

**Europe's Intergovernmental Research Organisations
– a Key Pillar of the ERA**

**EIROforum's Response to the Green Paper
“The European Research Area:
New Perspectives”**

September 2007



Foreword

As a response to the Green Paper “The European Research Area: New Perspectives” [COM (2007) 161 final], published by the European Commission in April 2007, the partner organisations of EIROforum submit this document in their continued efforts to contribute to the realisation of the ERA.

The Green Paper poses 35 concrete questions covering a wide spectrum of possible actions to support the further development of the ERA. In our response, we focus on those areas in which the EIROforum organisations possess either specific competence and/or are able to make valuable contributions to the ongoing debate. Special attention is given to the role of the intergovernmental research organisations within the ERA, and their relationship with the European Union.

The document collects the common views of the EIROforum organisations, as well as individual visions and suggestions for implementation that arise from the specific nature of the different research fields and the differing relations of these organisations vis-à-vis the European Community.

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Summary

1. The European intergovernmental research organisations (EIROs), members of EIROforum, welcome the ERA Green Paper, including the forward-looking question about their interactions with the European Community within the ERA.
2. The EIROs support the aim of better cooperation between the different entities of the ERA in order to overcome the fragmentation of European research, to strengthen pan-European collaborations, and to establish more coherent priorities for public research.
3. The EIROforum organisations have effectively implemented the ERA concept within their respective scientific disciplines long before the notion of the ERA was formally launched. With the strong support of their member states, the EIROs provide some of the best infrastructures in the world. Better coordination between the European Commission, the EIROs, and their member states is needed to ensure that these world-class research infrastructures are used to optimal effect within the ERA.
4. Enhanced coordination between the EIROs and the European Commission can be achieved by means of bilateral agreements between the individual organisations and the EC, fulfilling the principle of reciprocity.
5. Intergovernmental agreements are currently one of the most efficient legal models for constructing and operating major research facilities in Europe, and such models should be used for the creation of new research infrastructures of European interest.
6. Sharing knowledge through data repositories, open-access publications and technology transfer to industry are supported in diverse ways by the EIROforum organisations. Examples of good practice from the EIROs could be used as models in other scientific fields within the ERA.
7. A functional ERA must be based on a framework that allows unhindered mobility of researchers, and much needs to be done in this area, in particular for the portability of social security, at national and European level to improve the current situation.
8. International cooperation, for the benefit, and in the interest of Europe, is an important aspect of the ERA, and all EIROs are actively involved in international, often global, research projects. This engagement should be seen not only as a constituent part, but as the spearhead of an ERA that is open to the world.
9. Europe needs an autonomous and competitive ERA, in which world-class research infrastructures and facilities are an integral part. Therefore, the European Commission should make optimal use of the solid experience and vast expertise of the EIROforum organisations for the benefit of Europe and the further development of the ERA.

I. The ERA is entering a new phase: the need for closer links between the EIROs and the EU

The Green Paper acknowledges the European intergovernmental research organisations (EIROs) as pillars of the ERA. The EIROs, supported by their member states, have solid experience in certain basic and applied research fields, and operate world-class infrastructures for the benefit of European science. In other scientific fields, there are various initiatives involving several national partners, which exploit the diverse possibilities of variable geometry that is open to participating countries and/or institutions.

In the Science Policy paper, presenting the EIROforum perspectives on the route towards the Lisbon targets¹, the EIROforum organisations acknowledge the diversity and the specific nature of the different research fields within the European Research Area, and bring forward the view that “*the ERA is based on what might be called ‘organised pluralism’, on collaboration and partnership, but also on free competition between researchers in pursuit of excellence.*”

The EU Framework Programmes and the EIROs are two principal instruments of implementing science and technology programmes and initiatives at wide European level. It is therefore important to avoid duplication, to exploit well the synergies, and to achieve good level of coherence between the scientific priorities of the EIROs and the different EU co-funded activities.

The EIROforum organisations support the European Commission in putting forward a renewed vision for the ERA, and agree with the need to further realise and develop the concept of the ERA. The EIROs therefore welcome the Green Paper, including the forward-looking question about their future interactions with the European Community.

In order to reach the ambitious Lisbon goals for knowledge-based European society of the 21st century, the EU should make optimal use of the vast expertise and experience of the EIROs. Enhancing the cooperation between the European Commission and the EIROs, and exploiting the synergies between the EU Framework programmes and the activities of the EIROs are keys to the success of the ERA.

