In collaboration with

Evaluation of the Pertinence and Impact of the EU Support Actions to Research Infrastructures in the Sixth Framework Programme

Executive Summary – November 3rd 2008

The Study

The Directorates-General for Research and for Information Society and Media have commissioned from Matrix Insight and Rambøll with PREST a 22 month study to assess the impact of EC support to Research Infrastructures (RIs) under the 6th Community Framework Programme for Research (2002-2006). The study is due to finish in early 2009. It covers all modes of EU support actions to Research Infrastructures (Specific Support Actions, Integrated Infrastructure Initiatives, and Coordinating Actions) under FP6, bar solely Transnational Access contracts. The syudy covers 83 RI projects with an average of 18 participants per project over nine research domains in over fifty countries. Seventy of these projects are related to DG RTD and 13 to DG INFSO.

The evaluation has adopted a mixed-method approach with a before-after framework at its core to structure the systematic collection and testing of evidence about impacts and pertinence. The study has employed a Delphi survey for scoping expected impacts, an on-line survey of project coordinators and participants, detailed review of project descriptions of work, interviews with stakeholders and 30 structured case studies involving 176 interviews. Statistical analysis from the case study sample and project survey data has allowed the drawing of conclusions about the impacts of the programme as a whole. The following presents the main messages emerging at this point.

Aims and Policy Context

The overall objective of the EU Support to RIs under FP6 was to *promote the development of Research Infrastructures of the highest quality and performance in Europe and their optimum use on a European scale based on the needs expressed by the community* . RIs were seen as an essential element for research in Europe to remain at the leading edge. The support aimed to:

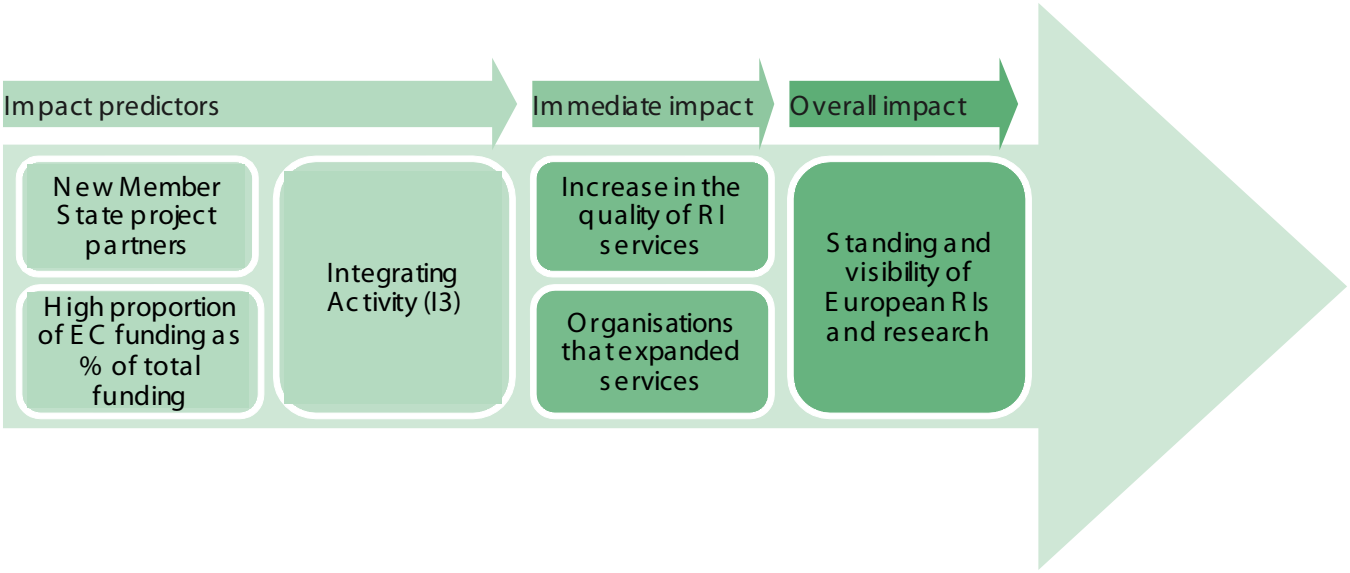
(i) enhance existing infrastructures;
(ii) ensure access to the infrastructures irrespective of their location;
(iii) provide support for the development of new Research Infrastructures.

