

Norwegian response to the consultation on the ERA Framework

This is the response of the Norwegian Ministry of Education and Research to the European Commission's Consultation on the ERA Framework: Areas of untapped potential for the development of the European Research Area (ERA).

Summary

Norway has been an integrated and active partner of the ERA process, in line with the research provisions of the EEA-agreement and based on our participation in the EU Framework Programmes for Research, Technological Development and Demonstration activities. Participation in the European Research Area is a priority in our research policy, and we intend to continue our active contribution to further the development of the European Research Area.

The key points in our response to this consultation are:

- The ERA is a long-term evolutionary integration process. A main challenge of the ERA Framework is to define in greater detail a realistic set of short-term primary goals to be achieved by the end of 2014.
- The implementation of Joint Programming Initiatives (JPIs) and pan-European research infrastructures (on the ESFRI roadmap) should be the most prioritised short-term goals.
- Strengthening direct actions to support cross-border and trans-sector researcher mobility should also be a short-term priority.
- Better integration of the R&D performing business sector in the ERA-activities should be a priority both in the short and long-term.
- Recruiting more female researchers and strengthening gender balance, particularly in advisory and evaluation committees, should be a priority.
- The ERA framework should define the relationship between the Horizon 2020 and the other ERA measures, and describe how this will contribute to reach both short-term and longer-term goals in ERA.
- By the end of 2014, significant progress should also be made in the area of Knowledge Transfer by completing ongoing work on establishing common standards and by developing further policies for increased open access to research results.
- In a long-term perspective, developing policies for exploiting synergies in the knowledge triangle should be a priority.

Introduction

The European Commission's consultation paper requests views on seven key ERA issues. This document presents the Norwegian views on these issues, with emphasis on the need to distinguish and prioritise between short-term and long-term goals for ERA. In the first section we provide our understanding of ERA as a long-term evolutionary integration process. We point to two issues which we believe are of key importance for the success of the ERA, but are not addressed as priorities in the consultation paper. These two issues are: a) *removing barriers for business involvement and participation in ERA-activities* and; b) the need for better integrating female researchers in a *gender balanced ERA*. The next three sections provide the Norwegian views on the ERA priorities seen from a short-term perspective (i.e. by the end of 2014). These are: 1) the implementation of the Joint Programming Initiatives and the pan-European research infrastructures; 2) facilitating cross-border and trans- sector researcher careers and mobility and; 3) knowledge circulation. The international dimension is a significant dimension of ERA which in our view could best be further developed in combination with a successful implementation of the three above-mentioned priorities. The last section points to development of the Knowledge Triangle which we believe should be a long-term priority in the ERA Framework.

A framework for an open and flexible ERA

During the last years considerable progress has been achieved in establishing new frameworks for cross-border collaboration and researcher career development. We believe that the present macroeconomic environment suggests the adoption of a pragmatic approach for consolidating progress already made and laying solid foundations for delivering an even more effective ERA beyond 2014.

In a dynamic evolutionary integration process, such as ERA, the introduction of a framework of incentives supporting cross-border and trans-sector collaboration and mobility seems to be an effective approach. World leading pan-European research infrastructures and generous, easily accessible, grant schemes act as magnets to all researchers. Therefore, we believe that enhanced cross-border collaboration of national R&D funding schemes and the Joint Programming initiatives, the ESFRI infrastructures and stronger mobility grant schemes (e.g. Marie Curie) may together constitute the framework needed for the fulfilment of a large number of the ERA objectives.

The Seventh Framework Programme (FP7) and Horizon 2020 (H2020) remain key instruments in implementing the ERA. Therefore, the ERA Framework should define the relationship between ERA and H2020. For example, we believe that the H2020 should co-fund activities in mature JPIs. H2020 could also contribute to a more flexible ERA by supporting cross-border and trans-sector researcher mobility and by stimulating industry participation and knowledge transfer throughout ERA.

The EU's Structural Funds have channeled significant resources to investments in R&D and innovation. This will continue to be the case, perhaps even more so. The EEA financial mechanisms are the Norwegian contribution to the reduction of social and economic inequalities in Europe, in cooperation with Iceland and Liechtenstein. These mechanisms also strengthen our bilateral relations with the recipient countries. Overall priorities are described in the agreement with the EU signed on 28th July 2010. Decisions on national priorities are taken on the basis of negotiations with the beneficiary states. Research and Green Innovation are priorities in several of the beneficiary states. The EEA financial mechanism rules for research funding in the beneficiary states are already aligned with the rules of the Framework Programme for Research, Technological Development and Demonstration activities.

