the full potential of a knowledge-driven society, encompassing knowledge co-creation, dissemination and use/exploitation, as well as their interactions, based on effective open science approaches, turning this dynamic knowledge circle into the new metaphor for the future ERA.

4. (POLITICAL RESPONSIBILITY): be supported by a high level, strong and sustained political ownership and continued commitment at the EU and national, including regional, levels.

5. (STRATEGY FIRST): be focussed on strategic policy objectives and a broader/bolder policy vision/scope, while relevant governance aspects should be addressed at a later stage.

6. (INCLUSIVENESS): understand, respect and tap into the diversity of the national, including regional, research and innovation systems, to achieve a more synchronised co-evolution of R&I systems, to strengthen their quality and excellence, to reduce the existing inequalities and fragmentation and to foster connectivity, collaboration and complementarities, thus maximizing the effectiveness of the ERA at all levels.

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[2] fully respecting subsidiarity and the scope of article 179 TFEU in a way that meets today's needs.

7. (RECOGNITION): become more broadly recognised in order to allow education, research and innovation to better and more visibly contribute to wider EU policy objectives, including cohesion and societal objectives.

8. (EMPOWERMENT): mobilise and empower all national, including regional, R&I systems and their actors, to create, disseminate and exploit knowledge, fostering transnational and transregional cooperation through networks with adequate critical mass, framed within EU policies and programmes, notably the EU's R&I framework programmes, with the European Commission as a full and engaged partner.

9. (MULTILEVEL OWNERSHIP): trigger knowledge centered policies into a functional multi-level European R&I ecosystem that avoids unnecessary duplication, reduces fragmentation and ensures that policy-makers and stakeholders assume their responsibilities at all relevant levels.

10. (ENABLING): position research and innovation as an important horizontal enabler of solutions for societal needs/challenges and for improving the well-being of European citizens, as well as achieving a knowledge-based sustainable growth for improved European competitiveness on a global scale.

11. (FREE CIRCULATION): continue to improve the circulation of researchers, knowledge and technologies, while addressing the challenge of brain drain and unbalanced circulation patterns, as well as ensuring gender equality and access opportunities for all.

12. (REGULATORY MEASURES): be open for the potential need for a more complementary and coherent European approach to knowledge policy, namely potential soft law measures or possible legislative action at European level, including assessment and reform of national ERA related policies within the context of the European Semester.

The new ERA paradigm and its underlying narrative should also meet additional requirements stemming from the existing shortcomings and from a changed societal and economic environment in Europe and globally. Notably, the new ERA paradigm should:

13. (DIRECTIONALITY/RRI): underline the importance of ambitious and sustained investments in R&I, possibly applying a 'smart directionality'[3] policy approach for knowledge production and exploitation, embracing societal goals/challenges and placing a bigger focus on the responsible use of knowledge and research results for societal purposes (policy-led Responsible R&I) in order to ensure the long-term sustainability of national, including regional, R&I systems.

14. (EHEA LINK): adopt more holistic and comprehensive policy approaches encompassing research, innovation and education (including training and skills development), in particular with respect to higher education (EHEA), where the ERASMUS+ program and the European Universities initiative, as well as EIT, could be building blocks.

15. (SUSTAINABILITY): underline that a fully functioning ERA will allow Europe to better address societal goals/challenges, in particular sustainable development and the Sustainable Development Goals (SDGs), without undermining the relevance of fundamental 'blue sky' research.

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[3] The role of policy as setting the direction of change beneficial to society. Mazzucato, M. (2015b). From Market Fixing to Market-Creating: A New Framework for Economic Policy (No. 2015-25). SPRU-Science and Technology Policy Research, University of Sussex.

* Recommendation 20 is a conclusion from the ERAC plenary on 2 October 2019.

16. (EVIDENCE BASED POLICY MAKING): underline that Europe has among the highest quality of life standards in the World, which derives from the shared principle that scientific freedom and the exchange and use of knowledge are key for progress, and call for a new focus on the use of knowledge and scientific evidence in policy making, viewed as a differentiating feature of the European culture of policy making.

17. (SECTORAL POLICY IMPLEMENTATION): proactively support other sectoral policies, in order to facilitate their evidence-based development and monitoring, help assessing their expected impact and contribute to their implementation through testing and experimentation.

18. (OVERCOME BARRIERS): promote a dialogue and concerted actions with horizontal policies to overcome existing barriers to a fully-functioning ERA which are beyond the strict remits of R&I policy.

19. (GLOBAL DIMENSION): put a greater focus on promoting and enabling collaboration with all relevant third countries to find solutions to global challenges.

