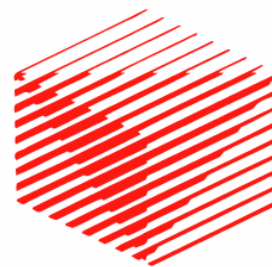


European Research Consortium  
for Informatics and Mathematics

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# Response to EC Framework 7 proposals for ICT



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## 1. EXECUTIVE SUMMARY

ERCIM acknowledges the priority given to ICT in the Framework Programme 7 (FP7) which is recognized as central in the accomplishment of the redefined Lisbon roadmap and sees a doubling of the ICT research budget for Framework Programme 7 (FP7) as an absolute minimum target for maintaining European research excellence and benchmarking with the rest of the world.

ERCIM strongly encourages that ICT is included as an important topic in the European Research Council initiative since it is considered that a strong investment in fundamental ICT research through the set-up of a specific ERC panel should be undertaken. In previous programmes the FET instrument was not sufficiently funded to maintain a sufficient high-level of pre-competitive research.

ERCIM is willing to play an active role in the participation of “new research infrastructures” and “regions of knowledge” clusters which appear as an essential instrument in the technology transfer and innovation chain.

ERCIM supports the preliminary announced ICT activities roadmap, which provides a clear direction regarding the development of technology pillars and their integration into ICT applications supporting societal and business opportunities.

This roadmap is directly in line with the substantiated ERCIM proposal regarding “A Strategy for ICT in Europe”.

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## 2. INTRODUCTION

ERCIM has played a significant role in EC Framework Programmes. Thus we would wish to be involved closely in the emergent development of FP7. ERCIM has adopted some principles with respect to the FP7 initial proposals [6] and in particular the ICT component elaborated in [7]:

- (1) ERCIM considers FP7 vital for the benefit of Europe
- (2) ERCIM considers the proposed budget appropriate
- (3) ERCIM supports the FP7 structure and welcomes the additional emphasis on people and capacities
- (4) ERCIM has already welcomed the ERC and submitted names to the Patten Committee for the ERC Council
- (5) ERCIM would wish to emphasise priority as indicated below

## 3. IMPORTANCE OF PROGRAMMES

### 3.1 Introduction

In the light of the Commission's acknowledgement, that ICT is key to innovation in the EU, we find it of much importance that the proposed funding of priority 3 (ICT) is accepted in the budgets.

Important concerns for the framework programme are  
The balance between short-term and long-term research  
The balance between efforts spent on IT-applications and on generic IT-research  
How large the projects should be  
The approach to dissemination of the new knowledge

These concerns become even more important because the EU research programmes have increasing influence on the form and content of domestic research in member states. Even if presently this effect is mostly indirect, the approaches taken in EU programmes will continue to have considerable influence on domestic research agendas.

In the text of the framework programme the metaphor of "ICT pillars" is used. We emphasise that pillars serve their purposes only if they rest on solid foundation: fundamental research. ERCIM holds the opinion that long term research has been underfinanced in EU sponsored research, and should be given greater priority, e.g., in the FET programmes.

The application of ICT in domain specific solutions provides immediate payback from the investments in ICT research. ERCIM is nevertheless of the opinion that improved payback is achieved if ICT research results are of a generic nature, i.e., the research results can be used over a multitude of domain specific solutions.

The research field has its doubts about the very large IP and NoE projects, and more so about the European technology platform instrument in the ICT research and industrial domain. In FP7 the commission should consider to have more STREPs, small FP5 style projects. It is accepted by all parties that scientists feel more at home in these smaller contexts. ERCIM has substantial links with European industry, and in that relationship, industry is also happier with the results of smaller projects where they can control the exploitation without confounding it with the research stage. An additional benefit of having relatively more STREPs in FP7 than in FP6 is, that it allows for a certain flexibility of managing the budget, while the same volume of interesting research subjects remain, although in projects at a smaller scale.

Research results become useful on a broad scale only when they are internalised in the heads of people. That is, the new knowledge must be effectively disseminated to a broad segment of professionals. This is most effectively done through university education on the masters level. The dissemination approaches should ensure a “fair return” on the new knowledge to all member states. Dissemination instruments should encourage the uptake of EU generated research results in the university education in all member states.

In the proposal for *Building the Europe of Knowledge* [2], four specific programmes are identified: Cooperation, Ideas, People and Capacities.

### **3.2 Co-operation**

The programme for co-operation applies to themes including ICT, where previous programmes have existed to support collaborative research, with the introduction of instruments to support co-ordination of research programmes and international cooperation.

Given the international nature of both the marketplace and the major commercial organisations in the ICT area, and particularly the common, open standards required to ensure interoperability of ICT systems, and a consequently competitive marketplace for procurement, it would be short sighted not to continue with the proposed instruments to support international cooperation.

