

The Commission's Green Paper on the future of the ERA Comments of EUROHORCs and ESF on the Green Paper

I. Executive Summary

- EUROHORCs and ESF agree that “creating a unified and attractive ERA” (Potocnik), is a key component of the broader Lisbon strategy.
- More than 90% of public R&D funding occurs at national level. The Commission's analysis of the strengths and weaknesses of the European Research System (ERS) concentrates too much on the perspective of the Commission's role and on that of governments and intergovernmental structures. It ignores the role of other stakeholders, such as the national research funding and research performing organisations, as well as other European bodies, the private sector, and, finally, non-European research systems.
- When addressing the problem of ERS fragmentation, the ERA concept is too strongly focused on increasing the co-ordination of research activities. Yet, basic research at a high level of excellence, the foundation of any successful research system, must be driven bottom-up rather than guided top-down. Fragmentation is not so much an issue of too little co-ordination, but mainly a consequence of limited competition within protected national research areas.
- To overcome fragmentation – in the sense described above – the EU and its member states have complementing leverages and so must work together:

The Commission needs to put more money into basic research through programmes like the ERC, to reduce its bureaucracy for these programmes, and to put some pressure on its member states to remove the still abundant barriers to the mobility of researchers.

The national players (research funders, research performers and governments) have to act in concert in implementing a common strategy developed through common foresight in order to increase their efforts to remove the institutional barriers faced by people and money, to implement schemes like ‘money follows researchers’ and ‘money follows co-operation’, to adopt common peer review systems which allow quality comparison across borders, to ease the sharing of research infrastructure, and to create common pot schemes for research funding.

- Both the Commission and the national institutions have to strongly increase their efforts to attract more young people into science and research and to keep them in the system.
- The implementation of a successful ERA goes well beyond the potential of the Commission, of national institutions and of other stakeholders if they do not cooperate closely. **In this respect, the analysis presented in the Green Paper is a good start, but ignores important partners and misses promising opportunities.** EUROHORCs and ESF, together with other organisations, will help to overcome the observed shortages, as outlined in the concluding section of the paper.

II. General remarks on a central issue: “The European Research Area”

The Heads of European Research Councils EUROHORCs - an informal association of the heads of national research organisations in Europe that fund and perform research - and the European Science Foundation ESF are important and centrally positioned stakeholders in the task of establishing and developing the European Research Area. EUROHORCs foster cooperation and networking between their member organisations and – where appropriate – with the European Commission. EUROHORCs and ESF are complementary with respect to science policy and strategy development. In addition, ESF occupies the role of an “Executive Agency of the Agencies”, and acts as the voice of its Member Organisations.

The European Commission’s Green Paper is seen by EUROHORCs and ESF as a starting point for in-depth discussion on how to progress with building a European Research Area. EUROHORCs and ESF agree that “creating a unified and attractive ERA” (Potocnik), as a key component of the broader Lisbon strategy and as an appropriate response to the economic and social challenges, will lead to more knowledge and innovation resulting in great benefit to European society as a whole.

The Green Paper may help to further develop the ERA strategy and can reinforce the position of EUROHORCs and ESF as important stakeholders in this context. The following response to the EC’s Green Paper includes ideas and recommendations for the accelerated development of the ERA, in the form of a joint “roadmap” of EUROHORCs and ESF in this context. The main aim behind any such endeavours must be to fund excellent scientific projects in a transparent and fair manner – only with this base will it be possible to erect a successful and competitive European Research Area. It is essential to involve *all* stakeholders of science and science strategy in Europe, as a sensible and successful implementation of ERA is only possible with a clear vision of the goals to be achieved, and of the relative roles of the players involved. This must also include the private sector in its function of funding and executing research, contributing more than 50% to the total expenses of R&D in Europe.

The European Research System (ERS) must be strengthened in all its aspects in order to create better opportunities for European researchers to play a leading role in the global arena – this includes opportunities for international collaboration, but also prerequisites for successful competition. This is only possible by providing sufficient funds and infrastructure for excellence in science, with a minimum of bureaucracy.

We believe that the Commission's analysis of the strengths and weaknesses of the ERS focuses too much on the Commission’s role and that of governments and intergovernmental structures. It ignores important aspects of the present European situation and does for example not sufficiently appreciate the important role of the national research organisations in the membership of ESF and EUROHORCs, as well as that of other stakeholders, such as the EIROforum organisations, the European University Association, Euroscience or national and international scientific societies. It underexposes the role of the private sector in performing high quality research. In addition, the analysis in the Green Paper does not even take into account all the endeavours of the Commission itself, largely ignoring those of the DG Regions and the DG Education with respect to initiatives in the fields of education, lifelong learning, re-skilling society, or regional funding. Therefore, the next important step should be to extend the assessment of the present European Research System, thereby taking into account the achievements of all stakeholders both within and across national systems.