And, finally:

20. (ERA LIGHTHOUSES*): To provide visibility and demonstrate the implementation of these priorities as well as their impacts, ERA policy tools, such as 'ERA lighthouses', could be put in place. These tools should a) allow for concrete outcomes and impacts in the short- to medium-term based on concrete societal needs; b) address issues of European-wide relevance inside and beyond the R&I system; and c) lead to an improved acceptance, recognition and support for ERA by policy makers, ERA stakeholders and the wider society. ERA lighthouses should help to demonstrate in a tangible and concrete way the added value of the renewed ERA paradigm/narrative and its associated ERA objectives and priorities in practice.

6. Elements for the new ERA paradigm / narrative

From these recommendations, it is possible to conclude that the European Research Area (ERA) should be the basis for a dynamic knowledge circle in Europe building on a corresponding multi-level and multi-actor steering framework.[4] A fully functioning ERA, meeting the requirements laid down in Article 179, paragraph 1, of the Treaty on the Functioning of the EU (TFEU) should serve broader policy objectives while ensuring the best framework conditions for the circulation of new research-based knowledge and technologies as well as for researchers' careers. Eleven closely interlinked dimensions of change should constitute the main new elements of the new ERA narrative:

1. *From* free circulation of researchers, knowledge and technology *to* a European community of knowledge producers and users;
2. *From* overcoming barriers *to* seizing opportunities;
3. *From* valuing R&I's service for society *to* valuing the contribution of research-based knowledge for the cohesion of the European society based on freedom of science principles;
4. *From* global competitiveness *to* research-based knowledge-driven sustainable growth leadership;
5. *From* addressing grand challenges *to* addressing transformative changes based on smart directionality;
6. *From* evidence-based policy-making *to* research-based knowledge-driven policy change;

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[4] See Deliverable 1 of the ERAC ad-hoc WG on "The Future of ERA": "Options for a new paradigm on the future of the ERA narrative", Sep 2019.

7. *From* innovation divide *to* an all-encompassing view of inclusiveness;
8. *From* individual knowledge dimensions *to* an integrated and dynamic knowledge circle;
9. *From* a largely monitoring role of the European Commission *to* an European Commission as an active and engaged partner for delivering on the ERA across Europe;
10. *From* involvement of stakeholders in research-based knowledge policy design and implementation *to* broader societal engagement and responsiveness;
11. *From* fully autonomous national frameworks for research-based knowledge policies *to* a truly multi-level steering framework.

To address these dimensions of change, the revised ERA objectives and priorities have to deliver on the following five challenges:

- achieve a dynamic knowledge circle;
- better demonstrate its societal relevance and be responsive to societal needs;
- advocate a new R&I-driven sustainable growth and development model;
- drive the co-design of R&I with relevant horizontal and sectoral policies;
- harness the diversity of Europe's R&I systems.

7. Future ERA Objectives and Priorities

7.1 Future ERA objectives

In order to advance and implement a fully-functioning European Research Area that meets the requirements laid down in Article 179, paragraph 1, of the Treaty on the Functioning of the EU (TFEU) and of the new ERA paradigm, the European Commission, the Member States and the Associated Countries must build on its many important achievements and progress so far, and act jointly to pursue the following *__three equally important strategic objectives__*:

- *Be wholly inclusive, collaborative and increase Research Quality throughout Europe*: ERA policies and actions at all levels should increase inclusiveness, openness, brain circulation and integrity, pursuing scientific excellence throughout Europe. The overarching guiding principles should be collaboration and quality of research processes, outputs and data. These principles apply with regard to geography (within Europe and the World), culture, people (including gender equality and minority integration). The ERA should involve Institutions from academia, Research & Technology Organisations (RTO) and industry as well as from the public sector and society, in order to achieve high-quality, responsible European R&I ecosystems characterised by the flourishing of existing and new collaborative links.

- *Be seamless, connected and drive Europe's competitiveness*: In order to fully exploit ERA's potential for a knowledge-based, innovation-led sustainable growth and development in Europe, the ERA needs to become truly effective in its capability to produce, circulate and use research-based knowledge. This entails increasing the interoperability of the European ecosystems, as well as improving the framework conditions for researchers, innovators, industry and institutions. Higher Education and skills development are integral components of an impactful ERA, requiring better coordinated R&I and Higher Education policies.

