



ICSTI
IRELAND

Irish Council for Science,
Technology and Innovation

ICSTI Statement

Towards the Seventh EU Framework Programme for Research and Technological Development



Established by the Government and Forfás to advise on Science, Technology and Innovation



ICSTI Statement
Towards the Seventh EU Framework
Programme for Research and
Technological Development

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Irish Council for Science, Technology and Innovation (ICSTI)

Functions

- To advise on science, technology and innovation policy-related issues in response to specific requests from the Government (through the Minister responsible for Science and Technology) or from the Board of Forfás;
- To advise the Minister responsible for Science and Technology, the Office of Science and Technology and the Board of Forfás on the Council's own initiative, on policy for science, technology and on related matters;
- To advise the Minister on the strategy for the preparation and implementation of national programmes in science, technology and innovation;
- To advise the Minister on the strategic direction for State investment in science, technology and innovation;
- To undertake, from time to time, such other functions as the Minister may decide.

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1.0 Executive Summary

The Seventh EU Framework Programme for Research and Technological Development (FP7) is due to commence in 2007. This multi-annual programme is the main instrument through which the EU implements its research policy. The programme is proposed by the European Commission and agreed by the European Council and European Parliament in co-decision. The current Framework Programme (FP6) involves expenditure of approximately €4 billion per annum to support trans-national research collaboration in academia and industry, the mobility and training of researchers across Europe and other initiatives.

The European Commission is proposing a doubling of the EU research budget (to approximately €8 billion per annum) and is proposing a number of new initiatives in the next Framework Programme to help build the capacity and strength of the “European Research Area”. The proposals are linked to the goal of making Europe the world’s most dynamic and competitive knowledge-based economy. New initiatives being proposed by the Commission include a new fund to stimulate excellence in basic research, investment in research infrastructures and the creation of new industry-driven “technology platforms”.

The Commission’s proposals represent a dramatic departure from previous EU Framework Programmes and could have a significant impact on the science, technology and innovation landscape of individual Member States and the Union as a whole. In common with other Member States, Ireland needs to adopt a position on these very significant proposals. It needs to identify how the European investment will complement Ireland’s own investment (public and private) in research and development in support of the common goal of developing a knowledge-based economy.

The Irish Council for Science, Technology and Innovation (ICSTI) has been asked by the Department of Enterprise, Trade and Employment to consult with the research community in Ireland (in academia and industry) and other important stakeholders to advise Government on

the position to be taken by Ireland in negotiations with the Commission and other Member States on the proposed structure of FP7.

Taking into account the feedback received during the consultation process, ICSTI's reaction to the high-level proposals for FP7 is summarised below.

1.1 Main Principles of ICSTI's Position

- The Framework Programme addresses scientific and technological challenges in key policy areas of concern to Europe and its citizens, including environmental concerns and societal welfare. The Framework Programme must continue to address these important challenges and problems while, at the same time, focussing on the core objective of the Framework Programme – *to strengthen the scientific and technological bases of community industry and encouraging it to become more competitive at international level*. Given the targets set down in Lisbon and Barcelona¹, this objective must be a key consideration in planning for FP7.
- European research policy must be targeted towards those areas where the case for action at the European level is strongest. As with all European actions, the Framework Programme is designed to complement national endeavours and not to replace them. Assessment of the proposals for FP7 must begin with the question of “European additionality” – *why is action at the European level required and why is this preferable to action at the national level?*
- Subject to the points above and without prejudice to the detailed discussions that have yet to take place on the overall EU budget for the period 2007 to 2013, Ireland should be supportive of proposals to significantly increase the EU research budget. In

1 High level objectives were agreed by the European Council in Lisbon in 2000, the objective being to make Europe “*the world's most competitive economy*” by 2010. A specific target was agreed in Barcelona (2002) to bring Europe's investment in research and development to 3 per cent of GDP by 2010 (from approximately 1.8 per cent at the time).

broad terms, the goals of European research policy are consistent with Ireland's strategy to move towards a knowledge-based economy.

