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**REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN
PARLIAMENT**

EUROPEAN RESEARCH AREA PROGRESS REPORT 2013

(Text with EEA relevance)

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1. INTRODUCTION

ERA reforms as a strategic contribution to growth and jobs

Reforms of national research systems are at the heart of the European Research Area (ERA). More effective national research systems, together with Horizon 2020 which will be exemplary on delivering on all ERA priorities, will help to provide answers to the European societal challenges ahead. ERA reforms are even more urgent in the context of the recent economic and financial crisis which requires rapid, efficient and growth-generating solutions.

European research is key to ensure the future competitiveness of our economies and generate economic growth, as acknowledged by all Member States when adopting the 3% of GDP target of investing in research and development. While private investment in research is crucial for achieving the target, national authorities should provide for structural reforms to increase such investment. Research is an essential component of the European Semester process in which Member States identify their national budgetary and economic reforms.

As a strategic contribution to the Europe 2020 strategy¹ and notably smart growth in Europe, on 17 July 2012 the European Commission adopted the Communication on 'A Reinforced European Research Area partnership for Growth and Jobs'². It called for urgent structural changes across Europe in a partnership between Member States, Stakeholder Organisations and the Commission for a timely delivery of concrete measures to increase the level of excellence of Europe's public research system.

Strong political steer is needed within the European Semester

The ERA reforms must be rooted in the governance cycle of the European semester in order to set national research policies in the broader economic context. As recognised by the Council³, Member States are invited "*to identify the national reforms and actions needed for achieving the ERA in the context of the Innovation Union, according to their national specificities, and to present these reforms and their subsequent implementation when reporting on national ERA measures, where appropriate in the National Reform Programmes starting from the 2013 European Semester*". A strong political steer at the European Union level, involving Associated Countries where appropriate, is crucial to ensure the development of a fully functioning ERA.

The Research and Innovation landscape in Europe is diverse, featured by different institutional paths and governance structures. Member States and regions should reform their research systems according to their own strengths and national specificities. In the 2013 European Semester cycle, several Member States have already included a dedicated ERA section or referred indirectly to ERA in their National Reform Programmes (NRP).

¹ COM(2010) 2020 final

² COM(2012)392 final

³ C 17649/12, RECH 467, COMPET 773

The ERA Communication has been endorsed by the Council⁴ and welcomed by the European Parliament⁵. The need to address ERA as a ‘*priority objective for facilitating growth and economic, social and cultural development in the EU, as well as scientific excellence and cohesion between the Member States, regions and societies*’ has also been recognised by the European Economic and Social Committee (EESC) and the Committee of the Regions (CoR).⁶

Strengthened involvement of ERA stakeholders

Research stakeholders play a decisive role in building up a strong ERA Partnership. They know best the difficulties researchers are encountering in access to, progression and conduct of scientific careers. While Member States should create the favourable policy environment for ERA to flourish, research funding organisations and research performing organisations should take responsibility for implementing ERA in their daily business.

The five European research Stakeholders' Organisations with which the Commission has signed a Joint Statement, followed by four Memoranda of Understanding and one unilateral statement, on the same day as the adoption of the ERA Communication⁷, committed to call on their members to make sizeable progress in the relevant ERA priority areas by the end of 2013 and to deliver a concise Progress Report by December 2013

A stakeholder platform has been set up by the Commission to follow-up on the implementation on the commitments, exchange information and to address common issues.

The first ERA Progress Report

The ERA Progress Report 2013 presents for the first time an overview on the political context, steps taken and first achievements in the 28 Member States as well as in a number of Associated Countries⁸. The Staff Working Document accompanying this report, ERA Facts and Figures, presents factual information at both national and European level for the ERA priorities. It provides a baseline preparing an in-depth assessment of progress on ERA in 2014.

ERA structural reforms and policy making can only be based on a robust monitoring system providing accurate information on national policies and on their implementation by research funding and research performing organisations. The ERA monitoring mechanism is an evolving process which is built in close collaboration with the Member States and Stakeholder Organisations. Further improvements will be made, including on methodology and the quality of data.

2. ANALYSIS OF THE FIRST ERA PROGRESS REPORT: MAIN RESULTS AND GENERAL TRENDS

In a context of continuous pressure on national R&D budgets, ERA structural reforms should help use limited resources more efficiently and therefore maximise the return on investment in research while increasing its effectiveness at national and EU level.

