



European Strategy Forum
on Research Infrastructures



ESFRI

EUROPEAN STRATEGY FORUM
ON RESEARCH INFRASTRUCTURES

ANNUAL REPORT
2006-2007



>Foreword



It is my pleasure to present ESFRI's fifth annual report.

During 2007, the Forum focused on the implementation of the ESFRI Roadmap for Research Infrastructures and initiated its update.

In April 2007 the European Commission adopted the Green Paper 'The European Research Area: New Perspectives'. With the Green Paper, the European Commission launched a broad institutional and public debate on what should be done to create a unified and attractive European Research Area, which would fulfil the needs and expectations of the scientific community, business and citizens. One of the main dimensions on which the consultation is focused is: "developing world-class research infrastructures".

ESFRI has continued to work on the development of a common strategy for Europe. In particular, it is within the Forum's remit to ensure that the Roadmap includes the majority of planned and foreseen research infrastructures in Europe, to complement the roadmap in areas not yet adequately covered, to endorse proposals at political level and to mobilise the necessary funding.

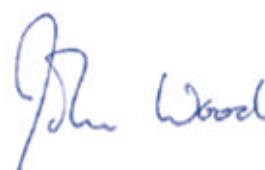
The creation of new forms of Pan-European research infrastructures brings a challenge with respect to the lack of a legal structure allowing the creation of appropriate partnerships. During an ESFRI Workshop held at the end of 2006, experts agreed that Art. 171 ECT could be used as a legal basis for creating a legal form for pan-European research infrastructures.

The proposed update of the Roadmap (which began in September 2007) must include more detail on how e-Infrastructures are to be integrated. It is intended that there will be a clear policy document developed and agreed in cooperation with e-IRG as well as with intergovernmental organisations, other bodies and with the different research communities. The amount of data produced from large research infrastructures is rising exponentially and now becoming a grave challenge demanding radical solutions.

During 2007, ESFRI continued to foster cooperation with complementary European organisations. These entities are fundamental for the realisation of new research infrastructures in Europe and ESFRI looks forward to continuing its fruitful cooperation with them. Additionally, the importance of Regional Issues in research infrastructure policy has been recognised. A working group has been set up to examine regional participation. The work of this group will provide valuable input to a conference on the issue to be held under the Slovenian presidency to the EU in March 2008.

The 4th European Conference on Research Infrastructures took place on 5-6 June 2007 in Hamburg. During this event, we successfully looked at the best governance models, at the development of a common European strategy, and at the international dimension of Research Infrastructures. In addition, one of the Roadmap projects - the European XFEL - was officially launched during the conference. We were again reminded that Europe cannot develop such infrastructures in isolation from the rest of the world.

My Chairmanship of ESFRI will come to an end in March 2008. It was a very busy, challenging and exciting period. I would like to take the opportunity to thank all delegates and the secretariat for their trust and support, and wish good luck to Prof Carlo Rizzuto who will succeed me as Chair. There is still much to do if Europe is to remain competitive in front-line research.



Prof. John WOOD
Chairman of ESFRI



Overview

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Introduction

Since its inception in 2002, ESFRI has been privileged to witness a momentous period in European history with two significant enlargements of the EU. The accession of Bulgaria and Romania to the Union in January 2007 brings the bloc to 27 – a long way from its beginnings as a six-nation Economic Community in 1958. However, it is important to point out that Candidate and Associate States have always been full and equal members of the Forum. This reflects ESFRI's view that the ability of all European countries to work together is a critical element of building research excellence in Europe.

1 In addition to the four plenary meetings held during the reporting period, delegates have also been involved in several parallel and related meetings. The commitment of delegates to this work should not be underestimated and this demonstrates the importance of ESFRI with the Ministers.

Critical to the success of the European Strategy Forum on Research Infrastructures is the selection of an eminent Chair who shall represent the values of ESFRI, who shall act in the general interest of the Forum, who shall steer, stimulate and nurture debate towards ESFRI's shared viewpoints, philosophy and goals. The ESFRI Delegates are extremely grateful to John Wood for his excellent work since he took up the position in March 2005. His dedication, professionalism and tireless work have not gone unrecognised.