- *Be inspiring, open and contribute to wider European policy objectives:* ERA policies and actions at all levels should be more responsive to the needs of the ERA stakeholders and more relevant to the wider society, by means of smart directionality and investments towards solving societal needs. In

particular, the ERA should contribute both to the Sustainable Development Goals (SDGs) and Europe's wider policy objectives. This can only be achieved by recognising the primordial importance of curiosity-driven basic research, and by creating, disseminating and exploiting research-based knowledge, making it visible in more inspiring and empowering ways across Europe, in the context of the new opportunities offered by Open Science and Open Innovation principles.

To achieve these three strategic objectives, the ERA must have wide political support and commitment at the highest national and EU levels, to drive the implementation of better coordinated knowledge-based R&I policies, while harnessing the full diversity of Europe's R&I systems. The achievement of a fully functioning ERA also needs to be supported by EU-level programmes and policies, in particular Horizon Europe (2021-2027) and future EU R&I Framework Programmes. Adequate and ambitious EU funding is a prerequisite to ensure complementarity and collaboration between European and national/transnational activities through a strategic planning process. Specifically, the "ERA-pillars" of the Framework Programmes should have sufficient funding and be designed and implemented to effectively contribute to the objectives and priorities of the new ERA paradigm.

7.2 Future ERA priorities

To meet the previously described Objectives, the ERA should focus on four equally important strategic priorities, fully in line with the renewed ERA paradigm. These four priorities might need possible legislative, soft regulatory or administrative measures, including through the European Semester process, for effective implementation.

For each strategic priority, a limited number of potential areas of intervention are listed for illustrative purposes only. They represent issues which ERAC considers to be of high relevance and importance for achieving the ERA objectives. However, defining a detailed ERA action plan, that should include adequate monitoring mechanisms and quantifiable Key Performance Indicators (KPIs), is beyond the mandate of this WG and can only be done at a later stage once specific political agendas and policy priorities are set at the appropriate level.

To provide visibility and demonstrate the implementation of these priorities as well as their impacts, ERA policy tools, such as 'ERA lighthouses', could be put in place. These tools should a) allow for concrete outcomes and impacts in the short- to medium-term based on concrete societal needs; b) address issues of European-wide relevance inside and beyond the R&I system; and c) lead to an improved acceptance, recognition and support for the ERA by policy makers, ERA stakeholders and the wider society. ERA lighthouses should help to demonstrate in a tangible and concrete way the added value of the new ERA paradigm and its associated ERA objectives and priorities in practice.

(1). **Framework conditions for the production, circulation and use of knowledge, including research career issues**

> _Key issues/challenges to be addressed_: The complex interplay within the European multi-level and multi-actor ecosystems for knowledge production, circulation and use constitutes a major obstacle to a fully functioning ERA. The establishment of a functional multi-level and multi-actor steering framework for research-based knowledge policies, encompassing the whole policy cycle from design to implementation and monitoring/review, is therefore a key requirement for the future. Particular opportunities stem from more aligned approaches across Europe concerning

evaluation systems for research careers, both within academia and across sectors (academia and industry) and countries.

Description of the priority: In order to take full advantage of possible synergies and complementarities between EU and national ecosystems for knowledge production, circulation and use, the complex legal and administrative policy frameworks should be made compatible and interoperable at all levels. An integrated approach towards effective framework conditions should address common criteria for assessing the quality of research (processes, outputs and data), linking research to innovation and higher education policies and promoting institutional change within all ERA institutions, as well as where potentially harmful effects may derive from broader policies such as EU-level IP and state aid rules. A particular focus should be placed on opportunities stemming from Open Science and Open Innovation policy approaches, in particular regarding research career interoperability and rewarding systems, including gender and minority considerations when assessing career opportunities.

Potential intervention areas include:

- Exploring ways to increase the interoperability of national and EU R&I systems to reduce the fragmentation of rules and procedures for R&I funding, such as promoting ERA seals of quality, enhancing trust and recognition between funding agencies across Europe;
- Developing a European framework for career evaluation and career progression for researchers, including intersectoral mobility (academia, industry, etc.) and gender-related issues under the Open Science and Open Innovation principles;
- Promoting a dialogue and concerted actions with horizontal policies with impact on research careers (e.g., labour, social security, education, etc.);
- Further developing Open Science and Open Innovation policy approaches at European and national levels in order to truly foster the circulation of knowledge;
- Ensuring Framework conditions for the pursuit of scientific excellence, including effective monitoring of progress to achieve a fully functioning ERA, for example, through the European Semester;
- …

(2). **R&I driven joint action with other policy areas**:

Key issues/challenges to be addressed: Research-based knowledge does not fully exploit its potential to provide the smart directionality needed to achieve transformative changes required to meet Europe's wider policy objectives and the SDGs. The research-based knowledge sector does not sufficiently exploit the potential for co-design, co-creation and co-implementation of R&I with other policy areas.

