

ERAC 1213/14

NOTE

To: Delegations

Subject: ERAC Opinion on the 2014 ERA Progress Report

Introduction

The European Council concluded in 2011 that the European Research Area (ERA) should be completed by 2014 in order to create a single market for knowledge, research and innovation¹.

The 2012 Commission communication on ERA (A Reinforced European Research Area Partnership for Excellence and Growth²) identified five priorities for action : more effective national research systems, optimal transnational co-operation and competition, an open labour market for researchers, gender equality and gender mainstreaming in research, and optimal circulation, access to and transfer of scientific knowledge including via digital ERA. International cooperation was added as an additional priority.

In 2013 the Commission published an ERA Progress Report. ERAC adopted an opinion on this first ERA Progress Report³ in December 2013. Based on this opinion (and other input) the

¹ Conclusions of the European Council of 3-4 February 2011

² Com (2012) 392 final

³ ERAC 1201/14

Competitiveness Council, at its meeting of 21 February 2014, adopted conclusions inviting, amongst other things, the Member States to adopt an ERA roadmap by mid-2015⁴.

The Commission published a second Progress Report summarizing the actual state of play regarding the completion of ERA (targeted for 2014).

The present document sets out ERAC's opinion on the second Progress Report and on the completion of ERA, including recommendations which may contribute to the drafting of the ERA roadmap. It also comments on the ERA Monitoring Mechanism (EMM), with recommendations for further improvements.

This document will only refer to last years ERAC Opinion when relevant.

General Observations

The 2014 ERA Progress Report is a useful tool to understand the state of ERA and is a further step towards establishing a shared and comprehensive picture of ERA. ERAC thanks the European Commission for their work.

ERAC agrees with the Report that all conditions for the completion of ERA are now in place. However, ERA is an ongoing process with many different stakeholders and decision-makers at multiple levels. This dynamic process is reflected in the fact that all countries share "ERA-compliant" and "less ERA-compliant" institutions⁵.

⁴ Council of the European Union 6945/14

⁵ It should be noted that the classification of "ERA-Compliant" organizations is still premature as a 'label' because the criteria to differentiate the organizations are not fully developed.

The Report's analysis suggests that "ERA-compliant" organisations may employ more than 80% of all researchers of responding organisations in Europe. The Report illustrates how much has been achieved at Member State level since 2000. The contribution of stakeholder organisations (and their members) has been particularly important. The 2015 ERA Roadmap will offer an opportunity to focus activities on areas where further progress can be made. Overall responsibility for ERA lies in the hands of Member States which should continue to work together towards common ERA objectives, on the basis of autonomous national strategies. ERA will be achieved primarily through engaging relevant decision-makers and stakeholders, not through top-down European legal obligations.

ERAC therefore endorses a major conclusion of the report: *"There is no single path to achieve ERA. The pace and level of ERA implementation very much depends on the national context and is fostered by targeted policies at Member States level"*.

The European Monitoring Mechanism (EMM) is designed as a tool for mutual learning and for benchmarking the level of implementation in 19 different areas within a limited number of ERA priorities. It has been much improved in dialogue with the Member States, though there is still room for improvement in methodology and policy relevance and some of the previously identified shortcomings of the EMM will take time to solve.

ERAC agrees that *"the exercise has its limits, giving the voluntary nature of surveys, which limits the use of the results for Policy making. Further work is needed to identify and fine-tune essential indicators of progress in ERA and potentially expand the scope of EMM"*.

The 2014 ERA Progress Report is rich in data. But, as in 2013, the quality of the Report depends on the quality of the questions asked and of the reporting as well as the level and representative nature of responses. To construct future reports, more work (including expert input) will be needed to obtain information on the reasons underlying identified problems and on the quality and comparability of the data gathered for cross-country analysis and through time. ERAC considers that the Report is a source for intensive dialogues between national decision-makers and stakeholders in the Member States and Associated Countries. As such it should be regarded as the first rather than the final step in reflecting the development of ERA on the regional, national, European, and global level.