The RI Support Actions also sought to respond to the wider objectives of FP6 - to contribute to the creation of the ERA by improving integration and co-ordination of research in Europe; strengthening the competitiveness of the European economy through research; helping to solve major societal questions; and supporting the formulation and implementation of EU policies. Within FP6 the new instrument of the Integrated Infrastructure Initiatives sought to promote the networking and research cooperation of similar infrastructures, while design studies and construction projects looked to the future. The RI support actions have been running alongside extensive activities in discussing the future of European Research Infrastructure through the independent European Strategy Forum on Research Infrastructures, which has identified the scientific need for future RIs in its “roadmap”. The Communication Network Development element of the programme aimed to enhance the communications network for European researchers (GEANT) and to foster and enhance the deployment of grid-infrastructures, to promote further breadth and depth of collaboration of researchers in Europe and beyond . The objectives of the programme were about improving research infrastructures and thus research quality and the ERA. The projects were selected through peer review for excellence and relevance.

Findings

Key impacts

The most prominent impacts generated by the Support Actions are in the field of science that benefited from the Research Infrastructures involved, including the quality and complexity of research undertaken, the standing of user communities as well as the quality and standing of the actual participating Research Infrastructures themselves. Impacts on R&D and RI policy were marked at national, European and/or international level although this did not extend to policies in other, unrelated policy domains (for further detailed information see the recently finished ERID WATCH study (www.eridwatch.eu). Impacts on economy/industry and wider society were weaker with a few expectations. There is strong evidence that the programme had an impact on the structuring of the European Research Area particularly through involvement of New EU Member State RIs in projects and through strengthening existing networks of researchers. Overall, the RI actions have added substantial European-level value that would otherwise not have been achieved through national support actions.



Impact on Research Infrastructures is evident

The evidence of impact on Research Infrastructures themselves is clear. There was strong evidence of impact on the improved standing of European RIs and on European research. As a result of the FP6 funding, a majority of projects were able to provide better quality RI services. This in turn led to improvements in the resulting quality of research data. Just over half of projects were also able to increase the number of young researchers working in the relevant area as well as expanding the range and types of services they offer to users.

In relation to achievement of impacts on the RIs themselves, Integrated Infrastructure Initiative (I3) projects and the presence of New Member State (NMS) partners in the project consortia positively influenced an increase in the quality of RI services and the quality of the resulting research data. The presence of NMS also positively related to an increase in the number of young researchers working in the relevant research area. Moreover a high proportion of EC funding, in relation to the total project budget, was associated with an increase in the remote use of the RI and expansion of services offered.

Impact on science community is diverse and marked

Impacts on science communities were manifold and strong. A large majority of projects increased the degree to which researchers were networked in the relevant area of science. In addition, strong evidence was provided to show that the Support Actions had led to national RIs opening up to European and other international scientific users. For a half of the projects, the number of scientists that received training in the use of equipment also increased and just under half of the projects generated more integrated datasets as a result of the support. Relatively few projects however had opened up their RI facilities to new scientific user communities, let alone lay audiences, which is recommended to be improved in the future. Moreover only very limited, anecdotal evidence of projects being able to attract or retain scientists in Europe was found. In fact, if anything, a noticeable trend of projects losing key staff to industry was found. This is raising the issue of sustainability of RIs at European level.

With reference to impacts on science communities, Integrated Infrastructure Initiative projects were found to positively influence an increase in the number of people receiving training of equipment. I3 projects also influenced an increase in access to the RI due to IT quality. In addition, e-infrastructure projects were associated with a greater increase in the number of non-European users than for the overall group of projects examined.