Furthermore, the Green Paper does not sufficiently take into account the global context of R&D. Research communities are nowadays mostly international, and not restricted to one nation or even to Europe. Good examples of this are climate research or genomics. It is essential to provide any necessary opportunity for scientists to team up with the best specialists internationally. Only then will researchers be able to deliver scientific results of the

highest quality – which is the ultimate goal of all efforts from the view of EUROHORCs and ESF.

A. Background and consequences

The original analysis which led to the creation of the ERA related the ERS's lack of competitiveness in contrast to North America and Asia to four main issues:

(1) insufficient funding, (2) lack of an environment that stimulates research and the exploitation of results, (3) fragmentation of research activities and dispersal of resources, and (4) the lack of a sufficient number of researchers, which is also a result of risky and intransparent career paths.

Issues (1) and (2) are still pending. They have to be dealt with at a political level, and cannot be resolved without the national governments and the Commission providing significantly more funds for research. All stakeholders have to work together in order to create an environment which stimulates research. The “fragmentation” issue leads directly to further key missions of EUROHORCs and ESF. We understand the Commission’s analysis of a fragmented European research landscape, arising from institutional barriers that developed historically on top of the natural diversity of the European research landscape. But unlike the Commission’s negative viewpoint on fragmentation, EUROHORCs and ESF emphasise that the diversity that underlies fragmentation does have a positive impact when it leads to a differentiated research landscape. If this landscape is transparent with good communication established, the diversity encourages competition, enables cooperation and consequently raises quality. The shortage of researchers is, again, an open problem. The “Gago Report” (Report by the High Level Group on Increasing Human Resources for Science and Technology in Europe 2004, European Commission) states that at least 700,000 new researchers are required by 2010 in order to meet the Barcelona goals. This requires increased mobility on the one hand, but, on the other, needs even more to increase the attractiveness of science careers in the research institutions.

B. Goals and strategies

With respect to the aforesaid, EUROHORCs and ESF simultaneously pursue two main goals: Firstly, to overcome fragmentation, when it hampers the creation of the ERA, through cooperation between complementary partners and, secondly, to make the diversity productive by ensuring added values in R&D and thus improving quality in order to increase Europe's appeal and competitiveness.

Fragmentation is indeed detrimental when it leads to the funding of research that would not be competitive in other parts of Europe. Therefore, the creation of the ERC, as an innovative part of the Commission's 7th FP, is an answer to tackling the current fragmentation between research funding systems at regional, national and supranational level. The interaction between the ERC and the existing national funding and performing agencies and their networks will be of crucial importance and so become a cornerstone of the future activities of EUROHORCs, together with the ESF as their 'executive agency of the agencies'. However, the ERC will only be successful if its funds increase significantly.

Taking into account that “the scope of ERA goes way beyond the FP, and indeed beyond EU initiatives” (Green Paper), the ERA can only be implemented through dynamic interaction between the various stakeholders at all levels and their strategies. EUROHORCs and ESF have gathered significant experience here, especially when it comes to common standards, European peer review procedures, bottom up research programmes and joint funding. Yet, more synergies, on the one hand, and more competition, on the other hand, could be achieved, and will consequently result in raising scientific quality in Europe.

C. ERA and the Research Performing Organisations

The pluralistic character of the ERA has not been sufficiently valued in the Green Paper. The important role of research performing organisations and their responsibilities in steering the developments are underexposed.

Research Performing Organisations (RPOs) are among the mainstays of the European research system alongside universities and funding organisations. They could, virtually off the cuff, invigorate central issues of European as well as global concern (such as health, environment, energy or nanotechnology). They are, moreover, well set both technically and organisationally. The ERA Green Paper does not adequately exploit the potential of the RPOs. Neglecting the institutional role of the RPOs at a European level may be perceived as a structural deficit in the Green Paper concept as a whole. However, RPOs require a funding programme in order to be able to realise a European network. Hence, the RPOs of EUROHORCs are strongly in favour of a new funding mechanism under the EU Research Framework which supports the collaboration of research performers, complementing collaboration within ESF. According to OECD figures, RPOs receive around 40 percent of public-sector research funding in Europe. Were the Commission to provide these research performers with European funding at an institutional level (a species of programme funding), the likely result would be for them to deliver sustained contributions to the realisation of the European Research Area. The RPOs of EUROHORCs would, moreover, be willing to participate in both designing and financing a suitable programme which offers the possibility of tailoring a wide variety of aspects flexibly, in funding terms, to the needs of the user, which could be called ERA Connect (ERAC) for research performing organisations. (These issues are discussed more extensively in the specific paper sent to the Commission by CNRS, CSIC and MPS.)