Where adequate European-level principles, standards and rules already exist, ERA measures should build on these. Where necessary, new European-level principles, standards and rules could be developed.

From the perspective of the research actors, the ERA Framework should contribute to a simple, manageable and practical framework for cross-border and trans-sector research co-operation.

Furthermore, ensuring wider industry participation and better gender balance, are generic issues of key importance and we regard them as fundamental aspects of the ERA Framework, also in the short-term.

Ensuring business participation in ERA

There is a need to increase participation and involvement of the R&D performing businesses in the ERA activities. In the short run, this implies a greater focus on improving collaboration channels between the business sector, universities and research institutes. JPIs, Joint Technology Initiatives (JTIs), Article 185 Actions (such as Eurostars and Ambient Assisted Living (AAL)) and FET Flagships provide opportunities where this type of collaboration could be further developed.

Success criteria such as contributions of R&D to increased market shares, revenues and exports, as well as, development of new markets and creation of new businesses, should become central criteria for selecting R&D priorities.

Besides tending to the needs of start-ups and SMEs, there is also a need to address the challenges that larger companies have met in European R&D cooperation. Reversing the decline in the European business participation in the ERA is a fundamental challenge. In times of economic turmoil, it is particularly important to help companies maintain and if possible strengthen their R&D efforts. The introduction of European Technology Platforms, Joint Technology Initiatives, the EIT, and Public Private Partnerships (PPPs) has given the business sector, particularly the large enterprises, considerable scope to participate, in a leading role, in ERA activities. Such initiatives need to be further deepened and stimulated by greater involvement of the rich flora of European research intensive small companies. Post-research support for the advanced development, piloting and demonstration of technologies is another ERA related area that deserves to be further developed.

Research technology organisations (RTOs) and universities are important partners to many companies in channelling state of the art research excellence to the business sector's research efforts. Funding mechanisms for the various partners in such cooperation should be adapted to the needs and interests of the various categories of partners involved. There is also a clear scope for greater involvement of the business sector in ESFRI-projects and in direct mobility actions, both as a supplementary source of financing and as a confirmation of genuine involvement of the users of research results.

Further, there is the issue of simplification. Simplification does not relate only to rules of participation in H2020. ERA activities are becoming increasingly numerous and the ERA landscape more complex. Stakeholders from the business sector have repeatedly expressed their concerns with respect to this development. The key point is that - seen from the point of view of the business participants - the opportunities offered to the business sector in ERA should be easily identified, easily accessible, and easy to use.

Gender balance

Recruiting a larger number of female researchers and female research managers is a prerequisite for increasing the number of researchers in ERA. We must therefore pay more attention to the gender dimension and aim for increased gender balance in research. We appreciate the extensive work done

by the European Commission on this issue. The main challenge of recruiting more women to research and ensuring gender balance lies primarily with the Member States and Associated Countries, but gender issues are also important in the ERA activities. The ERA Framework could provide guidelines and suggest processes for better tackling gender issues in ERA.

Gender balance influences decision making processes in research. When the number of male and female representatives on evaluation panels and in expert groups is balanced, the awarded positions, grants, and projects also tend to be more gender balanced. *We therefore recommend that gender balanced evaluation panels and expert groups (minimum 40% women) should be a general requirement in ERA activities and not only in FP7 and H2020.*

Despite persistent policy efforts to increase the recruitment of women to top academic positions, women still constitute a small share of research managers, especially within Natural Sciences, Technology & Engineering and Medicine. Earmarking positions could be an efficient method to increase women's participation within these academic fields and should be made an option at the national level.

Researchers should also be encouraged to recognize and include gender issues in their own research. In order to provide more effective links between *science and the market*, *science and society*, and *science and policy development*, gender issues should be addressed in research itself. The gender dimension is a factor that accounts for a large part of differences in patterns of use of technology, in values, beliefs and habits. When appropriate, *gender should therefore be an integrated part both in the research design phase and in the development of innovation activities.*

Cross-border collaboration of R&D-funding and JPIs

In *the short run* attention should first of all be paid to governance, organisation, and implementation issues related to JPIs. If these issues are resolved there may be a greater willingness to financial commitment and trust at the political level. In this regard, we support the recommendations in the report on the ERA Framework submitted by the High Level Group for Joint Programming (GPC) to ERAC. Additional issues should also be addressed in order to successfully implement the JPIs:

- Experiences from ongoing JPIs should be gained before launching new JPI initiatives.
- It is important to respect the autonomy and flexibility of the JPIs as organisational entities managed by the Member States and Associated Countries on the basis of variable geometry.
- The complexity of the ERA landscape is an issue the R&D performing organisations, and in particular the business sector, repeatedly highlight as a significant barrier for the progress of ERA. It is fundamental not to add to this complexity. We, therefore, recommend that a minimum set of common rules for participation in and implementation of JPIs is adopted. We believe that the ERAC-GPCs "Voluntary guidelines on framework conditions for joint programming in research 2010" can be a starting point in this respect, and should be further developed.
- A key objective of the JPIs is to address societal challenges. Each JPI should therefore include involvement of relevant stakeholders from business and civic sectors in the development of their strategic plans.
- For the same reasons, and in order to increase relevance and uptake of research results, the JPIs should pay attention to the integration of social sciences and the humanities in their research agendas.
- Horizon 2020 should reflect and fund prioritised research themes in existing JPIs.

- Member States and Associated Countries participating in JPIs should strive to achieve the best possible synergies between national research activities and the relevant JPI activities. This could eventually contribute to identify adequate funding sources as well as optimal levels of national funding commitments.

Cross-border collaboration of national and regional programmes

National and regional research programmes could be better harmonised with each other and with EU programmes. For example, it is possible to achieve a higher degree of cross-border collaboration in national peer review selection processes. For cross-border programme cooperation to be successful it is also important to agree on some basic conditions such as commitment to financing, common evaluation procedures and binding ranking lists. Increased cross-border collaboration of R&D programmes should build on experience gained and lessons learned from past and ongoing ERA-nets and other EU activities (JTIs, 185 initiatives etc).

European Research Infrastructures

Research infrastructures have the potential to act as the main power engine of the ERA landscape alongside the JPIs and the Framework Programme. There are now 38 projects on the ESFRI roadmap to be implemented on the basis of variable geometry.

The ESFRI projects with high European added value should be implemented. Long-term funding of pan-European infrastructures can be secured through co-funding from Structural Funds, the European Investment Bank (EIB) and the Risk-Sharing Finance Facility (RSFF) scheme.

Research infrastructure projects should invite the business sector to play a more active role in their activities and, thus, reinforce their contribution to research-based innovation.

In order to attract the best researchers to European facilities and to ensure their European added value, it is important to secure funding for trans-national access to these research infrastructures. To achieve this, it would be reasonable for the EU to fund access to high quality research infrastructures based on fair and open competition. This should, however, not preclude the possibility to also fund the initial phases of infrastructure projects and ongoing current costs.

Regarding the ESFRI-projects more specifically, we would recommend that the Horizon 2020 actively support their implementation. We believe in particular that the following activities should be co-funded by the EU in order of priority:

1. Funding the European Strategy Forum on Research Infrastructures and its activities for the identification of future common infrastructure opportunities in ERA.
2. Open access to ESFRI-infrastructure for excellent researchers within the ERA.
3. Access to ESFRI-infrastructure for excellent researchers outside the ERA.
4. If necessary, and for the smoother implementation of ESFRI-projects the Framework Programmes could co-fund for a limited period of time current costs.
5. If necessary and for securing the implementation of ESFRI-projects, the Framework Programmes could co-fund costs related to the construction of the ESFRI facilities.

The ESFRI projects could also function as test beds for new forms of collaboration with Third Countries. CERN is a good example of a truly global research facility. With the CERN-model in mind, mature ESFRI-initiatives could explore possibilities for inviting Third Countries to become active

partners. This would most likely also increase the mobility of excellent researchers from third countries into the ERA.

Researcher mobility and careers

Well-designed soft, non-legislative measures still have a great potential for fostering attractive research careers and mobility, both cross-border and trans-sector mobility.

With reference to the above, better gender balance in the researcher career paths in Europe should be a priority, in addition to the objective of increasing researcher mobility between the private and the public R&D sectors.

In particular, there is a need for increasing trans-sectoral mobility, both within one country and across ERA-countries. Lack of incentives, such as, funding schemes for shorter visits and exchange of researchers from the business sector to universities and research institutes and vice versa, should be clearly addressed. Part-time/combined positions - such as, the Norwegian “Professor II” (Adjunct professor) and “associated professor II” (Adjunct associated professor) schemes, are measures to increase science-industry knowledge and people exchange without permanent changes in employment status. Such positions in academia for staff from the business sector could be an additional measure to promote cooperation between higher education and the business sector. Taken together, such measures increase flexibility in career paths and career choices.

EU mobility schemes could also *co-fund* national mobility grants as a way to strengthen further cross-border researcher mobility. The recent experiences from relevant Marie Curie actions are promising and suggest that this type of grants should be strengthened.