- The Framework Programme should continue to be built in very large measure around the traditional “pillars” of encouraging collaborative actions, facilitating researcher mobility and initiatives specifically for SMEs (e.g. Collective and Cooperative Research/CRAFT). The European “value added” of these pillars has been established over many years and it has been demonstrated that they complement rather than compete with national initiatives.
- Given the already high levels of over-subscription in the three areas of the Framework Programme identified above, there should be no decrease in the share of funding allocated to these activities even in the event of a large increase in the Framework Programme budget.
- Ireland should take a lead in improving SME participation in the Framework Programme. Despite on-going efforts by the Commission and by Member States, the view of SMEs and their representative organisations is that the Framework Programme remains largely inaccessible. Instruments need to be SME-friendly to ensure that SMEs can participate fully in the collaborative/thematic areas of the Programme and there is a need for a significant increase in the resources allocated to SME-specific actions (e.g. Collective and Cooperative Research/CRAFT). Specific proposals are made in this Statement under the heading of “SME Participation in Framework Programme”.

1.2 The Six Proposed Pillars of FP7

Trans-National Collaborative Research

- Trans-national collaborative research in thematic priority areas achieves its objectives of fostering linkages between European

researchers in academia and in industry, increasing knowledge flows and improving the quality of research across Europe. Collaborative research in thematic areas should remain as the dominant pillar in the Framework Programme and should account for no less than two-thirds of the Framework Programme budget even in the event of a doubling of this budget. The recommendations of the “Marimon Panel”² are strongly endorsed in Ireland and, in particular, the call for a re-balancing in favour of “traditional instruments” such as STREPs (Specific Targeted Research Projects). Ireland should pay attention to this area when assessing the detailed proposals for FP7.

- The identification of thematic priorities and proposed changes from FP6 priorities will be the focus of future consultations. In general terms, Ireland should support continuity between the thematic priorities of FP6 and those of FP7. Information and Communications Technology (ICT) and Biotechnology/Life Sciences should continue to feature prominently in FP7. In addition, Ireland should highlight two particular priorities:
 - The “Food Quality and Safety” thematic area in FP6 should be expanded to become a wider “Sustainable Agriculture and Food Production” theme in FP7;
 - Marine-related research should receive greater prominence in FP7 and Ireland should support the proposal for marine science to become an innovative, cross-cutting horizontal element across all pillars and thematic areas of the next programme.

Researcher Mobility and Training

- The Marie Curie Fellowships and other initiatives in the area of researcher mobility and training are a valuable part of the Framework Programme. Given their focus on trans-national

2 Evaluation of the effectiveness of the new instruments of framework programme VI, June 2004

mobility, there is no doubt about their complementarity with national initiatives. They clearly complement rather than substitute for national actions so they score highly on the test of European “value added”. They also speak directly to the Barcelona “3 per cent” target which, if it is to be achieved, will require an additional 700,000 trained researchers in Europe by 2010. Ireland should seek a doubling of the budget for this pillar and, at a minimum, its share of the overall Framework Programme budget should not fall below 10 per cent. There is a case for special extended fellowships which could be made subject to achievement of certain targets by the end of the normal fellowship period. Ireland should also support the call for some rationalisation in the number of schemes operating under this pillar.

Stimulating Excellence in Basic Research

- This proposed new pillar in the Framework Programme would see the creation of a fund to support individual research teams to undertake basic research based on the scientific excellence of their projects (without any requirement for collaboration or any thematic constraints). The rationale for this initiative is that a pan-European competition will act to stimulate excellence in basic research in a manner that cannot be achieved by initiatives at the Member State level alone. Ireland should be supportive of this proposed new pillar. The problems it is trying to address (e.g. the fact that Europe lags behind the USA in its share of the very best science) are genuine and the introduction of a European initiative does not mean it will be competing with Member State funding of basic research. In fact, the goal of the European initiative is to stimulate action at the Member State level so there should be complementarity between the two.
- ICSTI agrees with the Commission’s view that there is a case for externalised management of this initiative. From the perspective of ICSTI, it is more important that there be agreement between

Member States on the principles underpinning this initiative (e.g. basis for competition being scientific excellence of projects, administration burden being kept to a minimum, coherence with national funding arrangements etc.) rather than the precise legal structure used to implement the initiative.