The proposed instruments for the direct co-ordination of non-community research programmes (i.e. those of member states) will require considerable time to influence the research community and their modes of working. Therefore the current

opportunity to introduce them should be taken, even though it will be necessary to introduce them slowly, and with small budgets. If this opportunity is missed, it will cause considerable delay in achieving the strategic objective of an open European research area (ERA)

### **3.3 Ideas**

The proposal to introduce a European Research Council (ERC) as an instrument to provide a Europe with competitive funding mechanism for frontier research executed by individual research teams has been a topic of much debate in the last few years, which will not be repeated here. If it were judged by the Council that such a mechanism is required to establish the ERA, then any delay in introducing it would greatly delay the creation of the ERA.

It is an open question how much money should be made available to the ERC. If it were to be introduced now, then one option to make savings would be to limit the areas of research that it supports, while another would be to maintain the breadth of disciplines supported, but reduce the available funding in each. If the first option were selected, then the ERC would distort the structure of the European science base in favour of those areas it supports. Such a distortion in basic research would cause long term damage to the pool of trained researchers available at some later date when the ERC had greater funding and wished to expand its breadth of funding to include all areas currently expected to be addressed. Consequently, it is recommended that the second option be taken, and the ERC fund research in all strategically important research topics including ICT which requires specific attention that cannot be easily integrated in more traditional domains (physics, mathematics).

Where technologies have been identified as strategically important for Europe (e.g. [3]) but interdisciplinary links are required to further development, priority should be given to the stimulation of interdisciplinary co-operation to overcome existing barriers to technology development inherent in the current structure of the European science base. In order to maintain the concentration of excellent researchers required to support multidisciplinary research it is recommended that substantial funding is concentrated on institutions with proven records of research excellence.

### **3.4 People**

The specific Marie-Curie programme to address the People issues of strengthening the human potential in research and technology in Europe is an important activity, as it allows researchers to get grants independently of project budgets. Grants often accommodate better to personal excellence than other forms of funding.

Specifically targeted actions with strong pan-European coordination (such as could be provided by ERCIM) should be supported. We emphasise the importance of activating university professors in EU programmes in order to ensure effective

dissemination of research results to the young generations of Masters students and PhD students.

### **3.5 Capacities**

The fourth programme to enhance the research and innovation capacities throughout Europe and ensure their optimal use has mixed importance for ICT. The research infrastructures sub-programme is very timely for the ICT theme where physical network and software infrastructures in the form of GRIDs technology have reached a maturity where support of the current level of development as an infrastructure for science and technology as a whole is expected to provide a significant boost to European science and technology research and the resulting business economy, while further research is conducted to reach the next significant level of GRIDs technology. In contrast, a failure to invest in such infrastructures at this time would leave Europe yet further disadvantaged with respect to her competitors in the USA and the Far East. Consequently such investment at this time is essential.

In contrast, the sub-programme to support research for the benefit of SME's – despite the laudable aims - is not seen to successfully strengthen the innovation in the ICT theme, nor the adoption of its products in other areas. The global marketplace for ICT dominated by a few large multinational companies and is not significantly impacted by such measures. There are niche SME markets but these can be stimulated and developed with the cooperation instruments. Nonetheless, political imperatives from member states may push for retention of this sub-programme. As previously mentioned, considerably more impact on an open marketplace, and opportunities for development of European technology-based SMEs - is brought about through the development of open standards for interoperability which prevent customers becoming locked into the products of a single supplier and allow them to use the competitiveness in the market place to their advantage.

We note that standardising activities, e.g., interoperability, should be seen in a broader perspective. Currently it is only mentioned under "Home environment".

The proposed sub-programmes for regions of knowledge, research potential and science in society are interesting experiments and it is not clear yet what result they will have. Given the opportunities available in the recently enlarged Union, these programmes should facilitate the activity of research teams in those countries with less integrated research communities. Not to attempt to integrate such potential at this time would be a missed opportunity that cannot arise again, so this experiment must be supported now, even if it will attract less funding than was planned.



## **4. MAKING PRIORITIES IN THE CO-OPERATION PROGRAMME**

### **4.1 Introduction**

The principles presented in [1, pg 12] should be applied stringently to the technical options proposed broadly in [1, pg 13] and expanded in [2, pg 21-23] to select technical topics that are most timely in the stage of their technology development to benefit from co-operation at the European level, or which support structural or regulatory changes at the European level.

### **4.2 ICT Technology Pillars**

All the identified pillars are undertaken by researchers, with established European networks within their own local disciplines, however, several of these pillars are at the stage where developments need to move from laboratory to business. To have impact in the international market for ICT infrastructures, these business oriented developments need to address a wide range of industry value chains and business models, which pose varying requirements. Therefore the business-oriented development of the pillars should have priority for funding over developments within discrete disciplines.

### **4.3 Integration of Technologies**

Integration is of particular importance. This is in Europe's engineering tradition and therefore supports existing strengths. Within ICT there is an emerging trend towards re-use of components and again, engineering is of increasing importance (Software Engineering, Web Engineering, etc.)