EFFECTIVENESS OF NATIONAL RESEARCH SYSTEMS

⁴ idem. It also pleads for "monitoring of ERA progress in close connection with the European Semester, as well as top-level steering by the Council (...)"

⁵ ITRE Committee 19/6/2012

⁶ EESC INT/662-CES2075-2012_00_00_TRA_AC and OJ 2013/C 62/4

⁷ EARTO, EUA, LERU, NordForsk, Science Europe. One year later, CESAER joined the Partnership by an unilateral statement

⁸ 3 Associated Countries (Switzerland, Iceland and Norway) have been analysed on the basis of their voluntary contributions

Competitive research funding contributes to the efficiency of public money invested in research. Whether competition is ensured through open calls or by allocating funds based on performance, it induces organisational changes and enhances the quality and worldwide recognition of institutions and their researchers. The share of competitive funding and of performance based institutional funding is increasing in Europe. Likewise, a majority of Member States increasingly apply the core principles of international peer review⁹ and several use foreign peer reviewers to seek greater independence in evaluations, or to raise domestic standards, while adjusting the process to the specificities of the field and national context.¹⁰ This is also the case at European level, where international peer expertise is the core principle of funding allocation in the Framework Programmes (FPs).

While the balance between competitive and non-competitive funding is a matter of national choice, competitive funding and performance based institutional assessments should be at the core of research funding decisions in Member States, applying the core principles of international peer-review.

TRANSNATIONAL COOPERATION

Europe needs critical mass to efficiently address grand challenges and to make the best use of available resources in Europe. Joint activities allow to mobilise cross-border complementarities to avoid unnecessary duplication of efforts, to exploit synergies and to carry out large scale research that cannot be addressed by a single country.

The EU Framework Programme is the most powerful instrument supporting transnational cooperation of research teams among the Member States and Associated Countries¹¹. Importantly, it also strengthens transnational coordination of national research programmes through the numerous ERA-Net coordination schemes. FP7 supported new large scale initiatives:

- 5 Article 185 Initiatives were launched, one of which involves all 28 Member States. In July 2013, the Commission proposed to amplify and strengthen them, mobilizing some 3500 M€ in total, of which some 1400 M€ through Horizon 2020¹² and
- 10 Joint Programming Initiatives have been launched since 2009. Five of them now have joint Strategic Research Agendas and seven of them have launched or planned joint calls.
- Furthermore a number of significant Inter-governmental Organisations play an important role in support of transnational cooperation through co-ordinating and funding research on an intra-European and international level. For instance with the strong support of their Member States, the European Inter-governmental Research Organisations¹³ that are members of EIROforum, provide some of the best research infrastructures in the world. Aligning the scientific community's needs and Member States' support is a key component to the success of the EIROforum.

Several Member States' research funding agencies have bilateral or multilateral agreements or specific transnational cooperation models such as the Lead Agency procedure¹⁴. However, most of those initiatives are bottom up and of limited size. The Framework Programme and

⁹ http://ec.europa.eu/research/era/docs/en/voluntary_guidelines.pdf

¹⁰ Commission Staff Working document (CSWD) "ERA Facts and Figures", p. 14-15.

¹¹ MS received approximately €29,4 billion and AC €2.9 billion of EC contribution in 2007-2012

¹² COM(2013) 494 final

¹³ CERN, EFDA-JET, EMBL, ESA, ESO, ESRF, European XFEL and ILL

¹⁴ CSWD "ERA Facts and Figures", p. 17.

European Space Agency funding excluded, less than 1% of national public research and development funding is spent on transnational research in Europe, and initiatives towards increased interoperability of national research programmes are still relatively scarce¹⁵.

In order to achieve higher impact of research with the limited public research funds available, it is essential not only to open transnational funding, but mainly to strategically align different sources of national and other funds at EU level. Some Member States have adopted national strategies taking into account the joint priorities agreed in Horizon 2020 or in the Strategic Research Agenda of the Joint Programming Initiatives in which they participate. The level of alignment is however too low to solve the major societal challenges that Europe has to face.

Member States should better align national research programmes in order to implement commonly agreed strategic research agendas in the context of joint programming. They should also improve interoperability between national programmes in order to facilitate further cross border research cooperation.

As a consequence of a joint programme by Member States, more researchers can collaborate in nationally funded transnational research activities that address major societal challenges, as is demonstrated for example in the European Energy Research Alliances of the SET Plan¹⁶.