Following due procedure, Prof. Carlo Rizzuto (Italy) has been selected to take over the Chairmanship of ESFRI from March 2008. Carlo has been a member of the Forum since its formation and very successfully led the PSE Roadmap Working Group. Delegates are fully confident that he will rise to the challenges before him.

There have been a few changes to the ESFRI Executive Board during the last year. Jean Moulin (Belgium) was elected to the Board in January 2007 (replacing Eeva Ikonen). As incoming Chair, Carlo Rizzuto was co-opted from the June 2006 meeting.

With respect to leadership of the Roadmap Working Groups, during the December 2006 meeting, it was decided that Eeva Ikonen would chair the newly-created RWG for Environment and Eckhart Curtius was selected to replace Ruth Barrington as Chair of the BMS Roadmap Working Group. From the June 2006 meeting, Jørgen Kjems took over the reins from Carlo Rizzuto as Chair of the PSE RWG. Finally, at the request of the Forum, Bjørn Henriksen kindly agreed stay on as Chair of the SSH RWG for a further 12 months.

OVERVIEW OF ESFRI MEETINGS

19th Meeting, Geneva, 1 December 2006

In December 2006, Dr. Robert Aymar, Director-General of CERN, kindly extended an invitation to ESFRI to hold their 19th meeting at CERN. At the same time, delegates were privileged to be given a fascinating guided tour of the ATLAS experiment. ESFRI would like to extend their sincere thanks to Dr. Aymar, his staff and the Swiss Delegation to ESFRI for their hospitality.

20th Meeting, Brussels, 9 March 2007

The 20th meeting of ESFRI took place in Brussels. During this meeting, four of the Roadmap Projects were presented to ESFRI by representatives of the consortia. These projects - KM3NeT, LIFEWATCH, CLARIN and the EBI Upgrade – represent the thematic areas covered by the ESFRI Roadmap.

21st Meeting, Hamburg, 7 June 2007

In June 2007, to coincide with ECRI 2007, the German Delegation to ESFRI hosted the 21st meeting of the Forum. This meeting took place at DESY and included a visit to their facilities. The cooperation of local staff to ensure an excellent meeting was much appreciated.

22nd Meeting, Lisbon, 21 September, 2007

Finally, under the Portuguese presidency of the EU, ESFRI were honoured to be invited to hold their 22nd meeting at the National Laboratory for Civil Engineering (LNEC). On the eve of the meeting, Delegates were given a guided tour of the Seismology Department. Thanks should be extended to the President of LNEC and his personnel, to representatives from the Ministry and not least to the Portuguese Delegates to the Forum.



22nd Meeting of ESFRI - LNEC, Lisbon, September 2007

RESEARCH INFRASTRUCTURE POLICY

Competitiveness Council 21-22 May 2007¹

During the Competitiveness Council held on 21-22 May 2007, the excellent work of ESFRI in creating a European Roadmap for Research Infrastructures was acknowledged. In addition, the Council recommends that ESFRI updates this document on a regular basis. It welcomed the catalytic support foreseen under the 7th Framework Programme and stressed the importance of implementing the projects on the Roadmap. It also invited member states to develop their national roadmaps and called on communities that are less well structured to integrate further and be more proactive at European level. It invited Member States to facilitate dialogue with a view to forming strong variable-geometry groups interested in joint construction and operation of projects. It noted the potential of financial instruments such as the loans of the EIB or the Structural Funds and stressed the importance of developing synergies between these different sources. It noted that access to RIs remains a priority and stressed the need for a continued focus on this issue. Finally, it recognised that some of the projects on the ESFRI Roadmap have a global dimension and as such, invited the Commission and Member States to explore the international cooperation dimension.