III. Next steps

A joint EuroHORCs and ESF roadmap

With the ERC now in place and with the initiative to reconsider the European Research Area (EC Green Paper), EUROHORCs and ESF are in the process of repositioning themselves by defining their future policy and strategy. As an important voice of the European research community, EUROHORCs and ESF are emphasising their own perspective of the ERA.

EUROHORCs and the ESF have jointly developed considerable experience in promoting excellence in research through competition on a European scale. They are now drawing up a joint roadmap for future activities with a true European perspective that defines transnational coherence as one major means on the way to further enhancing scientific excellence. The European Young Investigator Award (EURYI) and the EUROCORES scheme prove that national research councils and performing agencies are able to successfully achieve European added value and thus create new paradigms for the ERA, e.g. by attracting outstanding early stage researchers to Europe and by establishing efficient common European peer review procedures.

A. ESF: Fostering ERA from the agencies' side

A clearly defined and agreed objective for EUROHORCs and ESF actions is our top priority. The EUROHORCs will intensify the interaction among their members and with the ESF Governing Council. The setting of the agenda and the framework of financial commitments for inter-agency operations will be defined in the EUROHORCs plenary sessions. The EUROHORCs will then communicate clear action items to the ESF. The ESF will then define the strategy for and implementation of inter-agency operations. This includes both networking and project funding programmes. In addition, the ESF office will be prepared to

support national and bilateral/multilateral operations (such as calls for proposals, peer reviewing).

The EUROCORES scheme has already developed into a well-accepted funding instrument for cooperation and interaction between scientists in Europe. It is important that the national funding agencies jointly use EUROCORES as one of several options to interact on the European stage. The advantage is that this involves no change: It is sufficient to improve existing mechanisms.

An important area, in which ESF can contribute decisively to bringing together its Member Organisations into a coherent whole, acting in concert to build the ERA, is the development of common foresight and strategy activities. Foresight exercises increase in validity, scope and horizon as they acquire a broader base. Thus, mutualisation of the efforts of the individual Member Organisations into a pan-European whole would permit ESF to further develop into an independent and authoritative source for policy and strategy advice for steering the research community in Europe. Relying on this common source, all levels of implementation, regional, national and European would share the same vision and act in the same direction to build the ERA for the common benefit. One instrument that ESF has been developing in the spirit mentioned above is the Forward Looks scheme, a flagship activity of ESF's strategic arm. This instrument enables Europe's science community, in interaction with policy-makers, to develop medium to long-term views on specific thematic areas and analyses of future research development with the aim of defining research agendas at national and European level. The next step would be to link a strategy instrument such as the Forward Look scheme to concrete implementation actions such as EUROCORES or other multilateral coordinated actions e.g. by using Forward Looks for defining potential collaboration themes. Another strategy instrument presently under development is the "Member Organisation Fora" which focuses on issues related to the creation of the appropriate environment for quality research to thrive (e.g. evaluation, career development,...) complementing ESF's strategic instrument portfolio.

B. Cooperation and competition: Interaction with the ERC

The ERC indeed represents the first common European funding source to promote research at the frontiers of knowledge. The ERC is welcomed by the European scientific community both as means for promoting and recognizing excellence by funding it and as an instrument for embedding high-level scientists in organisations that can offer the appropriate environment for excellence to flourish, by relying on Europe-wide competition. Despite totally shared norms and values, the relationship between EUROHORCs and the ESF, on one hand, and the ERC, on the other, will be marked by cooperation and competition for the benefit of Europe's research community. To ensure this benefit it will be of the utmost importance to establish a permanent and sustainable dialogue between EUROHORCs-ESF and the ERC. In any case, it is important to note that the ERC's budget needs to be increased substantially if the ERC is to achieve its necessary impact.

Future **cooperation** between EUROHORCs-ESF and the ERC should focus on mutual learning and the adjustment of procedures in science management characterised by simple application procedures, a sound peer-review process and lean and cost-efficient management. In this respect, the ERC as a very young organisation can benefit from the ESF and EUROHORCs funding agencies' decades of experience in running a large variety of programmes on European as well as national scales. The ERC would benefit from establishing joint principles of scientific quality assurance. Regular debates between EUROHORCs-ESF and the ERC on the future design of their respective funding schemes should also be envisaged to avoid duplication and to provide scientists with the complementary programmes and instruments they really need.

Future **competition** should aim to create new and better funding programmes to attract the best researchers from all over the world to Europe, be it through ERC programmes or through EUROHORCs-ESF programmes. Moreover, excellent research conditions need to be ensured by means of competition between host institutions as well as between national funding agencies and the ERC. Consequently, best-practice will be highlighted, thus encouraging all stakeholders to engage in that competition and improve their funding policies and structures.