The EC is a fundamental party to EFDA-JET, and on a bilateral basis has already established cooperation agreements with some of the EIROforum organisations (ESA, CERN, EMBL). Now this effort should evolve from a collection of various agreements to an organized relationship, recognising the key role that the intergovernmental organisations play in the ERA, and ensuring their ability to fully participate in its realisation.

II. EIROforum and the ERA concept

EIROforum provides a platform for partnership and collaboration between the largest European intergovernmental research organisations. It also pools the substantial expertise of each partner organisation in basic and/or applied research, and in the management of large international projects, combining them for the wider benefit of European scientific research and technological development.

¹ “Towards a Europe of Knowledge and Innovation – World-class research as the centerpiece of the knowledge-based economy; Perspectives from the EIROforum on Europe’s route towards the Lisbon targets”, EIROforum 2005, www.eiroforum.org/aboutus/pdf/towards.pdf.

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The EIROforum partners have endorsed the ERA vision, and agreed with the features of the original ERA concept as launched by Commissioner Philippe Busquin. The EIROforum Science Policy paper states that the ERA is a framework and facilitator for close cooperation between all the participants on the European research scene, including the EIROs which are outside the EU legal remit, and that one of the main goals of the ERA is to position European scientific research and technological development at the forefront.

This basic view shared by the EIROforum partner organisations remains unchanged. The EIROs are pleased to see that the EC acknowledges the importance of these organisations in the Green Paper, and is searching for ways to ensure their even deeper integration within the ERA.

III. The Green Paper vision of the ERA: the view of EIROforum

As the Green Paper states, during the last few years the ERA has been transformed from a theoretical concept to a practical policy approach embodying many different dimensions. The original ERA objectives are still valid.

The ERA vision is summarised in the Green Paper by six features:

- ❑ Adequate flow of competent researchers
- ❑ World-class research infrastructures
- ❑ Excellent research institutions
- ❑ Effective knowledge sharing
- ❑ Well-coordinated research programmes and priorities
- ❑ Opening of the ERA to third countries

1. Essential conditions for successful European Research Area

The EIROforum partner organisations agree that these are important characteristics of a common European research area, but suggest the addition of a seventh element, namely “*excellent education and training, at all levels, in science and technology.*”

As the summary of the Green Paper rightly states, considerable progress has been made towards the implementation of the ERA, through the various instruments of the EU Framework Programmes, the creation of the European Research Council, the European Technology Platforms, the ERA-Nets and the establishment of the “open method of coordination”, etc. Nonetheless, more focused and sustained efforts are required to overcome the fragmentation of the European public research base. This fragmentation prevents Europe from fully realizing its research and innovation potential, and may be decreased through better coordination of national and European research programmes.

The Green Paper lists the regional, national, and intergovernmental research programmes as subjects of the ERA’s “*well-coordinated research programmes and priorities*”. In this sense, the current concept of the ERA is in line with the idea expressed by the EIROforum Science Policy Paper. Thus, we interpret the Green Paper suggestion as an expression of the need to establish closer links among the European Commission, the intergovernmental organisations, and the national programmes. We welcome this initiative.

The EIROforum partner organisations agree that a successful ERA will be based on the six features described in the Green Paper. Above all, we believe that **good coordination** is the key to the realisation of a successful ERA, and thus we suggest that priority is given to this particular aspect. Furthermore, we propose to add a seventh element of “**excellent education and training, at all levels, in science and technology**”.

2. Governance structures within the ERA

The governance structures within the ERA need to take into account the specific characteristics of basic and applied science. Every research field has its own specific nature, needs, rate of progress and ways of evolving. These are taken into account in the different intergovernmental research organisations with their specific decision-making procedures and governing bodies. The world-leading positions that they have reached in their respective fields demonstrate the viability and success of this approach.

The challenge in building the ERA is to develop a framework and governance structures that accommodate the needs and the aspirations of the EU to act in unison, the wishes of the member states (as main financial contributors), and the needs of science; the latter being defined as a function of the scientific questions to be addressed, rather than as issues pertaining to national or European policies.

Keeping these considerations in mind, the implementation of the ERA must embrace a pluralistic structure, where the scientific policies are set, and the funding decisions are taken by the EU and the member states, whilst defining the needs and goals of research remains the prerogative of those bodies that have been created for the purpose of evaluating, funding and carrying out scientific research, including the existing intergovernmental research organisations and national research councils.

Scientific research is one of the bases of the ERA and has a major role in the building of a knowledge-based society. But scientific research also has specific governance needs: a pluralistic structure that distinguishes the roles and responsibilities of the relevant stakeholders.