Recommendations

- *ERAC will use the 2014 ERA Progress Report in the context of the 2015 ERA Roadmap, which should assist Member States in developing initiatives which promote ERA priorities within their national action plans. ERAC invites the new Commission to actively contribute to the development of the 2015 ERA Roadmap, and to continue collaboration with Member States, Associated Countries, and stakeholder organisations. ERAC agrees with the conclusion of the ERA Progress Report that more efforts are needed to make ERA fully operational and that it is now up to the Member States with the support of the Commission to implement the necessary ERA reforms and make ERA work in the next years ERA governance structures should be reviewed and strengthened where necessary.*
- *ERAC calls on the European Commission, Member States and Associated Countries to collaborate in further refining the methodology of the next ERA survey in 2015/6, drawing on Eurostat and stakeholders where necessary. ERAC agrees that further work is needed to fine-tune the ERA progress indicators in order to improve the quality of future Progress Reports. Moreover, the European Monitoring Mechanism (EMM) should be closely linked with the evolving Research and Innovation Observatory (RIO) of the European Commission.*

Recommendations by main policy field

1. ERAC Opinion on Effectiveness (and efficiency) of national systems

The Report, in particular the Facts and Figures Report analyses the issue of "Effectiveness of national systems" using four different criteria: the existence of national strategies; the public funding for R&D and its evolution; the competition for public funding and the role of the (assessment of) institutional funding. It concludes that national R&I strategies are present in almost all countries; that differences in R&I funding systems remain and finally that it is difficult to identify the importance of competitive funding. The adoption of international peer review principles differs widely.

In last year's opinion, ERAC insisted on the importance of the national context and the factors that make up the specificity of a national research system. Substantial work has since been undertaken (a "Mutual Learning Seminar" last April, additional discussions in ERAC and its Ad Hoc Working Group). The second ERA Progress Report points to the importance of the national context and the elements (and choices) determining national policy mixes, and there is scope for further elaboration of the contextual framework of each country in analysing its performance and presenting it in the ERA progress report.

The report indicates that while national strategies and policies are increasingly aligned towards ERA priorities, there are substantial differences in types of policy making (bottom up vs top down strategies; with or without specific measures and legislation). The ERA Facts and Figures Section confirmed the negative budgetary evolution observed in previous report and elsewhere.

Recommendations:

- *ERAC welcomes all mutual learning (and other) initiatives contributing to a better understanding of the elements determining the effectiveness of national systems and the quality of public spending on research and innovation. In this respect there is a need for more empirical evidence, based on robust and high quality data from various existing sources (e.g. Eurostat and OECD). ERAC suggests deepening the analysis of the effectiveness of national policies on research and innovation by taking into account the full range of determinants of effectiveness and efficiency of national R&I systems.*
- *ERAC emphasises the need for more and better data (for instance on different forms of public funding such as fiscal incentives) from various existing sources in the chapter on the effectiveness and efficiency of national systems, including better data on policies. In this context, the recommendations formulated by ERAC on reporting and monitoring national research and innovation policies within the European Semester are important.*
- *ERAC agrees on the need for high quality and transparent peer review procedures (cfr the ESF Peer review guide) and invites research and funding organisations to integrate international experts in their review panels as far as possible.*
- *ERAC reaffirms the view that fiscal consolidation at the expense of the R&D (and other future oriented investments) will endanger growth and job creation*

2. Optimal transnational cooperation and competition

Jointly addressing grand challenges⁶

The Report recognizes that the coordination of national research programmes and their focus on grand societal challenges has increased, in particular through the participation in Joint Programming Initiatives (JPIs), and also with the support of Horizon 2020 instruments (ERA-NET Cofund actions, Article 185 initiatives). The EU Framework Programme is no longer considered by the Commission as the “only instrument to support transnational cooperation” but a “major facilitator of cross-border research based on excellence”. Member states are encouraged to further increase the alignment of national research programmes and to pool resources on the response to grand challenges. A consultation is planned on a minimum level of coordinated funding and on the increased number of countries participating in JPIs.

