

Draft Consultation document
ERA Framework Public Consultation
(updated 27/07/2011)

To accompany the on-line public consultation questionnaire on the ERA framework

Research and innovation are at the heart of the Europe 2020 agenda which aims to get Europe out of its current economic difficulties, and transform it into a smart, sustainable and socially-inclusive society. In the European Council conclusions of 4 February 2011, the Heads of State and Government endorsed Europe 2020's Innovation Union flagship initiative which sets out the directions that EU research and innovation policy must take to help solve the grand challenges of our times. In particular, the European Council calls on the Union to rapidly address remaining obstacles to attracting talent and investment in order to complete the European Research Area by 2014 and achieve a genuine single market for knowledge, research and innovation. This constitutes an endorsement at the highest political level of Innovation Union commitment No. 4, in which the Commission announced that it will propose in 2012 a European Research Area (ERA) Framework and supporting measures to remove obstacles to mobility and cross-border operation.

Of course, completing the ERA will require the support and effort of all stakeholders in the European research and innovation field. Hence their views must be taken into account in developing ERA policy measures which is the reason for this consultation.

A significant amount of progress has been made in the eleven years since the introduction of ERA as a political goal (through the RTD Framework Programme, the Open Method of Coordination, etc.), and especially since the launch of the ERA Partnership initiatives following the 2007 ERA Green Paper.

In spite of the substantial progress however, the EU is still far from realising its full research and innovation potential and this has important consequences at a time when the Union needs to muster every means it can of creating knowledge-based growth and jobs on the road to a sustainable recovery. This research and innovation gap is a product of many factors, not least of which are persisting inefficiencies linked to barriers to cross border synergy or sub-optimal exploitation of the same (i.e. co-ordination and systemic failures) which lead to significant underperformance in the European research system.

Such cross-cutting issues of both a thematic and governance nature must be taken into account in developing an ERA Framework. They include:

- quality of doctoral training, attractive employment conditions and gender balance in research careers;
- mobility of researchers across countries and sectors, including through open recruitment in public research institutions and comparable research career structures and by facilitating the creation of European supplementary pension funds;
- cross-border operation of research performing organisations, funding agencies and foundations;
- dissemination, transfer and use of research results, including through open access to publications and data from publicly funded research;
- exploitation of the scientific, innovation and societal potential of European research infrastructures;

- consistency of EU and national strategies and actions for international cooperation in science and technology and the development of a common Member States – EU strategy as a basis for joint Member States – EU international cooperation actions; and
- ensuring an effective overall EU research policy strategy with structures and processes to design, implement and monitor policy actions in a coordinated manner at and between Member State and EU levels and with other policy areas, and that research is firmly rooted in society and responsive to its needs.

1. Objective of this consultation

In keeping with its better regulation strategy, the Commission is undertaking a rigorous *ex ante* Impact Assessment ahead of tabling any proposals for an ERA Framework and accompanying measures. Such an impact assessment, in a first instance, requires a detailed analysis of the obstacles to the completion of ERA and their underlying causes (in the areas mentioned above), based on which the options for possible measures to help complete ERA will be identified and assessed.

In this regard, it is very important for the Commission to involve the wider stakeholder community and, in particular, to build explicitly into the problem analysis the perspectives of the different types of stakeholders concerned - researchers, research performing organisations/ universities, funding agencies, public authorities, private enterprises, citizens and civil society.

This public consultation aims at gathering stakeholder views on the main obstacles affecting the European research sector and notably the development of an efficient and highly performing European Research Area.

The ERA framework proposal and any accompanying measures are expected to be ready by mid 2012 with the aim having all such measures adopted and in force to complete the ERA by 2014.

3 ERA progress and obstacles

The following recalls relevant ERA policy initiatives, summarises and the progress which has been achieved through them and describes on the basis of the best available data and analyses persisting obstacles to the completion of ERA. Each section ends with a number of general questions which are elaborated on/ expanded in the associated on-line questionnaire. These questions aim to reinforce validate or otherwise the analysis of obstacles as well as to gather evidence on their size in order to decide which ones should be addressed as priorities.

3.1 Researchers

Researchers are at the core of the European S&T system. Having a well-trained and competitive labour force is a pre-requisite for the development of a knowledge-based economy. The EU will need at least one million new research jobs if it is to reach the R&D target of 3%. The number of research will even be higher, as many researchers will retire over the coming decade.

Several EU initiatives and instruments have been deployed with a view to addressing the above problems resulting in some albeit uneven progress across the EU. These include the 'Charter and Code' launched in 2005 and the 'European Partnership for Researchers' Initiative, launched in 2008, which has allowed Member States to engage in a constructive dialogue on several key areas: open recruitment, portability of grants, social security provision, attractive employment and working conditions and training and skills for researchers.