IV. Making ERA a reality - the contributions of the EIROs

1. Well-coordinated research programmes and priorities

The collaboration between EIROforum and the European Commission started in 2003. It is based on the Statement of Intent, signed by the Directors General of the EIROforum organisations and the European Commissioner for Research on 27 October of that year, and the definition of a set of Joint Actions, carried out in the spirit of the Statement of Intent, since June 2004.

As regards the relations between the EC and the individual EIROs, the Commission Staff Working Document² rightly mentions that steps were made towards the implementation of

² This document accompanies the ERA Green Paper.

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the ERA when some of the EIROforum partner organisations established closer links with the EC by signing specific cooperation agreements.

This shows that the process of creating better European science coordination, and exploitation of the synergies between the EU and intergovernmental research organisations has begun, albeit slowly. The renewed ERA vision offers an opportunity for a comprehensive coordination between the EIROs and the EU.

Membership of the European Community in intergovernmental research organisations

Over several decades, the EIROforum partner organisations have developed discipline-oriented “European Research Area” in their respective fields of science, uniting teams of scientists as well as their institutions behind common European programmes. With their vast expertise and solid experience, the EIROforum organisations are natural partners of the European Commission in building a strong and competitive ERA. We reiterate that the guiding principle behind targeted policy actions pertaining to the ERA must be to “*position European scientific research and technological development at the forefront*”.

In this sense, practical solutions should be sought that support this principle. Because of the differences between the needs, future plans, and scope of the scientific programmes of the EIROforum partner organisations, there are different institutional options and models of closer links between the European Community and the individual EIROs. Keeping in mind the objective of a more efficient cooperation, these models may or may not include associate status or special membership of the European Community in some of the EIROs.

The current landscape of research programmes, including those of the intergovernmental organisations, is characterised by great variety in terms of legal solutions and participating countries. This may complicate to a certain extent the attempt to enhance overall coordination.

We therefore suggest that enhanced coordination between the EIROs and the European Community is based on formal agreements that assign effective responsibilities to each of the parties. These agreements must be based on reciprocity and may also describe measures to improve the mutual flow of information, and possibly introduce instruments of coordination. Furthermore, for areas of activities where there may be potential for exploitation beyond the original scope of these activities (such as wider societal benefits), this should also be regulated by the agreements.

- ❑ In order to develop more efficiently the European Research Area, there is a clear need for better coordination between the EIROs and the European Community. This enhanced coordination should be underpinned by targeted practical agreements, subject to negotiations between the individual organisations and the EC.
- ❑ There may not be a single legal solution appropriate to the nature and current level of relations of the different EIROforum organisations with the EC; the views of each EIRO are summarized in the Appendix.

2. Developing world-class research infrastructures

EIROforum welcomed the establishment of ESFRI as a first step towards achieving better coordination in Europe with respect to research infrastructures. We note with satisfaction the successful preparation of the first European Roadmap for new research facilities including several of the EIROforum projects, even if the process unveiled the complexity of involving all stakeholders in an appropriate and desirable manner.

We believe that the recent ESFRI experience should be exploited to create a wider policy body with adequate representation of all relevant parties, including representatives of EIROforum. This body should be charged with formulating a commonly supported European effort with respect to the upgrading of existing and the development of new research infrastructures. In our view, the European Commission is well placed to support the establishment of such a body.

Legal structure and governance of research infrastructures

National or European legal frameworks provide good models and elements that can be used for setting up new pan-European partnerships and research infrastructures.

Intergovernmental agreements are currently one of the most efficient legal models for constructing and operating major research infrastructures for Europe, in particular if non-European participation is involved. EIROforum represents seven intergovernmental organisations that have been successful over many decades and therefore represent well-proven models. We are aware that establishing new intergovernmental agreements is often perceived to be cumbersome, but we believe that the long-term operational stability that is embodied in such agreements far outweighs the short-term additional efforts needed to initiate them.

The European Commission could contribute to the development of a more streamlined and efficient process for the setting up of new intergovernmental infrastructures and research organisations.

Management and access to infrastructure of European interest

These are two separate issues. With regard to the definition and use of management models, the EIROforum organisations have demonstrated that a good management structure must reflect the specific needs of the users, and may evolve as the research infrastructure is developed from design, through construction, to exploitation, and finally closure.

The exchange of best management practices is to be encouraged. Transparent principles of management are mandatory, although using common management models and methods may not always be helpful.

As regards the principles for access to infrastructures of European interest, the development of consistent approach may be useful for enhancing the research collaborations within Europe, and for optimal exploitation of these facilities. However, such principles must be developed in accord with the countries (member states) that fund and support the research infrastructures.