The readiness of the market to adopt these integrated technologies should be carefully considered in selecting areas for funding when available funds are under stress. Many of the proposed areas do not have clear business drivers for the integration of ICT, and investments in these areas should be based on evidence of that they would result in a significant impact.

### **4.4 Applications Research**

#### ***4.4.1 ICT meeting societal challenges***

The areas identified for funding are all of social significance, however, they are also areas where the adoption of existing technologies is required to provide justification for further state of private investment, rather than the undertaking of ICT research at a technical level. Any funding in this area should be both limited in total, and clearly focussed on providing example cases to justify further private or national investment.

#### ***4.4.2 ICT for content, creativity and personal development***

Developments in new content creation could provide significant business opportunities for European industry with advances in mobile devices. Once

established in Europe such industries could become worldwide media providers. Developments in this area should be considered a high priority for funding.

There is an obvious potential impact in furthering the European project by improving the re-use of digital cultural material in a multilingual environment. Funding in this area should remain a priority where there are technical advances that will result in social impact.

#### ***4.4.3 ICT supporting business and industry***

This area has clear political significance to member states. Any funding in this area should be clearly justified by benefits to industry and not merely by visions presented for the use of technologies. Without very clear industrial benefits that are realistically roadmapped, funding should not be provided in this area.

#### ***4.4.4 Ambient assisted living***

Continued consideration should be given to problems of the aging society, people with special needs, to better assist living support in everyday life

#### ***4.4.5 ICT for trust and confidence***

Research in this area is strongly linked to potential regulatory change which would considerably amplify the benefits if established at a European level, therefore this area should retain high importance for continued support. The topic engages business and public alike, and appropriate technology will overcome a significant barrier to the beneficial exploitation of the technology.

### **4.5 Future and Emerging Technologies**

Only topics where clear benefits to the research can be identified at the European level should be supported - since this work is mainly long term and higher risk research, where those working in restricted fields have already established networks through workshop and conference series. Where technologies have been identified as strategically important for Europe (e.g. [3]) and where interdisciplinary links are required to further development, opportunities to stimulate interdisciplinary co-operation should be given priority. A real effort is needed to select a few high-profile areas recognized as European strengths in this basic research area and to promote European-wide development or the benefit of further R&D in Europe leading to wealth creation and improvement of the quality of life. It is of utmost importance to continually encourage the formation of new, bold ideas. The OPEN FET arrangement is very well suited to this end, and should be continued.

## 5. CONCLUSIONS

- ERCIM acknowledges the priority given to ICT in the Framework Programme 7 (FP7) which is recognized as central in the accomplishment of the redefined Lisbon roadmap
- ERCIM sees a doubling of the ICT research budget for Framework Programme 7 (FP7) as an absolute minimum target for maintaining European research excellence and benchmarking with the rest of the world.
- ERCIM strongly encourages that ICT is included as an important topic in the European Research Council initiative since it is considered that a strong investment in fundamental ICT research through the set-up of a specific ERC panel should be undertaken. In previous programmes the FET instrument was not sufficiently funded to maintain a sufficient high-level of pre-competitive research.
- ERCIM is willing to play an active role in the participation of “new research infrastructures” and “regions of knowledge” clusters which appear as an essential instrument in the technology transfer and innovation chain.
- ERCIM supports the preliminary announced ICT activities roadmap, which provides a clear direction regarding the development of technology pillars and their integration into ICT applications supporting societal and business opportunities.

This roadmap is directly in line with the substantiated ERCIM proposal regarding “A Strategy for ICT in Europe” [5].

## 6. REFERENCES

[1] Strengthening Competitiveness through Co-operation -  
[http://www.cordis.lu/ist/ict/ict\\_consultation.htm](http://www.cordis.lu/ist/ict/ict_consultation.htm)

[2] Building the Europe of Knowledge -  
[http://www.europa.eu.int/comm/research/future/index\\_en.cfm](http://www.europa.eu.int/comm/research/future/index_en.cfm)

[3] ISTAG Report on Strategic Orientations for Information and Communication Technologies in Europe - <http://www.cordis.lu/ist/istag-reports.htm>

[4] ERCIM 'Beyond the Horizon' project - <http://www.beyond-the-horizon.net/>

[5] ERCIM "A Strategy for ICT in Europe"  
[http://www.ercim.org/publication/policy/ERCIM\\_IT\\_Strategy\\_2004.pdf](http://www.ercim.org/publication/policy/ERCIM_IT_Strategy_2004.pdf)

[6] 'Proposal for a Decision'  
[ftp://ftp.cordis.lu/pub/documents\\_r5/natdir0000001/s\\_6797005\\_20050427\\_100958\\_2461\\_en.pdf](ftp://ftp.cordis.lu/pub/documents_r5/natdir0000001/s_6797005_20050427_100958_2461_en.pdf)

[7] 'Strengthening Competitiveness through Co-operation: European Research in Information and Communication Technologies'  
<ftp://ftp.cordis.lu/pub/ist/docs/strengthening-european-research-in-ict.pdf>