Available evidence shows that some obstacles remain in order to attract and retain best talents: a) employment conditions and career prospects in the European research sector may not sufficiently attractive and b) to a certain extent, inter-sectoral and transnational mobility of researchers is still hampered in Europe.

Regarding employment conditions and career prospects the underlying factors most often cited are: the fact that research as such is not formally recognized as a profession; variable and uncertain career prospects; inadequate gender balance especially in senior positions; lack of funding related to underfunding of universities; and variations in the autonomy and HR policy of universities.

For the mobility issues at stake the factors most often cited by researchers include a lack of suitable positions for researchers, including a lack of open recruitment procedures but also financial issues such as difficulties associated with the portability of grants. Mobility is also hampered by the lack of sufficient support services for mobile researchers, administrative barriers concerning social security rights and the portability of pensions, as well as issues related to the implementation of legislation (e.g. immigration rules for third country researchers).

Questions:

Does the European research sector attract and retain sufficient numbers of leading researchers (including from third countries)? If not, what are the reasons for this?

Does the European research sector produce enough researchers with adequate skills? If not, what are the reasons for this?

What are the obstacles to the inter-sectoral and transnational mobility of researchers? What are the causes / drivers of these obstacles?

3.2. Cross-border operation of research actors

Europe faces a series of major societal and global challenges where research can play a key role in providing solutions but which cannot be solved within national borders only. Under FP6 & FP7, approaches have been developed at EU level to foster transnational cooperation based on national funding. Initiatives like the ERA-NET scheme, those based on Article 185 TFEU, the Joint Technology Initiatives involving national funding or the recent Joint Programming process demonstrated that mobilisation of national efforts and even pooling of resources was possible to tackle common challenges. Besides the instruments coordinated at

EU level, bilateral or multilateral arrangements between Member States have also been developed to foster cross-border cooperation, for instance through Lead agency procedures.

However, the level of EU funding and national funding coordinated between different countries and/or available for cross-border cooperation remains relatively modest in Europe compared to funding allocated on a purely national basis. Only an average of 4.5% of the national research spending of EU Member States is trans-nationally coordinated. Furthermore, no specific process exists to date whereby Member States exchange information systematically on possible national programmes or initiatives which might be suitable for cross border operation.

Structured cross-border operation of national programmes and coordination with European programmes and policies could crucially help to mobilise critical mass of human as well as financial resources and to reduce fragmentation which takes place in various forms (between research and innovation, between national and regional players, between public and private players, between different policies).

However, while researchers are mainly funded by national research programmes/initiatives, the existing national project funding schemes are in general not designed to provide for cross-border research. Today, in order to get project funding for cross-border research, researchers have to rely in most cases on the EU Research Framework Programme. There seems therefore be a clear need to enable sufficient cross-border operation of national programmes and other national funding sources.

Questions:

Do you think that more transnational cooperation and coordination at programme level is needed to tackle major societal challenges facing the EU? Give reasons why this is or is not the case.

What is the best way to identify and prioritise themes for major (societal) challenges that by nature are beyond national scope and where Member States could work together?

What specific factors hamper the cross border operation of research-performing organisations, funders, agencies, etc.?

Aggregate bibliometric data suggest that the scientific quality of research carried out in transnational consortia selected by international peer review is higher than that in purely nationally selected and funded projects. Does your experience support or refute this?

3.3 Research Infrastructures

Several EU measures have been adopted with a view to ensuring that Europe effectively develops and maintains research infrastructures of strategic interest. Funding support provided through the EU Framework Programmes has been crucial in this respect. Integrating Activities were able to unlock the isolation of national scientific communities and increase transnational

access to research facilities, and in this way to promote a better exploitation and use of costly research facilities.

Examples of soft coordination and regulatory measures are the European Strategy Forum on Research Infrastructures (ESFRI) process and the EU Regulation on the European Research Infrastructure Consortium (ERIC). The European Commission has been working in close collaboration with ESFRI which was established in 2002. ESFRI has published the first ever European Roadmap for Research Infrastructures in 2006. Updated in 2010, the ESFRI Roadmap gives priority to the creation and/or upgrade of fifty priority projects to be implemented over the next 10 years. The ERIC regulation entered into force in 2009 and according to which the first ERIC status was awarded recently by the European Commission.