Continuous improvement of research infrastructures

Europe needs an autonomous and competitive ERA with modern research facilities. The continuous improvement of research infrastructures is crucial for retaining their competitiveness and for providing up-to-date facilities for Europe’s scientists. Improvements may comprise upgrading of particular facilities, e.g. with new instrumentation. Sometimes upgrading requires and spurs the development of new technologies.

The European Commission, in cooperation with all relevant stakeholders, including the industry, should support mechanisms to create durable partnerships to foster development of critical technologies, important for a large number of research infrastructures, e.g. in the field of detectors. Such partnerships may be established, for example, following the model of the European technology platforms.

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Global forum on research infrastructures

We believe that the strength of a forum³ is to examine options and opportunities in an open and unrestricted manner. The task of such a global forum on research infrastructures would be to assess the particular merits of ideas and projects in the light of global needs and priorities. In that sense, such a forum should comprise all relevant stakeholders, including governments, funding agencies, and representatives of the operators of the large research facilities.

Given the variety and number of such facilities in the different scientific fields throughout the world, it is difficult to imagine how a single global forum on research infrastructure can be created, and how it will function efficiently. Moreover, in the decisions regarding the realization of global research infrastructures, it will be very difficult, if not impossible, to separate the scientific and technical aspects from pure political considerations and influence.

3. Realising a single labour market for researchers

There is much need for improvement in this area. In Europe researchers encounter many difficulties when they leave a country to go and work in another, in particular with respect to pension rights and other social benefits. We recognise that this is a complex area, but we wish to emphasise that a functional ERA must be based on a national and European legal framework that allows the unhindered mobility of researchers throughout Europe.

Mobility of researchers

Mobility is an essential element of researchers' careers. Scientists need to be able to change workplaces easily not only during their training, but also at more senior levels. Nowadays in Europe this can be rather difficult and often results in personal sacrifices, for example of social security and pension rights.

At present there are various forms of mobility. Mobility is most easily achieved within a single organisation that is based on several sites, since the employer ensures stability of employment, career progression and takes responsibility for social security and pension rights. For example, within EFDA, and the European Fusion community as a whole, a system for mobility applies whereby long-term provisions are preserved by the (national) employer, while short-term reimbursements for both the employee and employer are made from EU funds. The more general issue of trans-European mobility across sectors, countries and employers is much more difficult to solve.

Another important matter in the context of researchers' mobility is the school system. Wherever European or intergovernmental organisations of some critical size are proposed, the school situation has to be considered with care. The European Schools' system must offer an education that allows children of international staff to continue on the basis of their national school experience, and to return to their national system without having to repeat classes after their parents' assignments end. The schools have to be staffed with a sufficient number of teachers coming from various countries, and a programme has to be launched to facilitate the secondment of teachers and their training for this particular task. Some member states do not even accept the principle of European Schools but try, not always successfully, to provide for international schooling within their own national systems.

³ e.g. the OECD Global Science Forum

The creation and maintenance of international schools in Europe needs EU funding and long-term commitment.

The Researchers Charter and Code of Conduct for their recruitment

After a thorough analysis of both documents, EIROforum signed a statement of support for the Researchers Charter and Code of Conduct for their recruitment in November 2006.

EIROforum welcomes this initiative of the European Commission, aimed at the development of a sustainable labour market for researchers in Europe in order to strengthen the ERA. EIROforum supports collectively the principles laid out in the Charter and the Code contributing to the career development and international mobility of researchers in Europe.

All EIROforum organisations have a high level of compliance with the guidelines of the Charter and the Code, and most of the recommendations are already implemented and part of common practice. The value of all forms of mobility is recognised by EIROforum and is considered one of the strengths of the EIROforum organisations, with international recruitment and/or mobility on the basis of scientific excellence being an essential part of their mission. Some of the recommendations of the Charter and the Code of Conduct for recruitment of researchers will require further discussion in order to be applicable within the EIROforum organisations. Each EIRO will endeavour individually, where appropriate, to implement recommendations that have not yet been taken up or could be improved upon within their own organisation.

Portability of social security provisions

The issue of portability is central to the question of how to improve intersectorial and geographical mobility in Europe. The Commission can clearly play a key role in proposing adequate regulative measures to cope with this important issue. A subset of this issue is related to the employees of the intergovernmental organisations. Indeed, researchers working for such organisations can suffer because of regulations and obstacles that hinder their geographical and intersectorial mobility. The main problem arises from the fact that EU legislation only provides for harmonisation of the national legislations, which is an understandable consequence of the nature of EU law. Further harmonisation and adaptation in this field should also aim to enable a smooth reintegration into the national systems for these employees, when their service in the intergovernmental organisations is terminated.