Recommendations:

- *ERAC recalls that the EU Framework Programme remains the lynchpin for promoting transnational research cooperation and joint efforts to tackle grand societal challenges collectively by Member States, Associate Countries and Third Countries. Horizon 2020’s funding instruments encouraging coordination and alignment⁷ of national, regional and European research strategies, programmes and activities (CSAs, ERANET Cofunds, Article 185 initiatives) are particularly important and might in future take into account the research agendas emerging from the Joint Programming Initiative Process.*

⁶ This opinion does not comment the indicators used for this section of the report, like it was done last year. Nevertheless some of the observations still remain valid.

- *Joint programming (as implemented in particular through JPIs) is the only process the Member states have engaged in on a voluntary basis to strategically coordinate their Research programmes, activities and resources to address grand challenges. ERAC considers that it should be strengthened and amplified and that the main conditions of success Member States, Associated Countries and the Commission should focus on are: provision of systematic and consistent support through Horizon 2020; promotion of alignment of National Research strategies on SRAs developed by the JPIs and increasing the share of coordinated programmes as appropriate; measurement of impact and progresses of Joint programming.*
- *Framework conditions play a significant role in building and enabling an environment for optimising transnational cooperation. ERAC encourages GPC to make recommendations on how to develop a common set of evaluation and funding criteria and simple, aligned rule building on the reports of its working groups*
- *ERAC welcomes the European Commission's intention to discuss with Member States and Associated Countries the level of commitment appropriate for the successful implementation of the joint programming process.*

Research Infrastructures

While noting that the Innovation Union commitment on the implementation of the ESFRI roadmap is likely to be reached, the Report points out a weakness in the linkage of National Research Infrastructures Roadmaps with the ESFRI Roadmap. Member states are requested to regularly report their financial contribution to the implementation of the ESFRI projects.

ERAC underlines the efforts made by Member States and Associated Countries to strategically plan their investments in RIs and pan-European RIs.

Recommendations:

- *ERAC encourages the Member States and Associated Countries to ensure a greater coherence between their national Roadmaps and the ESFRI Roadmap and to monitor the level of funding dedicated nationally to the development, consolidation, and upgrade of ESFRI RIs., as well as to supporting open and merit based access to these RIs.*
- *ERAC recommends that Horizon 2020 support to the implementation of the ESFRI Roadmap is strengthened.*

3. Open labour market for researchers

The Report notes the substantial efforts already undertaken in this area which are highlighted in the “Facts and Figures” Report, as well as the rich variety of good practice examples noted there. Considerable work has already been undertaken at national level and within stakeholder groups to develop open and attractive career structures. There remains however a considerable unevenness in developments, both between and within national systems.

ERAC welcomes the Progress Report’s demonstration that open research systems tend to be strong innovation performers and that research performance benefits from researcher mobility. Open, transparent and merit based recruitment remains central to the openness of national systems. The MORE2 Study, however, shows dramatic differences in satisfaction with vacancy management processes between Member States. It is possible that some of these variations relate to perceptions rather than reality; it is however also possible that they may represent uneven implementation of agreed national policies by employers of researchers. In reviewing future progress, improved cohesion between future surveys in this field (e.g. MORE3) and the future ERA survey would be welcome.

Recommendations:

- *ERAC strongly supports the working group established by the SGHRM in response to the Mutual Learning Seminar on open recruitment and recommends that Member States, Associated Countries and stakeholders make full use of the toolkit of best practices which it will present in 2015.*
- *ERAC notes concerns over skills mismatches. It therefore recommends that Member States should make full use of "The Principles for Innovative Doctoral Training" endorsed in 2011. It also endorses the recommendations of the SGHRM Reports "Using the Principles for Innovative Doctoral Training as a Tool for Guiding Reforms of Doctoral Education in Europe" and on the Professional Development of Researchers.*
- *ERAC recommends that Member States, Associated Countries and stakeholder bodies should further strengthen the role of inter-sectoral mobility, building on the actions suggested in that area by the Mutual Learning Workshop.*
- *ERAC calls on Member States, Associated Countries, the Commission and, especially, stakeholders to work together on ensuring the Charter & Code principles are taken into account at national level and within organisations which employ researchers.*