Description of the priority: Research-based knowledge should better provide the smart directionality needed for transformative changes based on new knowledge and technologies (e.g., digital transformation, energy and ecological transition, genetic revolution in an aging population or robotics) and contribute to meeting the SDGs, sustainable growth requirements and other societal needs. New priority setting, synchronised investments and implementation mechanisms require a holistic dimension and should be established based on co-design and co-implementation with other European

policy areas. This should include a joint strategic approach for international cooperation as well as for regulation mechanisms to reduce policy fragmentation and unnecessary duplication.

Potential intervention areas include:

- Mobilising support at the highest level for knowledge-based policy design and implementation;
- Promoting cooperation of MS on specific topics (e.g., through R&I infrastructures or European partnerships);
- Promoting a dialogue and concerted actions with sectoral policies beyond the strict remits of R&I policy, to avoid fragmentation with regulation policies or impact assessments;
- Embedding R&I and promoting capacities for absorption of new knowledge and technologies in other sectoral policies, including towards the SDGs and within missions;
- Ensuring closer collaboration between MS and the EU Commission on International Cooperation;
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(3). **Relevance and visibility of R&I for society**:

Key issues/challenges to be addressed: Research-based knowledge and thus the ERA have not achieved an appropriate visibility in society despite their major contributions to Europe's welfare, competitiveness and the European 'way of life' and its core values. There is insufficient awareness among citizens of the impact and benefits that R&I have in their daily lives, as the interaction of research-based knowledge policies with the broader society is still underdeveloped across the policy cycle, from policy design to implementation and monitoring/review. This underdeveloped interaction with society may pose a long-term risk to the sustainability of the research-based knowledge sector and the ERA as there may not be sufficient support from policy makers for the necessary investment in R&I.

Description of the priority: ERA actions and initiatives addressing both curiosity-driven and applied research have to better direct national, including regional, and EU knowledge policies to increase their responsiveness to societal needs, thus raising the relevance and visibility of the R&I activities for society. Particular attention should be paid to involving stakeholders and citizens, including the most vulnerable populations, in setting R&I policy priorities and in the knowledge-creating processes. Effective branding and communication for a better outreach and visibility of the ERA's potential and achievements needs to be implemented.

Potential intervention areas include:

- Co-designing, implementing and assessing R&I policies with stakeholders and society, namely by finding more effective ways of involving citizens to set and implement R&I policy priorities;
- Promoting the valorisation and recognition of R&I achievements by society: design and implement better communication of the impact and benefits of R&I, its relevance and its achievements that improve the daily lives of European citizens;
- As researchers themselves are mostly unfamiliar with the ERA, targeting the whole

research community and institutions in information campaigns to familiarise them with the ERA, its objectives and priorities, how they can benefit from the ERA and how they can actively influence its development and priority setting;

- Within the context of supporting Open Science and Open Innovation approaches, developing participatory approaches such as citizen science as well as socio-innovation, social entrepreneurship and the protection of cultural heritage;

- ….

(4). **Broad Inclusiveness**:

Key issues/challenges to be addressed: An insufficient inclusiveness of Research-based knowledge policies and thus of the ERA is one obstacle to fully activate their potential to improve the well-being of Europe's citizens. Especially since the financial and economic crisis, ERA actions and initiatives have not been sufficiently tailor-made to respond to the needs of the diverse socio-economic situations across and within the EU Member States.

Description of the priority: ERA actions and initiatives have to better ensure that the European and national, including regional, R&I policies are coherent and inclusive in the broadest sense. Open and transparent engagement of all relevant actors, including the most vulnerable ones, should strengthen ERA policy to enhance quality and excellence across disciplines and reduce fragmentation. ERA actions should facilitate collaborative links between researchers, institutions and citizens, encompassing the geographical dimension, human capital, gender and minority groups-related issues, as well as both public and private institutions in all sectors. The need for institutional reform towards higher standards and core values should be considered. ERA policy should promote knowledge and brain circulation at all levels and reduce the undesirable phenomenon of brain drain.

Potential intervention areas include:

- Ensuring a more synchronised co-evolution of R&I systems, to strengthen their quality and promote excellence, to reduce the existing regional/geographic/territorial inequalities;
- Developing effective measures to foster brain circulation and counteract brain drain;
- Ensuring gender equality throughout research careers and research content;
- Ensuring access opportunities for all minority groups throughout research careers and research content;
- Fostering connectivity and pan-European R&I collaborative links;
- ….

Annexes

a)   Full deliverable 1

b)   Full deliverable 2