The portability of social security is a major issue not only for researchers, but for the whole workforce in the EU. Therefore, there is a clear need for a suitable European framework, offering long-term solutions to this issue.

Attracting the best talents to research careers

The number of additional researchers that are needed in Europe to achieve the objective of investing 3% of European GDP in research has been estimated to be around 500,000. Researchers' careers need to become more attractive; the task is to devise a career path and mobility system that functions as a whole within ERA and allow periods of service to be spent in academia, industry and major research facilities.

A particular effort should be made not only to attract young talented people, but to initiate young graduates into the research profession and help them launch themselves into the job market. Within the EIROforum organisations, various programmes exist for offering fixed-term posts to young graduates, who have little or no professional experience.

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In order to make science careers more attractive to girls and young women, proactive equal opportunity policy is needed. In particular, it is necessary to improve performance with regard to the recruitment and retention of women in physical sciences, engineering and technology. Based on the extensive experience of its partner organisations, EIROforum is well placed to participate in the dissemination of good practice, which will add credibility and visibility to equal opportunity policy and its adoption throughout the ERA.

4. Sharing knowledge

Open access to raw data and scientific publications

Open Access (OA) to raw data and to scientific publications requires different approaches. Moreover, the needs and applicability of OA models vary significantly across the diverse scientific fields. The EIROforum organisations support the principle of OA publishing of validated scientific results and consider OA to be a positive development in scientific publication. There is no single road to open access; different scientific communities have different needs, and hence different OA models may have to be developed and applied.

By way of example, the European particle physics community has developed a practical approach for the transition of high-energy physics (HEP) scientific publishing to OA. The approach is centred on the conversion of existing high-quality journals to OA by redirecting subscriptions through a sponsoring consortium of HEP funding agencies and libraries worldwide. This sponsoring consortium, SCOAP3, is currently being established⁴.

The EIROforum organisations acknowledge the need for EU-level policies and practices towards OA and dissemination of results and peer-reviewed publications from publicly funded research. In particular, they encourage the European Commission to develop appropriate methods for mandating OA to publications resulting from projects funded under the EU Framework Programmes.

The issue of OA to scientific data is more complex. Raw data in most cases are in formats which are usable only by those performing the experiments. Raw data are usually calibrated first, then validated and transformed into other formats or higher-level objects. In some cases even the calibrated data can be used only by specialists. Therefore, the issues of long-term preservation, access to, and usability of data may vary greatly between the scientific fields.

The EIROforum organisations would encourage support from the European Commission for initiatives and development of practices for open access and dissemination of results from publicly funded research. Any EU guidelines and recommendations on this subject should take into account the specificities of data taking and usage in the different scientific fields, the cost and complexity of data storage and accessibility, and also the proprietary periods for usage of the data.

Knowledge sharing and technology transfer

In order to implement effective knowledge sharing between research institutions and industry, and to improve innovation at European level, technology transfer and industrial liaison

⁴ <http://cern.ch/oa/Scoap3WPRReport.pdf>

offices need to be created and/or promoted in all European universities, institutes, and research organisations where applied science and technology are developed.

At a national level, the constraints, fiscal and otherwise, on the creation of start-up and spin-off companies need to be alleviated, and the creation of SMEs as a driving force for innovation needs to be encouraged. The management of intellectual property rights (IPR) resulting from public and private-public research needs to be considerably improved, both at national and at EU level, as this is still one of the major impediments to efficient private-public collaboration.

Many public research organisations prefer not to patent the technologies that they have developed, due to a large extent to the long and expensive process of patent applications and the lack of a common Community Patent. It should be also noted that much fundamental scientific progress depends on the continuous improvement of ideas that are in wide circulation among the whole research community.

Closer links between public research organisations and European industry should be created, and the EU Framework Programmes, and in particular the European Technology Platforms and Joint Technology Initiatives are examples of appropriate frameworks for effective private-public partnerships.

A number of key issues still need to be addressed at national and EU levels for enhancing the links between European science and industry, such as:

- ❑ Effective identification and establishment of databases of technologies and know-how developed by research organisations that may be of potential use to industry.
- ❑ Creation of innovation centres that can act as incubators for new technologies, as well as of funding mechanisms that allow projects to move from the research laboratory to “proof of principle” of commercial value.
- ❑ Promotion and expansion of the role of the industry in novel communication and computing technologies, such as the Grid e-infrastructure.
- ❑ Development of training in entrepreneurship and innovation of researchers at all levels, as well as offering appropriate technology and entrepreneurship courses to students in the European universities.