Fourth Conference on European Research Infrastructures, Hamburg, Germany, 5-6 June 2007²

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The fourth European Conference on Research Infrastructures focused on the need for a coherent European policy for research infrastructures in order to strengthen and enrich the European Research Area. The ESFRI Roadmap was recognised as an important step in this direction, and the implementation of the 35 projects is now a priority for Europe. The conference highlighted the challenges that need to be addressed for these projects to become a reality: availability of top talents and researchers; creation of a dedicated legal structure at EU level; effective financial management; effective use of e-infrastructures and appropriate arrangements for data storage, security and preservation.



(Left to right) J. Mlynek, R.-J. Smits, B. Vierkorn-Rudolph and J. Wood
Fourth European Conference on Research Infrastructures, Hamburg 5-7 June 2007

¹ The complete Council Conclusions can be viewed at: www.consilium.europa.eu/ueDocs/cms_Data/docs/pressdata/en/intm/94184.pdf

² For more information please consult: www.ecri2007.de/

The increased importance of the international dimension of research infrastructures in general and the high visibility of the ESFRI Roadmap outside Europe in particular was reflected in the high number of high-level international delegates contributing to the conference.

Conclusions of the 4th RI Conference

1. Research infrastructures are important for capacity building, training of researchers and generation and transfer of new knowledge.
2. Policy makers need to take the necessary steps for implementation of the ESFRI Roadmap.
3. National roadmaps are needed, to be integrated in the European and the global roadmaps.
4. Special attention should be paid to the international dimension of research infrastructures.
5. End-user involvement is of key importance from the conception of new infrastructures.
6. The interdependence of all research infrastructures is acknowledged.



Regional Issues

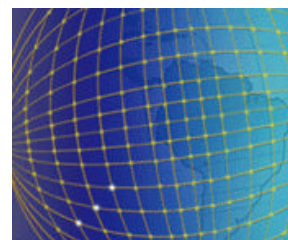
The creation of a European Roadmap has prompted debate in the newer Member States. It has opened opportunities to involve and exploit the potential for scientific excellence and technological growth within the convergence and outermost regions. ESFRI is committed to raising the vision of stakeholders in these regions and to support them in realising their ambitions.

To this end, ESFRI set up a Working Group devoted to Regional Issues. Led by Jure Marn, Slovenian Delegate to ESFRI, this Working Group has started to evaluate the EU Regional Research Infrastructure landscape and in particular the participation of the 12 "newer" Member States in RI activities at pan-European level. The WG is reflecting on the possible use of "structural funds" for attracting and realising new research infrastructures or the upgrading of existing ones.

The Regional Issues Working Group will deliver an interim report to the Forum in December 2007. In due course the findings of the ESFRI Regional Issues Working Group will provide valuable contribution to a "Conference on Research Infrastructures and their Structural Dimension", to be held in March 2008, under the Slovenian Presidency to the EU.

e-Infrastructures and Scientific Digital Repositories

The e-Infrastructure Reflection Group (e-IRG) coordinates on a high European level the introduction of ICT-based infrastructures for e-Science³, having developed concrete roadmaps for the deployment of three key perspectives on networking, grid and scientific data. Together, ESFRI and e-IRG face a major responsibility in supporting the definition and integration of the multidisciplinary research e-Infrastructures in the fabric of research infrastructures, in order to support a more effective scientific process and the ambitions of the European science and research community.



In the preparation of the second edition of the ESFRI roadmap and in order to increase the impact of e-Infrastructures, ESFRI decided that e-Infrastructure aspects will be one of the criteria for assessing each project and that pan-EU needs and priorities will be considered by a cross-disciplinary group, the e-Infrastructures Working Group (eIWG), composed of representatives from all four Roadmap Working Groups (PSE, ENV, BMS and SSH) as well as the e-IRG. This group will be chaired by Dany Vandromme, France.

Furthermore, in order to contribute to the global policy on digital repositories, initiated by the EC through a communication to the European Parliament and to the Council, ESFRI appointed a specific working group for the preparation of a position paper, based on shared views between the ESFRI and e-IRG constituencies.