4. Gender equality and gender mainstreaming in research

The Report and its “Facts and Figures Report state that gender issues have gained increased recognition on policy agendas at national, European and international levels, as well as within research performing organisations (e.g through specific laws and/or national strategies on gender equality in public research) though this is not the case for funders. The Facts and Figures Report show significant correlations between measures taken at the research performing level, including gender equality plans, and the existence of national laws, strategies and/or incentives to foster institutional change. However, the pace of change is too slow and disparities among countries are quite significant. The persistence of gender bias in careers, of gender imbalance in decision-making roles, and the lack of a gender dimension in research programmes and research content remain common challenges.

Recommendations:

ERAC emphasizes that all Member States and Associated Countries focus on gender equality in public research e.g. through tailor made actions, laws and strategies to tackle the remaining common challenge of gender bias in careers, of gender imbalance in decision-making roles, and lack of gender dimension in research programmes and research content.

- ERAC asks Member States and Associated Countries jointly with the Commission to identify and apply good practice to foster policy learning in this area (in line with the initiatives of the Helsinki Group) and to serve as potential future recommendations. Any collection of good practice examples should build on existing knowledge and should be disseminated widely in all Member States and Associated Countries to encourage individual action.*
- ERAC invites Member States and Associated Countries to raise public awareness on gender in research in order to foster scientific, cultural and institutional change.*

5. Optimal circulation, access to and transfer of scientific knowledge, including via digital ERA

Open Access to publications and data

The s Report and the Facts and Figures Report point to progress of Open Access to scientific publications which is supported by a majority of the Member States through both soft measures and national legislation. Concretely, 20 Member States have taken specific measures to support Open Access to scientific publications so far. Furthermore, the ERA Progress Report shows that Open Access to research data is lagging behind as only a few Member States have specific provisions. In terms of policies on Open Access to scientific publications Member States support different modalities to accelerate the transition; green and gold. Some countries have adopted a green approach, others a gold approach, whereas others again support both approaches.

In order to push the process of Open Access forward, an alignment of policies of Open Access would be an advantage. A joint approach – involving a sustainable mix of the Gold and Green models (the complementarities of the Green and Gold models should be highlighted as well as the benefits of using both) – might accelerate the process towards Open Access. This could happen either on governmental level or based on coordination between Research Performing Organisations whose libraries negotiate with the major scientific publishers. Whatever the mix of Gold and Green, negotiation with major scientific publishers, should not exclude that additional budgets be made available for further archive creation when necessary so that the overall costs of research publication decrease and results coming from research that is publicly funded are available free of charge.

ERAC notes that the progress towards Open Access to research data is not as fast as that towards Open Access to scientific articles. This is due to different obstacles including those of a legal, technical, financial, trust-related and socio-cultural nature. These obstacles should be investigated further in order to find sustainable solutions. The ERAC Task Force on Open Access to research data and the Commission driven project RECODE (Open Access to data recommendation) are valuable initiatives in this field.

Finally, the linkage between promoting Open Access and the use of national merit and evaluation procedures in the promotion of researchers remains crucial.

Recommendations:

- *ERAC invites the Commission and the Member States/Associated Countries to continuously discuss and consider coordination and an alignment of policies on Open Access on a voluntary basis, which will make a better case for the scientific publishers in order for them to consider changing their business model'*
- *With regard to research data, ERAC invites the Commission and the Member States/Associated Countries to take into account the findings of the ERAC Task Force on Open Access to research data. ERAC invites Member States to be vigilant over possible negative effects on data use in research due to the "European General Data Protection Regulation"*

Knowledge transfer and open innovation

The Report confirms that knowledge transfer is widely supported by Member States (MS) and Research Performing Organizations (RPOs)⁸. Member States are supporting knowledge transfer through national strategies and funding mechanisms including national programs and/or projects. Technology Transfer Offices (TTOs) are widely present across EU. The vast majority of responding RPOs (about 70%) have a TTO although the number of RPOs reported to have dedicated and professional staff for knowledge transfer represents only one fifth of the EU total researchers working for responding RPOs.