Most of the EIROforum organisations are actively involved in Technology Transfer with industry and have developed comprehensive Technology Transfer programmes. The models and good practices of these organisations may be used and transferred in a broader European context.

Public outreach and science education

A knowledge-based society cannot be realised without a vibrant S&T workforce. It also requires a strong and sustained interaction between those who produce and disseminate knowledge, and society at large. This is not a unidirectional undertaking, but a multifaceted effort in which many participants are, and should be involved.

For more than two decades the EIROforum partners have been active in areas where this involvement has European added value; in particular in the field of public outreach to stimulate awareness and interest in science, and in the secondary education stage, where professional career choices are often made. Whilst these efforts have largely had the character of pilot programmes, we have gained considerable experience, which can be made available for the wider benefit of Europe.

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This year, in the field of science education, the Expert Group chaired by Michel Rocard made specific recommendations for improving the quality and attractiveness of science teaching as it is delivered in Europe’s primary and secondary schools⁵. EIROforum endorses the recommendation to establish a Science Education Advisory Board, which echoes the proposal by EIROforum, formulated in 2005 in the EIROforum Science Policy Paper, for a Pan-European Partnership for Science Education. EIROforum also welcomes the recommendation for a pedagogical reorientation, but emphasises that such change can only happen with the active involvement of, and support for the teaching corps. Enhanced efforts must therefore be made in this direction.

Since the year 2000, EIROforum has carried out substantial activities in the field of science education, such as the international teachers’ festival Science on Stage, and the journal “Science in School”⁶. We encourage the European Commission to create the necessary conditions for these activities to flourish and become available to the entire corps of science teachers in Europe.

5. Opening to the world: international cooperation in science and technology

The ERA Green Paper places the question of international cooperation in S&T in the wider context of the global society, stating that *“the challenge is to make sure that international S&T cooperation contributes effectively to stability, security and prosperity in the world.”* The ERA should therefore be open to the world, and also S&T cooperation with partner countries should be steered in a coherent and policy-driven manner.

At various levels, all EIROforum partner organisations are prominent international actors and represent strong S&T assets for Europe. Hence, they can be seen as spearheading the development of an international perspective for the ERA. In some cases the international collaborations of the EIROs have paved the way for EC Scientific and Technological Cooperation Agreements with third countries.

However, we believe that the success of international scientific cooperation must be rooted in the quest for scientific excellence, and therefore scientific cooperation must be driven by scientific needs. Retaining this as a baseline criterion is important as we move on to see the ERA both in a global perspective and as an integral part of a common European approach to addressing some of the world’s challenges.

Europe needs to maintain leadership positions in various science and technology fields both to be competitive on the world scene, and to act as valuable partners for third countries. The success story of ITER shows that *“Europe can have the will and capacity for leadership to address global challenges with partners around the world.”*

EIROforum concurs with the view that in global projects Europe should speak with a single voice. Taking ITER as example, the EC should be praised for its ability to forge an agreement with other global partners, and to successfully complete the negotiations on behalf of Europe.

⁵ “Science Education Now: A Renewed Pedagogy for the Future of Europe”, High Level Group on Science Education: M. Rocard (Chair), P. Csermely, D. Jorde, D. Lenzen, H. Walberg-Henriksson, V. Hemmo (rapporteur), European Commission, 2007.

⁶ www.scienceinschool.org

Several other examples, however, have demonstrated that in the fields where intergovernmental organisations exist and already have a coordinating role for European research in their area – as is the case for many of the EIROs – they might be best placed to assume the leading role in international projects because they possess the required expertise and represent their member states directly. Since the membership of a European intergovernmental organisation does not necessarily correlate entirely with the EU, this is where the European Commission could play a role in resolving the issue.

In all cases, as regards specific project implementation, the representation and the role of the different stakeholders (organisations or countries) should depend on the share of their involvement in the funding of the project.

EIROforum supports the idea for a competitive and autonomous ERA, open to the world, and recognises the potential benefits that arise from better European coordination in the field of international S&T cooperation. One of the Joint Actions, which have been defined on the basis of the EIROforum/EC Statement of Intent, calls for exploring the field of closer cooperation with third countries, and we are ready to work with the EC in this field.

V. Conclusions

The European Research Area is fundamental for achieving the Lisbon objectives for a European Knowledge Society of the 21st century. Making ERA a reality depends on the successful implementation of (i) effective coordination of national and European research priorities, programmes, and policies, (ii) further steps towards a sustainable labour market for researchers, and (iii) more coherent activities and initiatives funded at EU level.