Student mobility is an important factor inducing later researcher mobility. Therefore, the ERA Framework should emphasise the importance of student mobility programmes (at all levels of higher education) as a long-term investment for ERA. Synergies between ERA initiatives, Horizon 2020 and the Erasmus Programme could be better exploited in the entire period 2014-2020.

Last but not least, national and EU research policies ought to pay more attention to the needs researchers have as social persons. Researchers are highly skilled, talented and dedicated individuals with scholar ambitions and with career aspirations. Yet, they also have family obligations and needs for secure and safe jobs. Future human resources and knowledge triangle policies must therefore address their needs as social persons, as opposed to single, unattached and ever-mobile individuals.

The use of legislation often entails time-consuming and cumbersome administrative procedures at the EU and national levels. We believe that legislation should only be used if it is an efficient intervention method for achieving significant improvements in ERA. For example, most mobility and career barriers may be addressed directly, with a financial compensation of individual researchers on the basis of grants.

Knowledge Circulation

Increased uptake and use of research results are preconditions for the effective functioning of ERA. Better protection and exploitation of research results must be a clear priority. The 2008 Commission recommendation and code of practice for knowledge transfer activities and the management of IP rights provide a sound basis for increased competence and professionalism in this area. The

Commission should continue its facilitating role by supporting efforts to promote training of knowledge transfer professionals and provide clarity in legal regimes on IP ownership.

In this respect, innovative forms of public-private partnerships underpinning the potential for cooperation between universities, research institutes and enterprises, large as well as small, should be encouraged. Improved statistics and indicators in this area, and particularly in the field of commercialisation of research results, will provide decision makers with a better knowledge base than is presently available.

Knowledge Transfer

ERA activities could benefit greatly from the establishment of Knowledge Transfer minimum conditions, for instance in the form of standard minimum Knowledge Transfer conditions applicable to researchers and graduate students as well as for visiting researchers moving from one country in the ERA to another. This would also affect the contractual framework conditions for employment.

Establishment of Knowledge Transfer minimum conditions would also enable reciprocal, equitable treatment in ERA of a particular country's own nationals who are engaged in research in a partner country. Common ERA Knowledge Transfer conditions, between Research Funding Organisations could be considered, where Research Funding Organisations cooperate in funding of research and innovation activities.

Open access

Increased open access to publicly funded research output, scientific publications and secondary literature, could simplify the uptake of results and lower the costs of knowledge circulation in ERA.

High and rising subscription fees, along with a high degree of market concentration in the field of scientific journals, cause concerns and prohibit broader access to publicly funded research.

An emphasis on open access policies and practices could ensure broader access to research results, also for the business sector. The principle of Open Access, with accompanying Open Access measures, should therefore be introduced horizontally in all activities of Horizon 2020 and in ERA.

In so doing it is important that open access policies contribute to development of a well-functioning peer review system. The pilot project in FP7 and the mapping of national open access inventories, as well as the ongoing work in the EU Commission on this issue (the coming Communication on Open Access), are positive steps.

Current EU focus is on *open access* to scientific *publications*. There is also an ongoing discussion on access to *research data* (OECD guidelines, ERC guidelines).

From our perspective the ERA Framework should give priority to both increasing Open Access, and to increasing access to research data and development of data sharing platforms (e-science perspective), provided that this is aligned with EU and national laws and regulations on the privacy and security of personal information.

Knowledge Triangle as a long-term issue

In our view, the concept of the Knowledge Triangle is still inadequately developed and not fully integrated in the idea of ERA. Therefore Norway fully supports the measures proposed in the

Communication “Supporting growth and jobs – and agenda for the modernisation of Europe’s higher education systems”. Effective coordination of knowledge triangle policies at the national and EU levels is a key factor for achieving the long-term objectives of ERA. This is probably one of the most demanding tasks for the ERA Framework.

The culture and mindset of the research environment need to be challenged and strategies for modernising universities need to be implemented in accordance with the new communication. Again, strengthening the link between R&D and innovation activities is of great importance. One should therefore encourage partnerships between higher education institutions and business sector as one of the core activities of the Higher Education Institutions (HEI).

We suggest to strengthen the role of *European Institute of Technology* (EIT), and it is important that its Knowledge and Innovation Communities (KICs) promote knowledge-intensive entrepreneurship building on multi-disciplinary, innovative research. We support the idea that the EIT will increasingly focus on disseminating lessons learned, thus providing examples of integrated partnerships, new governance and funding models to increase the innovation potential of higher education institutions in cooperation with business.

Other important measures are supporting industrial PhD schemes, developing better collaboration between universities and the business sector at the master and bachelor levels, and developing schemes supporting researcher interaction between public R&D organisations and the business sector. All these are areas where long-term commitment and funding are needed.