RESEARCH INFRASTRUCTURES

Recent mapping exercises¹⁷ have demonstrated the large number of research infrastructures throughout Europe and have made the landscape more transparent. The ERA monitoring also shows that the conditions for cross-border access to research infrastructures are not always reported and harmonised amongst Member States.

There is a need for more transparency of the conditions for transnational access to research infrastructures.

Horizon 2020 will continue to integrate and open up key existing national research infrastructures of pan-European and regional interest to all European researchers, from both academia and industry, and to ensure their optimal use and joint development. The European Strategy Forum on Research Infrastructures (ESFRI) is a successful example of a strategic instrument to develop the scientific integration of Europe. Together, the Commission and the Member States are making progress in the implementation of the Innovation Union commitment to complete or launch, by 2015, 60% of the 48 priority infrastructures as identified in 2010 by the ESFRI. The increased use of the ERIC regulation for setting up European RIs is a good illustration of an instrument leading to more comparable governance structures and clear access conditions.

National financial commitments remain crucial to support a long term vision and participation in global research infrastructures of European interest, even more so in times of economic crisis. Almost two thirds of the Member States have developed national research infrastructure roadmaps¹⁸, which contribute to the defragmentation of the research infrastructures landscape in Europe. There is, however, still scope for better alignment with the ESFRI roadmap. Horizon 2020 will continue to facilitate and support the preparation, implementation, long-term sustainability and efficient operation of the research infrastructures identified by ESFRI and other world-class research infrastructures.

¹⁵ JOREP Study (Joint & Open Research European Programmes) for the European Commission, 2013

¹⁶ [COM\(2007\) 723 final](#)

¹⁷ e.g. Research Infrastructures in ERA, ESF member organisation forum, March 2013

¹⁸ CSWD “ERA Facts and Figures”, p. 18

Member States should address financial, management and political barriers for the development and implementation of research infrastructures. They should align research infrastructures roadmaps and coordinate their development.

The European Commission will develop a Charter for cross border access to, and use of, research infrastructures in order to achieve more transparency and harmonised conditions for transnational access to research infrastructures.

OPEN LABOUR MARKET FOR RESEARCHERS

A genuinely open and attractive European labour market for researchers is an essential factor for the completion of ERA.

Open, transparent and merit-based recruitment ensures that research systems are able to select from the widest possible pool of talent, thereby generating excellence and fostering mobility. More than 200 universities and research institutes are actively engaged in the ‘HR Excellence in Research’ exercise, and the vast majority are reviewing their recruitment processes. The use of the EURAXESS Jobs Portal to advertise research positions across the EU also represents a substantial step forward and has helped to match supply and demand across borders. However, the principles of open recruitment extend well beyond the right to know about and apply for positions. Around 40% of EU researchers indicated that they were ‘dissatisfied’ with open recruitment practices at their institution. In some countries the share was more than 50%¹⁹.

2012 saw a growth in divergence in innovation performance among Member States. In this environment, coupled with cuts to research budgets in the countries most affected by the financial crisis, open recruitment and career progression become all the more important to create the conditions for more balanced growth across Europe.

A co-ordinated effort is needed by Member States and institutions to ensure that all research positions are subject to open, transparent and merit-based recruitment practices.

Differences continue to exist between Member States concerning the portability of grants and access to national grants. Few Member States report that their national funding mechanisms provide for portability of grants. Access to national grants and fellowships is often hampered for non-residents except where such funding serves the interest of the national research system. Although several initiatives²⁰ have been adopted, their impact remains limited across the EU.

Member States should remove barriers preventing the implementation of access to, and portability of, national grants, and research funding organisations must intensify cooperation to facilitate the process.

Fast-track immigration can act as a decisive factor in attracting the best global talent to Europe. In March 2013, the Commission proposed a recast²¹ of the ‘Scientific Visa Directive’ that will set clearer time limits for national authorities to decide on applications, and provide researchers with greater opportunities for mobility and access to the labour market after their stay.

¹⁹ CSWD “ERA Facts and Figures”, pp. 21-22.

²⁰ i.e. ‘Money follows Researcher’ and ‘Money follows Cooperation Line’

²¹ http://ec.europa.eu/dgs/home-affairs/e-library/documents/policies/immigration/study-or-training/docs/students_and_researchers_proposal_com_2013_151_en.pdf

Europe has relatively few researchers employed in industry while at the same time it trains an increasing number of PhDs. Although the nature of doctoral training is diversifying and more graduates embark on careers outside of academia, many are ill-prepared for the labour market.