Well developed research, education, training and innovation represent the bases of a knowledge-based society, which Europe needs in order to have a truly competitive and dynamic economy.

Over the past decades, the European intergovernmental research organisations have been established with the strong support of their member states; they have progressed and become world leaders in their respective fields of science. Within their disciplines, they have played a key role in structuring the European research, and have connected Europe to the rest of the world. The EIROs have been successful in research, education, training, and innovation at international level.

Therefore, the European countries should continue to support the EIROs, and their solid experience and expertise should be used both by their Member States and by the European Community for the benefit of Europe, and for the development of the ERA.

In their continued efforts towards the effective implementation of the ERA, the EIROforum organisations are ready:

- to revisit the Joint Actions with the European Commission (see page 6), and to enhance the EIROforum cooperation with the EC.
- to discuss the coordination of their research strategies with the relevant EU co-funded activities;
- to make available their competence and expertise to the EU Member States and other European countries for the creation of new research infrastructures or centres of excellence of European interest.

Appendix

The views of each EIROforum organisation regarding possible membership of the European Community

1. CERN

The programme in European particle physics is developed in a number of strong national laboratories, institutes and universities, and the CERN Organisation. CERN is the largest particle physics centre in the world and has a user community of more than 8,000 physicists from all over the globe.

Besides the CERN programme in running large experiments, European collaborations in particle accelerator and detector technologies are also fostered through research infrastructure projects co-funded by the EU Framework Programmes.

The Council of CERN decided to take on the additional role of defining and coordinating the strategy for development of particle physics in Europe by unanimously approving “The European Strategy for Particle Physics” at a special session in Lisbon in July 2006. In order to achieve this objective, the CERN Council will hold dedicated “European Strategy” sessions each year, focused on its coordinating role for European particle physics.

With a view towards better coordination between the EU Framework Programme and the European strategy for particle physics, there is a need to strengthen the relationship with the European Commission beyond its current status of Observer to the CERN Council open sessions, as stated in the 2006 Strategy Statement. This should insure the best cohesion and coordination with the European Strategy defined by the CERN Council, especially as regards EU investments in high energy physics infrastructures. Therefore, the involvement of the European Commission in the discussions, and possibly in the decisions on pan-European projects and initiatives in particle physics has been an issue raised by the CERN Management.

Currently, ways of strengthening the cooperation with the EC are being discussed by the CERN Council. The possible involvement of the EC in the decision-making process of the CERN Council, concerning the European particle physics programme, should be considered on a reciprocal basis, e.g. by taking into account input from the CERN Council to the EU Framework Programmes relevant to particle physics.

In view of the scale of resources and investments required for the construction of new, more powerful accelerators, globalization has become a very important aspect for the future of particle and high energy physics. Therefore, when decisions on the realization of future global projects in this field have to be taken, Europe will need to speak in a single voice, and a more active role of the EC in the CERN Council can result in the consolidation and increasing the weight of Europe’s positions.

2. EFDA-JET

The European Commission – with the advice of the Consultative Committee for the EURATOM specific research and training programme in the field of nuclear energy [Fusion (CCE-FU)] – is responsible for implementing the fusion programme, via “Contracts of Association” that exist between EURATOM and member states (and associated countries such as the Swiss Federation), or research organisations in the member states. The research is carried out in the laboratories of the Fusion Associations and, in the case of JET, under the European Fusion Development Agreement (EFDA). The planning and supervision of the activities carried out under EFDA is the

responsibility of the EFDA Steering Committee in which all the European Fusion Associations and the European Commission (representing EURATOM), are represented.

3. EMBL

EMBL is participating in over 90 projects that are part of the current EU Framework Programme; 26 of these projects are coordinated by EMBL scientists. The European Bioinformatics Institute is leading the preparatory phase for a major upgrade of the European bioinformatics research infrastructure.

EMBL signed an administrative arrangement (Memorandum of Understanding) with the Commission in 1995 prior to the launch of Framework 4, but this agreement was never implemented.

Following the publication of the Green Paper, EMBL Council had preliminary discussions on ways to strengthen the links between the European Commission and EMBL at its summer meeting 2007. There was a general consensus that building the ERA would benefit from closer links between the EIROs and the European Commission. An interface needs to be created that allows a reciprocal relationship from which both sides will benefit. The best way to formalise such a relationship is not clear at present. Full membership of the Commission in EMBL Council is not possible under the current legal framework. EMBL Council is however willing to discuss this issue again in the future, and in particular to examine with the Commission possibilities to improve reciprocal interaction, if the Commission requests EMBL to do so.