Impact on research policy is clear at regional, national, European and international levels

There was evidence to suggest that projects influenced R&D policies at regional, national, European and international levels. Projects that were close to completion were positively associated with an increase in priority given to their domain and/or RI in national research policies. Compared to other projects, e-infrastructure projects were particularly likely to increase the priority given to their domain and/or RI in national research policies. Overall, the effect on policy-making in domains beyond that of immediate focus for the projects was minute.

Impact on economy/industry is apparent in isolated cases

Little concrete evidence of impact on economy and industry was found except in isolated cases. A moderate effect was found in relation to RIs generating new business for suppliers or manufacturers of goods and services, as well as in projects' triggering researchers to move into industry. For a small minority of projects, industry use of the RI increased as a result of the European support and joint projects with industry were realised. Very few projects had a commercialisation strategy or indeed licensing agreements in place. There was hardly any evidence of projects having realised IPRs/ patents, created spin-off companies, generated new industrial processes or regional economic impact. This is clearly a domain where knowledge and matrices have to be further developed.

Impact on wider society is to be realised in future projects

There was evidence of impact toward long-term realisation of societal impacts. A large majority of projects had public dissemination strategies in place and a majority also encouraged the non-commercial use of research resources. A minority of projects had realised some form of liaison with local communities. Only a few projects had created substantial, wider societal impacts. In instances where they had, these covered increased awareness and knowledge of research among lay audiences and specific scientific advances in fields such as medicine, environment and safety. These more concrete and ambitious impacts were to be fully realised in future projects.

With reference to achieving impact on wider society, projects that were close to being completed were positively associated with liaison with local communities. This provides an indication of societal dissemination that in the longer term may lead to greater societal impacts.

The European Research Area is strenghtened

There was clear evidence that the EU Support Actions had contributed to the structuring of the European Research Area. In relation to a large majority of projects, the degree to which researchers were networked had increased. In addition, the findings indicate that researchers from New Member States were more involved in European communities and networks than before as a result of the support. Further, the European support has enabled scientists particularly in the NMS to undertake new, more or better research. This in turn has lead to improvements in RIs in these countries. There is also evidence that the inclusion of NMS partners into European RI projects triggered national investment in RIs as their visibility and prestige increases.

In relation to structuring of the ERA, a high proportion of EC funding in relation to the overall project budget was associated with an increase in the number of researchers being networked.

Pertinence is explicit in relation to the needs of the research community

A majority of projects fully met their objectives and included the most relevant participants. Most projects underwent some form of external assessment during implementation which resulted in only minor changes to their running. Only a minority of projects would have been able to carry out the same activities - either in a different way or in a reduced capacity - in the absence of Commission funding. Generally, projects were satisfied with the contract conditions, although they pointed to possible improvements. There is strong evidence from this study that the programme has been pertinent to meeting its objectives in relation to the needs of the research community. However, the 'bottom-up' nature of the project means that some of the wider aspirations for the programme in relation to making a broader economic and social impact have not been realised. Also, it seems that the programme's effects are not long-lived with most projects stating the need for further funding to carry on with European level networking and cooperation.

European Added Value (EAV) is evident from the European support actions

There is clear evidence that the European support actions have added value. While few projects clearly stated that their project would not have been possible without EC financing, the large majority were of the view that the European funding enabled certain activities that would not have been possible otherwise. From the perspective of the RIs, EAV was related to leading to better coordinated R&D activities and more effective harmonisation in operations. Moreover, the fact that Commission funding increased the project's visibility helped to establish the research field at European level.

In relation to achievement of impacts, a high proportion of EC funding in relation to the total project budget, was positively associated with achieving impacts, in particular, increases in networking of researchers, increases in the remote use of the RI, increases in the number of people receiving equipment training, and in the expansion of services.

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