Progress can be observed in several Member States although the challenge remains in the wider roll-out in terms of reach, financing and sustainability and the engagement of industry in PhD training, notably to encompass all of the Principles for Innovative Doctoral Training, as endorsed by the Council²². Moreover, a number of Member States have made good use of structural funds to support the training of doctoral candidates.

Member States, research funding and research performing organisations are encouraged to promote a wider uptake of the innovative doctoral training principles, including, where appropriate, through use of the European Structural and Investment Funds.

To help widen participation in ERA, the Commission is proposing the establishment of “ERA Chairs” under Horizon2020 to support universities and other research institutions to achieve the level of research excellence required to be competitive at international level. A pilot call was launched under FP7 to which more than 100 institutions responded.

GENDER EQUALITY AND MAINSTREAMING IN RESEARCH

European research still suffers from a substantial loss, and inefficient use, of highly skilled women, and from a lack of gender dimension in research content. If the number of female PhD graduates has grown significantly in recent years in practically all sectors, women in research remain a minority and the number of women heads of institutions in the higher education sector is very low²³.

In terms of policy initiatives, the picture in Member States remains very heterogeneous. Gender equality is generally regulated at the level of overall labour market provisions. Few Member States appear to have specific provisions to ensure gender equality within their legal framework for research. In half of the Member States incentives are developed to encourage young women to embrace a scientific career and support female research careers. Fewer Member States set targets particularly for gender balance in groups and committees. Very few encourage institutions to adopt and implement Gender Equality Plans²⁴.

Little attention is given by Member States to the integration of the gender dimension in national research programmes, although appropriately addressing both women and men’s needs, behaviours and attitudes, may enhance the quality and relevance of research and innovation outputs.

Member States should implement comprehensive strategies of structural change to overcome gender gaps in research institutions and programmes.

In FP7, the Commission has funded the setting up and implementation of gender equality plans in research performing organisations. In 2013, the ERA-NET GENDERNET will be launched to support cooperation between Member States and Associated Countries.

In Horizon 2020, the European Commission will continue supporting structural change in research institutions. Compared to FP7, gender equality and the gender dimension in research

²² Council conclusions on the modernisation of higher education, 11/2011, <http://register.consilium.europa.eu/pdf/en/11/st16/st16746.en11.pdf>

²³ She Figures 2012: women represent 46% of EU PhD graduates, 33% of researchers, 20% of senior academic staff; gender unbalance is more striking in decision-making, where 15.5 % of heads of institutions and 10% of rectors in HEI are women.

²⁴ http://ec.europa.eu/research/science-society/document_library/pdf_06/she-figures-2012_en.pdf

Commission SWD “ERA Facts and Figures”, p.26.

and innovation content will be more systematically operationalised at the various stages of the Horizon 2020 programmes.

OPTIMAL CIRCULATION AND TRANSFER OF SCIENTIFIC KNOWLEDGE

Open access to publicly funded research results

Knowledge is essential in ERA. Publicly funded knowledge must be available for researchers and the private sector, to enhance the knowledge base, diminish regional discrepancies and promote innovative solutions to societal challenges.

Unrestricted and free of charge access to publications is backed by a growing number of universities, research centres and funding agencies across Europe. Almost all Member States have set up legal and administrative conditions in support of Open Access to publications, and some of them are also promoting Open Access to data²⁵.

Member States should continue deploying efforts in implementing Open Access to publications, and continue setting an adequate policy framework for Open Access to data, while taking into consideration IPR issues, notably in the case of private sector involvement in research.

Horizon 2020 is leading by example, by making Open Access to research publications mandatory for the funding of research and innovation at EU level.

Digital dimension of ERA

Digital means are essential for knowledge creation, access and transfer. Some Member States have already taken action to promote digital ERA in order to facilitate seamless online access for research resources, services and collaborations²⁶.

All Member States should ensure that conditions are in place to support: seamless online access to digital research services for collaboration, computing and accessing scientific information; the federation of electronic identities for researchers, which facilitates researchers' cross-border access to services and resources; and harmonised access and usage policies for e-infrastructures and digital research services in order to enable collaborations by multinational research consortia with both public and private partners.