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Analysis of Legal Issues



The construction of new pan-European research infrastructures with the participation of several different countries and institutions is hampered by the lack of appropriate and flexible legal frameworks.

In the context of the implementation of the projects listed in the Roadmap, two workshops were organized to explore the best existing legal structures that could be used⁴. The conclusions of these workshops regarding the legal form to be used for the establishment of Pan-European research infrastructures show that, in most of the cases, purely national legal bases as well as case by case international agreements have proven inadequate to comply with the needs of these new Pan-European research infrastructures. Therefore, a working group was set up for the conduct of a feasibility study on the creation of a European legal instrument appropriate for Pan-European research infrastructures.

Conclusions

The purpose of the legislation creating the legal instrument in the field of research infrastructure should be to facilitate the formation of European consortia of research players for the construction and operation of research infrastructures of Pan-European interest and necessary for the conduct of Community research programs.

The solution would therefore be an EC regulation providing a common legal frame for research infrastructures of pan-European interest. This regulation would only provide a framework, leaving a considerable amount of flexibility to the individual consortia to set up the adequate rules for the specific infrastructure.

³ www.e-irg.org

⁴ The report of the Working Group can be viewed at: ftp://ftp.cordis.europa.eu/pub/esfri/docs/recommendation-specific-expert-group-2006_en.pdf

THE ROADMAP: Implementation and Update

Implementation of the Roadmap – Preparatory Phase Projects

In October 2006, ESFRI presented the first European roadmap for the construction of European large scale research infrastructures. This roadmap contains 35 key projects which should be implemented in the coming years.



Thirty-four out of the thirty-five projects identified in the Roadmap have participated to a dedicated call for proposals of the European Commission aimed at contributing financially to the preparatory work needed to arrive at the decision stage for their construction. The average EC contribution to each project is 4.3 million€, with an average contract duration of 2 years, starting in 2008. Funding agencies, Ministry representatives and research institutes participate jointly to address the legal, financial, governance, strategic and technical concerns of the projects.

Launch of the X-FEL Project

On the first day of the ECRI conference in Hamburg the German Federal Minister of Education and Research Dr. Annette Schavan officially launched the European X-ray laser facility, X-FEL⁵, the first of the Roadmap projects to get the official go-ahead. The European X-FEL facility, whose total cost is estimated at 1082 million€ (price levels of 2005), will be realised in Hamburg and Schenefeld, with a first phase of realisation at a cost of 850 million€.

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Launch of X-FEL (left to right) Prof. A. Wagner (DESY), Minister A. Schavan (Germany), Minister V. Pécresse (France), Prof. M. Altarelli (XFEL Project Team Leader), Minister A. Fursenko (Russia), First Mayor O. von Beust (Hamburg), Prime Minister P.H. Carstensen (Schleswig-Holstein).

The consortium, composed of 12 international partners (Denmark, France, Greece, Hungary, Italy, the People's Republic of China, Poland, Russia, Spain, Sweden, Switzerland, and the United Kingdom) will contribute at least 25 percent of the costs of this initial version. Construction is foreseen to start in early 2008.

⁵ <http://xfel.desy.de/>

Roadmap Update Process

In launching its first roadmap in October 2006, ESFRI already announced future periodic updates. Considering the rapid evolution of the various fields and the need to address other fields which are now maturing, the update process was decided in the beginning of 2007 and its planning is the following: launch of the update process on 15 July 2007; first meeting of the Roadmap Working Group (RWG) members in September 2007; ESFRI delegations and EIRO will send proposals to ESFRI by November 2007 and these will be forwarded for analysis to the RWGs.

7 | The RWGs have started work on the landscapes of the respective areas, and on evaluations of incoming proposals. Their draft reports to ESFRI are expected by end of spring 2008, allowing the ESFRI assessment of these reports and the first draft of the update of the ESFRI roadmap by June 2008. The validation process and approval of identified projects at ESFRI level will take place in July 2008, allowing in turn the final drafting of the update of the Roadmap and the approval by ESFRI by September 2008. Publication and public release will be in October 2008. The update process is designed to ensure that all projects to be reviewed by the Roadmap Working Groups (RWG) will be assessed using the same transparent and fair procedure.