The analysis conducted so far shows that despite these achievements, some issues still need to be addressed if Europe wants to keep world class research infrastructures and face future challenges such as those linked to the exponential growth of research data: a) sub-optimal exploitation of the scientific, innovation and societal potential of existing research infrastructures (priority setting, management and funding issues); and b) sustainability of the competitive edge of research infrastructures as well as the development of new research infrastructures of pan-European interest are not guaranteed (uncertainties linked with long-term commitment and availability of funding).

Questions:

Are world-class research infrastructures important for an efficient European Research Area? Why?

How can the potential of existing Research Infrastructures be better exploited?

How can the next generation of Research Infrastructures of pan-European interest be best realised?

3.4 Knowledge Circulation

3.4.1. Knowledge Transfer

Improving knowledge transfer between universities, public research organisations and industry is essential for ensuring that publicly-funded research results contribute to economic output from (new) businesses and can effectively support innovation and the development of new services and products.

Knowledge transfer takes place via networking, informal flows and circulation of researchers between public and private institutions as well as contractual arrangements between public research institutions and industry, licensing and spin-offs.

In April 2008, the Commission adopted a Recommendation providing guidelines to help Member States develop more effective and coherent national intellectual property policies, and a Code of Practice providing guidelines for public research organisations to enhance their

knowledge transfer practices. Following a Council Resolution in May 2008, Member States established a working group on knowledge transfer in 2009.

The monitoring report from this working group on the implementation of the Recommendation and Code show that Member States are in different phases of (partial) implementation. Strategic and comprehensive approaches/ strategies towards knowledge transfer in Europe are not (yet) common and in some cases there is still a lack of awareness. Evidence seems also to suggest that the amount of public research actually used by industry in Europe may still be lower than what it should be and the level of cooperation between industry and the public research sector may be inadequate and/or insufficient. This could lead to European businesses having fewer opportunities to innovate.

3.4.2. Open Access

A growing number of national initiatives to facilitate open access are being taken at national and EU level. EC policy development since 2006 resulted in the 2007 Communication, 2007 Council Conclusions and the 2008 Open Access Pilot in FP7. In 2010, an EU call for proposals to facilitate Member States networking was published by the Commission. In this context, work on setting up repositories has progressed well and significant coordination initiatives are underway regarding the interoperability of institutional (university-based) or subject-based repositories, in particular via the EC-funded project OpenAIRE. A Communication/Recommendation on scientific information is foreseen. At national level, many bottom-up initiatives exist, which are mainly led by funding bodies, universities and/or libraries, but there are few national co-ordination and national strategies to date.

Current evidence suggests that only between 10-20% of research articles are available in open access¹ mode. As a result most scientific information generated by public funding is often only accessible for a fee. This limits the dissemination, visibility and re-use possibilities of research. As a consequence, the speed of scientific progress and innovation may be impeded. In addition, the academic publishing market is highly concentrated and journal prices have increased significantly in the last years, while library budgets have undergone reductions. This further limits access to scientific publications.

¹ Open access is access over the Internet that is free of charge for the reader

Questions:

Do private firms experience difficulties in identifying and locating public research facilities, sources of knowledge and competences and any other relevant public sector research resources of which they could avail? If so, in what ways?

Which obstacles hamper effective transfer of publicly funded knowledge generated by public research organisations and universities to business and society in Europe? How do they limit the exploitation of publicly funded research results in terms of potential social - economic benefits?

How should linkages between the public research sector and the private sector be best established?

What restricts access to the scientific information (publications and data) generated through publicly-funded research? How can the use of Open Access (free online access) to scientific publications and data enhance knowledge circulation, and hence scientific progress and innovation?

3.5 International dimension of ERA

The European Union is confronted with a number of trends which have a direct impact on its science, technology and innovation policies, such as the:

- increased globalization of science, technology and innovation (STI) activities, including for SMEs;
- emergence of new STI powers (BRICS, Korea, Singapore,...);
- need for global STI cooperation to address key societal challenges which require a large-scale effort; and
- need to access knowledge globally to remain competitive.

In 2008, the Commission adopted a Communication to the Council and the European Parliament on "A strategic European Framework for International Science and Technology Cooperation". Subsequently, the creation of the Strategic European Framework on International S&T Cooperation (SFIC) was a major step in the effort to increase the coherence of the international S&T activities of the MS and the EU. The Capacities programme of FP 7 also dedicates substantial funding to specific coordination and support actions which enable and facilitate coordinated EU Member States' international cooperation activities.

The fragmentation of Europe's research landscape, in which the Member States' international cooperation activities continue to be primarily determined by their own national policies, has so far however prevented the EU and its Member States from developing a common strategy and common priorities for international STI cooperation. This has made it difficult to develop joint EU-MS actions that are in addition to, and go beyond, what the EU and its Member States are doing on their own.