IV. Conclusion

Taking into account the policies and strategies outlined above as the basis of the EUROHORCs and ESF's joint roadmap to increase excellence and to overcome fragmentation, the following activities and measures will be crucial to turning this into reality:

- Developing a concerted vision for steering scientific research in Europe through coordinated foresight exercises, concerted strategies and common policies among the Member Organisations fostered by the close relationship between EUROHORCs and ESF and taking advantage of the strategy tools that ESF is developing.
- Ensuring closer collaboration on foresight in order to set science agendas and priorities taking into account the need for inter- and multidisciplinary research (to be implemented within the Forward Looks or Member Organisation Fora schemes of ESF); for this, e.g. the ESF Standing Committees as disciplinary bodies and the ESF Expert Boards as scientifically "horizontal" bodies could be tasked to co-operate more closely as advisory panels.
- Establishing more bottom-up driven programmes with a common-pot mechanism (without "juste retour") in order to create a greater pool for competing scientists, rather than 27 small national pools (to be implemented within the EUROCORES framework and the new European award scheme). This could, for example, be an additional, accelerated version of the EUROCORES scheme as outlined in the 2007 EUROCORES scheme review report, with a Forward Look for theme identification preceding the programme. Such a scheme is currently being discussed and could be implemented within a few months and could benefit greatly from EC-support.
- In addition to the cooperation among member organisations and/or ESF the RPOs of EUROHORCs are strongly in favour of a new funding mechanism under the EU Research Framework which supports the collaboration of research performers in so called "ERA Connect actions".
- Developing and fostering cooperation schemes beyond the borders of the ERA towards a global research area (GLOREA).
- Developing and improving mechanisms and programmes for early stage researchers in order to create attractive career paths. This can e.g. include competitive funding possibilities for postgraduate (doctoral) students, which is a group with almost no independent access to funds, or establishing professional human resources development schemes in universities and other research institutions.
- Pursuing closer collaboration on PhD training programmes to enhance common standards (together with the EUA).
- Creating more joint public-private funding (partnership) sources. One example where this is happening is the EuroBioFund initiative in the life sciences which the ESF is carrying out at the request of the European Commission. Depending on the experience gained, similar initiatives should be developed in other fields with high potential for industry-academia co-operation such as engineering or information technology.
- Developing closer interactions with the universities (through LERU and EUA);
- Improving information exchange as the basis for cooperation (by developing Open Access and optimising knowledge transfer),

- Developing the “Money follows researcher” and “Money follows cooperation line” schemes, that help to increase the mobility of researchers across Europe, towards a European research grant union.
- Enabling foreign EU-scientists to apply to the funding agencies of other countries;
- Establishing or extending medium-sized infrastructures (supported by the EU if they cannot be achieved at a national or multilateral level); at the same time starting a discussion on whether there is a need for further large intergovernmental institutions such as EMBL, ESO or CERN.

In all these issues, financial and organisational responsibility must be clearly linked. It is important to realise that it is not a rigid “coordination” that makes the US science system so effective, but transparency, informed competition and bottom-up approaches. For Europe, more transparency and information – leading to coordinated actions – can only be achieved voluntarily and because stakeholders are convinced of the benefits.

Nota bene: EUROHORCS and ESF will implement their road map through a set of actions on an à-la-carte basis. Please note that each EUROHORCS and/or ESF member is, of course, absolutely free to act independently with respect to any à-la-carte activity.

V. Comments on other issues of the Green Paper

This response focuses on the issue of the perceived “fragmentation” of research and research funding in Europe, in as far as it influences scientific excellence, as EUROHORCS and ESF can tackle this issue effectively, both through their own programmes and by participating in the Commission’s actions, and thus contribute strongly to the construction of the ERA. However, the Green Paper rightly addresses other issues as well, which are crucial for the development of science and innovation in Europe. In short, some of the most important aspects are highlighted to complement our response.

The following issues are especially pressing if the ERA is to come to a full bloom:

- Increasing the national research budgets;
- Ensuring full autonomy of research institutions;
- Removing administrative and legal barriers (different salary systems, social security provisions, pensions transfers, taxation) in order to attract more excellent researchers from non-European countries and to increase the flow of mobile researchers within Europe. This includes a careful consideration of administrative barriers also erected by the Commission, as these are in many cases perceived as obstacles with limited benefits.
- Creating a single and attractive labour market for researchers.
- Taking actions to make research careers more attractive, e.g. by developing clear career perspectives for young scientists in combination with internationally competitive salary schemes, harmonised within the ERA.
- Establishing the community patent
- Launching campaigns to promote science and research in schools in order to attract students into science curricula.

These issues have to be dealt with and resolved at a political level. Nevertheless, EUROHORCS and ESF can help to improve the overall framework conditions for research and researchers in Europe by providing good/best practices, benchmarking and consultancy, as well as through specific programmes and instruments.