4. ESA

ESA has a framework agreement with the EC that entered into force on 28 May 2004. The aim of this agreement is the coherent and progressive development of an overall European Space Policy, establishing a framework providing a common basis and operational arrangements for an efficient cooperation between the two parties.

The specific fields of cooperation are: science, technology, earth observation, navigation communication by satellite, human space flight and microgravity, launchers and spectrum policy related to space.

The coordination and facilitation of cooperative activities are accomplished by regular joint and concomitant meetings of the Council of the EU and the Council of ESA at ministerial level (the so-called Space Council).

The Space Council endorsed (IV Space Council, 22 May 2007) the common European Space Policy that will be developed into a joint Space Programme. For the time being, two major joint programmes are ongoing: Galileo and GMES.

Other joint initiatives in the existing frame are envisaged, notably for space applications, and different options for the evolution of the institutional relations are under evaluation by both parties. These options should represent an evolution of the present situation and should overcome the difficulties (at financial, legal and decisional process levels) encountered in the ongoing joint programmes.

5. ESO

ESO has been participating in the framework programmes since FP5. Preparing for the future, ESO is currently engaged in design studies for an Extremely Large optical/near-infrared Telescope for Europe’s astronomers (E-ELT), which is also supported by the EU through the FP7. ESO has no cooperation agreement with the EC so far.

Response to “The European Research Area: New Perspectives”: Appendix

The Council of ESO may consider strengthening institutional links with the European Community at its autumn session in 2007. ESO has evolved into the primary European organisation for astronomy and astrophysics, and operator of the most powerful astronomical facilities in the world.

In the meantime FP5- and FP6-based projects were jointly financed by ESO and the EC, which formed the background of the cooperation between the two organisations.

ESO is currently examining the different legal options, and will suggest its preferred institutional form in due time during the Green Paper discussions.

6. ESRF

Today, the relations the ESRF has with the EC are limited to the participation of the ESRF in projects funded by the EC Framework Programmes and to the working relations established between Unit B2 of the DG Research with the other members of EIROforum.

With regard to ESRF participation in FP-funded projects, the financial contribution received from the Commission is used solely for research purposes. For example, the ESRF is participating in the EC-funded I “Integrating Activity on Synchrotron and Free Electron Laser Science”, but does not receive any funds for transnational access, the access of the scientific communities of ESRF member countries being defined as part of a mission of the ESRF in its Convention. Funding for access of these communities to the ESRF is therefore part of the operations budget provided by its member countries.

As the majority of the ESRF member countries are members of the EU, the first questions that come to mind when considering a possible EC membership is who the EC will represent, and how the access to the ESRF facilities will be granted. The ESRF member countries could understandably question that the membership of the EC should automatically give privileged access to the ESRF facilities to all EU member states. One must also take into account how the member countries that are not members of the EU would view such membership.

In order to go into further details on this issue, further information on how the EC membership could be of advantage to the organisation and its scientific communities, and therefore to Europe, is necessary.

7. ILL

ILL's present relationship with the EC is limited to participation in the Framework Programmes primarily via the Integrated Infrastructure Initiative for Neutron Scattering and Muon Spectroscopy and through an application for funding of its medium term upgrading plan specified in the ESFRI document. Unlike national sources, it does not receive funds for transnational access, this being provided to researchers from its member countries out of its normal operations budget.

Future membership of the ILL for the EU is a question of principle that can only be decided by the ILL's Associates via the Steering Committee (Council). Before answering this question they would wish to know what such membership would actually mean. How will the EC represent the EU member states that already are Associates or Scientific Members of ILL and which presently have privileged access to ILL's experimental facilities? Would this involve sustained, long-term EU funding and what would it mean for the present Associates and Scientific members of the ILL? The position of the non-EU scientific members, such as Russia or Switzerland, also needs to be taken into account.

A preliminary step might be to accord the EU observer status on the ILL Steering Committee although this also would have to be considered by the Associates.

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The EIROforum is a collaboration between seven European intergovernmental scientific research organisations that are responsible for infrastructures and laboratories. As world leaders within their respective fields of science, the member organisations of the EIROforum constitute the vanguard of European science, enabling European scientists to engage in truly cutting-edge research and be competitive on a global scale. These organisations have a vital role to play in the future of European research.

The seven EIROforum members are:

CERN European Organisation for Nuclear Research

EFDA European Fusion Development Agreement

EMBL European Molecular Biology Laboratory

ESA European Space Agency

ESO European Organisation for Astronomical Research in the Southern Hemisphere

ESRF European Synchrotron Radiation Facility

ILL Institut Laue-Langevin