As a consequence, the EU and its Member States have not yet been able to bring their combined weight to bear to address global challenges which lie beyond the scope and resources of individual Member States or the EU as such. And it has been difficult for them to act together to contribute to the establishment of a level-playing field in relation to third countries (removing barriers to market access, facilitating standardisation, IPR protection, access to procurement etc.).

Evidence demonstrates the potential loss of attractiveness of the EU as an international research partner resulting from Europe's fragmented research landscape, as well as missed opportunities to access new markets and knowledge.

Consequently, the question is how the European Union could strengthen the excellence of its research base and to increase its global economic and industrial competitiveness; continue to be an attractive research location for people, companies and investment; and could be in a position to engage in effective international cooperation, speaking with a coherent voice and shaping or leading major international cooperation initiatives, in particular to tackle global societal challenges.

Questions:

If the Member States coordinated their policies and actions involving scientific and technological cooperation with third countries, would this bring more benefit to both individual Member States and the EU overall?

How can Europe be more attractive as an R&D location?

3.6 Cross-cutting governance issues and next steps

Since the Ljubljana process was launched by research ministers in 2008, the new ERA partnership approach has resulted in a number of changes at the overarching policy level. The 2020 ERA Vision adopted in 2008, the revision of existing thematic ERA Groups and the institution of new ones for Member States to lead the implementation of the five specific ERA Partnership initiatives, and the transformation of the CREST into ERAC Committee with high level representatives of Member States in 2010 are the most concrete changes to date.

But as stated by the 2010 Belgian Council Presidency in its progress report on the realisation of ERA:

“Much progress has been made, but the fact that the same issues as at the start of the ERA in 2000 remain at the forefront of the policy debate shows that there is still a long time to go. The multiplication of initiatives and the fragmentation of efforts are slowing down the realisation of concrete results. Complementarity, prioritisation and efficiency should be at the core of European research policy. Better policy mixes are called for. More coordination between the different European policies and between European and national and regional and local policies is needed leading to greater

coherence in European and Member States research policies based on the subsidiarity principle".

This summarizes some of the problems of a more cross-cutting nature that are holding back completion of ERA and which need to be urgently solved to realise the high level of ambition for ERA as called for by the EU Heads of State and Government.

The obstacles in question relate to governance deficiencies and the state of underdevelopment of a clear and coherent EU research policy with clear objectives and a monitoring system, as well as the links to overall innovation policy, education policy ("knowledge triangle") and cohesion policies. A lack of coherence and synergies between different ERA-related initiatives and instruments also results in a lower impact than would otherwise be possible.

One can also observe that there are few and weak systemic policy coordination links and interactions between Member States and EU-Member States research and innovation policies. Indeed, given that there is a general tension between the international nature of science and its largely national political framework, not including a European perspective in national policies can result in unintended barriers to openness, free movement of ideas, knowledge and researchers and cross-border operation of research actors, and to an untapped potential of critical mass and to an inefficient use of national research budgets.

Finally, there is also scope for improving the involvement of stakeholders and civil society in EU research policy and the implementation of ERA and for more coordination in the frameworks for safety and ethical standards to realise responsible research and innovation.

Questions:

Does European research policy require an overarching policy strategy of the Member States and the EU?

What structures and processes are required to implement, coordinate, monitor and evaluate ERA initiatives?

How can ERA be realized bottom-up by stakeholders (research performing organizations including universities, funding organizations, researchers)? How should they be more involved in the objective setting and ERA working structures than heretofore?

In what ways should national governments include the European dimension in their research policies and allocation of budgets?

Considering the overall assessment of progress and barriers to the completion of ERA do you think there is a case for the development and implementation of a single overarching and comprehensive ERA policy framework or rather for theme-specific ERA initiatives or a combination of both? Please explain/ justify your answer.

5. Practical issues

The Commission is seeking the views of all interested individuals and organisations on the key barriers to ERA as set out in this document and in the questionnaire.

They are invited to fill in the questionnaire which has been designed to be quick to complete.

Associations and large organisations that wish to provide in-depth views may submit written submissions. Such responses will be published on the consultation site immediately following their submission. Written responses should follow the structure and questions set out in this consultation document and the questionnaire.

The deadline for contributions is **Wednesday 30 November 2011**.

The responses received will be analysed carefully by the Commission services. They will be used to validate and substantiate the key barriers on the basis of which options for actions will be identified and compared.

A summary of results will be published on the consultation web site and will be presented and discussed at a wrap up event with stakeholders in the beginning of 2012.

ANNEX: Detailed questionnaire