Knowledge transfer and open innovation

Knowledge transfer is an ERA key area where governments and stakeholders are very active, considering its crucial role in the economy, notably for recovery. While these supportive efforts in Member States are commendable, national measures are still fragmented, which hampers, in turn, overall open innovation and knowledge transfer efficiency at national level²⁷. Strategies which provide structure, stimulate, facilitate and as such ensure that public research contributes to open innovation and knowledge transfer, have an important role to play in the knowledge-based economy.

Member States need to further define, implement and assess national knowledge transfer strategies to deliver a structural and cultural change in the research and innovation system and as such increase the economic and social impact of research.

Science and innovation policy have become more and more interconnected. Scientific knowledge is increasingly produced in a dynamic collaborative manner, which in turn leads to

²⁵ Commission SWD “ERA Facts and Figures”, p. 28

²⁶ idem p. 32

²⁷ idem p. 29-30

valuable innovation and mitigates transaction costs. To support the process, the Commission is currently developing a comprehensive policy approach for open innovation and knowledge transfer and will consult stakeholders on it.

INTERNATIONAL COOPERATION

The external dimension of ERA²⁸ is intrinsic to its development.

The achievements of ERA in pooling resources and creating critical mass, facilitating knowledge development, transfer and circulation and establishing an open labour market for researchers, will help make Europe an attractive location for globally mobile researchers and research and innovation investments.

Better coordination of national policies will allow more efficient and coherent representation of European research and innovation in the world and increase its visibility and impact. This in turn will strengthen Europe's influence in the development of common global principles (e.g. in the areas of research integrity peer review, promotion of gender equality and the gender dimension in research, research careers, IPR and open access to publicly funded research publications) to facilitate international cooperation in research and innovation and to create a global level playing field.

3. CONCLUSION AND NEXT STEPS

The 2013 Progress Report shows that implementing the ERA agenda is key to making research and innovation activities more efficient, and to contribute to smart, sustainable and inclusive growth. However, it also shows that the European research and innovation landscape is still fragmented and it identifies barriers that prevent Europe from fully enjoying a unified ERA in which researchers, scientific knowledge and technology circulate freely²⁹.

For this, it is important for Member States to fully adhere to the ERA priorities, since they remain the primary actors for introducing the key ERA reforms in their national research systems. The European Semester is a powerful instrument for Member States to coherently include ERA priorities within the broader context of reforms towards increased research and development investment and economic recovery.

In view of strategic and more informed interaction with Member States, the Council has confirmed ERAC's role to achieving ERA³⁰ and to provide input to the Commission's annual reporting and fully exploit synergies with the European Semester. For this, it is crucial for Member States to continue and, where necessary, intensify their support to the monitoring mechanism to have the best possible foundations for the full assessment of progress in 2014.

In the context of the reinforced ERA Partnership, interaction between national authorities and stakeholders should be better anchored and made explicit in most of the Member States. The research Stakeholder Organisations which signed the Joint Statement with the Commission should be an example of interaction between them and their members in the direction of ERA. They are expected to report on their progress by the end of this year, to enhance their collaboration and when relevant, to increase their effort for joint actions in support of ERA.

The Commission will seek to enhance its contribution to ERA through Horizon 2020 which, next to national public research funding available in 28 Member States and Associated Countries, will be one important financial pillar for delivering ERA. It is also important that

²⁸ COM(2012)(497), http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/intm/137346.pdf

²⁹ TEFU, art 179

³⁰ Council Resolution on the advisory work for ERA, 31/5/2013

Member States incorporate the ERA agenda in their use of European structural and investment funds (ESIF).

It is the Commission's responsibility to contribute to the overall ERA policy debate and implementation. It will continue to support mutual learning and exchange of good practice between Member States, to develop a better understanding and appreciation of national research and innovation policies in the broader European Semester context of research and innovation investment and economic development³¹.

Support to the completion of ERA from the Council, European Council, European Parliament, EESC and CoR remains crucial to ensure the bridge with stakeholder society at large, national Parliaments and regions. The Commission will therefore ensure that a proper inter-institutional dialogue is maintained.

A full assessment of the progress will be made in 2014, to establish whether the reinforced European Research Area Partnership for Growth and Jobs was sufficient to complete ERA, as called by the European Council³².

³¹ In 2013 mutual learning seminars took place on competitive funding and synergy between Structural Funds and Horizon 2020. A seminar supported by the EC is foreseen to address national strategies to train sufficient researchers to meet the national R&D targets

³² EUCO 2/1/11