Inauguration of the RWGs for the Update of the ESFRI Roadmap, Brussels, 10 September 2007

Overview of National Roadmaps

Several Member States have either updated or started their first own internal process of prioritisation and identification of new (or upgraded) research infrastructures⁶. While Denmark, France, Germany, and the UK had already published strategic papers for large scale facilities of national interest prior to the publication of the Roadmap, Greece, Ireland, Malta, Spain and Sweden followed within a few months. Currently Austria, the Czech Republic, Finland, France, Hungary, Iceland, Italy, Lithuania, Norway, Poland, Romania, Slovenia, Sweden, the Netherlands, Turkey and the UK are currently engaged either in their own prioritisation exercise or in the updating of their previous roadmap papers.

⁶ National Roadmaps can be downloaded from the ESFRI website at: <http://cordis.europa.eu/esfri/links.htm>

ESFRI and contacts with other organisations

EIROForum

ESFRI acknowledges the depth of experience of the EIROForum member organisations and the value of their input to the roadmap process. Therefore, during the update of the Roadmap, suitable representatives will be consulted or invited to participate at meetings of the relevant RWGs whenever appropriate. ESFRI will also continue to invite the EIROForum Chair or representatives of organisations members of EIROForum to the open part of relevant ESFRI meetings.



European Science Foundation

Since the launch of the European Research Council, ESF has been steadily moving towards more policy-oriented actions. Its Forward Look instrument in particular could be used to help ESFRI to identify the future needs including small and medium-sized facilities.



European Investment Bank

The EIB confirmed that Research infrastructures are one of their five priorities for investment. In this context, the agreement between the European Commission and the EIB on the Risk Sharing Finance Facility (RSFF) instrument was signed during a dedicated telelink at the ECRI Conference.



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European Research Council

The potential synergies and areas of mutual interest between ESFRI and the newly established ERC have been recognised. Professor Fotis Kafatos, in his capacity as President of the ERC, has been invited to attend one of the meetings of the Forum in the near future.



Relations with the European Technology Platforms

Industry is an important element for innovation in Europe, and as such its involvement not only as a provider but also as a partner in the development and in the use of the new facilities of the Roadmap is important. At present such involvement is limited, and only a limited number of projects have a significant degree of input from industrial partners. ESFRI has therefore initiated to investigate how the European Technology Platforms can give their input to the update process of the Roadmap. To stimulate their involvement, Carlo Rizzuto presented ESFRI, the Roadmap and its update at the plenary meeting of the ETPs, held in Brussels on June 21, 2007. A representative of the ACARE Technology Platform (dealing with aeronautics) shall be invited to present at the December 2007 meeting.

Relations with the European Parliament

On 24 January 2007, ESFRI was invited by Mr. Vittorio Prodi, MEP and rapporteur for the "capacities" Community Specific Programme, to present its Roadmap on Research Infrastructures to the European Parliament⁷. Thirty seven (37) persons were in attendance at the Hearing, of which Philippe Busquin, Jerzy Buzek, Silvia Cornei, Lambert Van Nistelrooij, other MEPs, and several assistants to MEPs. ESFRI was represented by John Wood, Jacek Gierlinski, Bjorn Henrichsen, Eeva Ikonen, and Hervé Péro, executive secretary. The representatives of the European Parliament:



- Recognised the importance of Research Infrastructures in the generation of excellence and capacity building as well as the role that they play in stimulating the interest of young people;
- Noted the need for coordinated mechanisms to assess needs and priorities across nations and disciplines and recognised the crucial role that ESFRI plays in developing a long-term European view on the development of Research Infrastructures of pan-European interest, thus contributing to achieving the knowledge growth as set out in the Lisbon strategy;
- Welcomed the ESFRI Roadmap as well as the assurance that this Roadmap is an ongoing process; in this context they were happy to note ESFRI's commitment to address thematic areas under-represented and recommended that relations with industry be reinforced;
- Noted the importance that policy-makers in the Member States maintain the momentum by committing financially to the projects on the Roadmap; they also recommended that ESFRI quickly identifies those bottlenecks preventing stakeholders raising these funds;
- Acknowledged the role of FP7 and the European Investment Bank play in bringing the Research Infrastructures to fruition; they also recommended that resources available are committed as soon as possible in efficient and mature projects, so that decision-makers can be convinced to commit more money to Research Infrastructures projects at the FP7 mid-term review
- Recommended that 'best-practice' examples for legal and management structures for these Research Infrastructures are put in place;
- Acknowledged the importance of the contribution of the EU12 new Member States and recommend that ESFRI reflect further on their effective participation; they also recommended exploring possible future cooperation with the Regions of Knowledge Community action.

COMMUNICATION

ESFRI Communication Strategy



After implementation, the ESFRI communication tools (ESFRI logo, internet and intranet pages CIRCA, the ESFRI folder etc.) have been assessed and improved to ensure their practicality and functionality, as well as coordination with ESFRI's printed material. The ESFRI folder is now presented in an electronic way (on the internet) to allow regular updating with that of the web pages. www.cordis.europa.eu/esfri

⁷ The complete conclusions can be viewed at: ftp://ftp.cordis.europa.eu/pub/esfri/docs/summary-hearing-parliament-january-2007_en.pdf

International Relations



The publication of the Roadmap generated considerable interest outside Europe and ESFRI has been steadily engaged in discussions with international partners on the strategy for new research infrastructures of international or global relevance. In particular, the Roadmap has been presented during visits of members of the Executive Board or the Secretariat in Argentina, Australia, Brazil, Chile, China, India, Japan, Russia and the USA.

As a consequence of the increased international high-level contacts for the discussion of new research infrastructures, the Global Science Forum of the OECD has also started a compendium and analysis of research infrastructure roadmaps, and of the international dimensions of infrastructures, in order to allow scientists and policymakers to consider any particular proposed research infrastructure in a global context, and to contemplate potential collaborative efforts. The results of this exercise are foreseen for the beginning of 2008.

FUTURE OUTLOOK AND ACTIVITIES

Towards a coherent approach to policy making on research infrastructures in Europe

ESFRI will continue its reflection work on topics such as "capacity building", "opening-up of national research infrastructures", "data storage and security", "legal aspects of pan-European research infrastructures", "institutional development", "international cooperation", and in particular the "regional dimension". A specific conference is being organised on March 5-6 in Slovenia, under the banner of the Slovenian Presidency, to analyse this issue.

Stimulating and monitoring the implementation of the Roadmap

ESFRI will follow the effective implementation of the roadmap during the first year of the "preparatory phase" to be funded by the EC. When appropriate, ESFRI would also stimulate and assess national and regional initiatives. Specific measures will be taken to monitor this implementation.

Update of the Roadmap

ESFRI is preparing the update of the roadmap for new research infrastructures, foreseen to be published in October 2008. The process has been reviewed and optimised on the basis of lessons learned in the preparation of the first edition.

Fifth Conference on Research Infrastructures 2008 in Versailles

Following the European conference on Research Infrastructures organised in Strasbourg in 2000, in Trieste in 2003, Nottingham in 2005, and Hamburg in 2007, the fifth European conference will take place in Versailles, France, on December 9-10, 2008. The Conference will help to expand the outlook and assessment of the best governance models, the development of a common European strategy, and the international dimension of Research Infrastructures.



Contact

ESFRI Secretariat

Postal Address

European Commission

SDME 01/66

B-1049 Brussels, Belgium

ESFRI@ec.europa.eu

Tel: 00 32 2 299 25 39

Fax: 00 32 2 299 21 02