Impact and effects of TTOs differ widely at institutional and aggregate level. The Report indicates that RFO strategies and mechanisms and RPOs' TTO's are necessary but not sufficient conditions for knowledge co-creation. The Progress Report confirms that knowledge transfer policies are embedded within the majority of MS' policies and actions.

IP and related barriers have a significant impact on knowledge transfer and knowledge co-creation. ERAC therefore welcomes Commission initiatives in this field, particularly on patent valorisation and the potential accompanying measures lowering IP transaction costs. In addition, major attention should be paid to the co-development of research agendas by RPOs and private sector companies.

Recommendations

- ERAC calls on Member States and Associated Countries to further strengthen linkages and cooperation between RPOs and the business sector to ensure the exploitation of results, optimal interaction and strategic partnering, by further defining and implementing joint collaborative research and innovation agendas, by developing a more comprehensive and effective policy towards open innovation and by improving incentives and facilitating conditions for RPOs to engage in collaborative projects with industry.*

⁸ In this context “RPOs” are purely public sector organisations

Digital ERA

The Report concludes that infrastructures to guarantee open access to publicly funded research results and uptake of knowledge by all are not appropriately developed across Europe and that Member States should accelerate efforts to join forces and implement joint strategies to make the most of the current investments in institutional, national and disciplinary-based data infrastructures.

ERAC notes that modern science builds on extensive use of e-infrastructures and digital research services. The digital divide between European countries remains, however. The EU is nevertheless moving forward as more than 90% of the actions of the digital agenda are now completed or on track. EU has -through FP7- co-funded over the period 2007-2013 more than 2000 ICT projects for a total funding of about €7.6 billion.

The support of the Commission for High Performance Computing and the national research and education networks seems to give very positive results. On the basis of the ERA survey, however, it is very difficult to judge the quantity and quality of the provision of digital services and it appears that many of the responding research performing organizations do not provide any digital services for research and innovation.

Recommendations

- *ERAC invites the Member States/Associated Countries and Commission to continue investments in e-infrastructures, High Performance Computing and related digital research services for the scientific community.*
- *ERAC invites the RPO's to increase – in close cooperation with industry - their efforts of providing digital research services, and to strengthen ties with industry.*
- *ERAC calls on the CION to deepen the analysis of digital services in the next Progress Report.*

6. International cooperation in ERA

As asked by the Council in its Conclusions of February 2014⁹ international cooperation is incorporated in the Report, providing information and data regarding the international dimension of science activities for the first time.

This underlines the importance of mainstreaming the international dimension across all the priorities relating to Europe's attractiveness and competitiveness to its global research partners. With regard to EFTA countries, EU enlargement countries and countries covered by the European Neighbourhood policy, the Report promotes fostering their integration into or alignment with ERA as a future challenge in line with the European Commission's International Cooperation strategy for research and innovation.

The Facts and Figures Report outlines Member States' increasing openness towards third countries as well as the international dimension of Horizon 2020. ERAC underlines the importance of Horizon 2020 as the core instrument at EU level to support and leverage R&I cooperation with third countries. In this regard, the Multi Annual Roadmaps provide an opportunity to drive forward the international cooperation with key partner countries and regions.

⁹ Doc. 141120/14

ERAC considers that the international dimension could have been addressed more comprehensively in the Report and suggests that further work on strengthening the next ERA survey in this field (e.g. by identifying additional data) and developing appropriate indicators for the EMM should be undertaken by the Commission, Member States/Associated Countries and stakeholder organisations. ERAC calls on the European Commission to actively support this development, including in the establishment and implementation of the Research and Innovation Observatory (RIO) system.

Recommendations

- *ERAC recommends mainstreaming the international dimension as a fully integrated part in all ERA priorities and strengthening it as an individual priority of ERA.*
- *ERAC calls on the European Commission and the Member States/Associated Countries to ensure stronger and deeper integration of the international dimension in the EMM process and the next ERA Progress Report in 2016.*
- *ERAC invites MS and the Commission, with the contribution of SFIC, to identify appropriate indicators for measuring the international dimension of the ERA.*