Coordination of National Programmes

- The Commission proposes to build on initiatives within FP6 which aim to bring about greater coordination of national research programmes (ERA-NETs). The Commission proposals mention Article 169 of the Treaty which can be used to support initiatives between groups of Member States. Mention is also made of inter-governmental research organisations with the suggestion that Framework Programme funding could be used to directly support some of their activity.
- Given the lack of detail in the Commission's document, it is difficult for ICSTI to advise on a national position. Based on feedback from the research community, Ireland should certainly endorse the type of networking activities facilitated under FP6 and seek their continuation into FP7. Ireland should suspend judgement on other proposals contained in the Commission's document under this heading (i.e. use of Article 169 to support larger initiatives, direct funding to inter-governmental research organisations) pending the publication of more detailed proposals.

Industry-Led Technology Initiatives (Technology Platforms)

- Technology Platforms are an attempt to bring together companies, research institutions, financial institutions and regulatory authorities to map out research agendas for particular technology/sectoral areas. A number of these research agendas could become "Integrated Projects" within the collaborative research pillar of FP7. A certain number, because of their scale

and/or complexity, may become “joint technology initiatives” which could be directly supported by the European Union.

- In overall terms, Ireland should be supportive of technology platforms. Insofar as these platforms are attempting to increase the relevance of the Framework Programme to industry, they are well intentioned. There is a concern, however, that these platforms should be genuinely open networks accessible by all Member States. A perception exists that large companies in Europe will operate these technology platforms as “closed networks” with no real involvement of outsiders. Questions have been raised about the intellectual property developed in these networks and whether the results from EU-supported research will be disseminated outside of the “platform” membership.
- It is likely that the technology platforms which are implemented through the collaborative research pillar will be of more direct relevance to the Irish research community and Ireland should, therefore, seek to have as many of the platforms as are possible implemented through this route. The Commission will need to have a very strong rationale for using the more complex instrument of “joint technology initiatives”. The likelihood that most platforms will be implemented via the collaborative research pillar gives further strength to the Irish position that at least two-thirds of the Framework Programme budget must be allocated to this pillar.
- At the national level, a very strong message has come through from the consultation process that the Irish authorities and the Irish research community need to engage in a more proactive way with developments in this area.

Research Infrastructures of European Interest

- The Framework Programme currently supports European researchers in terms of access to existing specialist RTD infrastructures. The Commission’s document of June 2004 speaks of extending EU competency by getting more involved in the

construction of new infrastructures of European interest. The Commission is supporting the work of the European Strategy Forum on Research Infrastructures (ESFRI) to develop roadmaps of infrastructure requirements in different scientific areas and has suggested that these roadmaps could be used to guide decision-making about infrastructures to be supported through the Framework Programme and/or other mechanisms.

- ICSTI has concerns about Framework Programme budgets being diverted to the construction and development of infrastructures, a matter which has always been the concern of individual Member States or groupings of Member States sharing a common need. ICSTI is of the view that, as far as the Framework Programme budget is concerned, the emphasis should remain on facilitating access to infrastructures.
- ICSTI also has concerns that the work of ESFRI is being rushed to fit in with the timeframe for FP7. Even if they are advised not to, there is a danger that different scientific groups will rush to complete roadmaps on the basis that they will lose out to other scientific areas in the allocation of funding in FP7.
- Ireland should seek to have funding for access to existing infrastructures and the other endeavours that are part of FP6 continue into FP7. The development of pan-European research infrastructures has, in the past, been progressed through multi-lateral actions by interested Member States and it is not clear that actions in this area should be part of the Framework Programme. The next few years should be used to see the ESFRI work through to proper completion and to undertake pilot actions and feasibility studies (with modest budgets) that would test the rationale for moving competency for this area from Member State level to EU level.

1.3 Other Issues

SME Participation in the Framework Programme

Facilitating SME participation in the Framework Programme continues to present challenges at both an EU level and at the Member State level. A key point that is continuously re-inforced is that different types of SMEs will have very different requirements and expectations from the programme.

For a large number of SMEs facing technological challenges, but without internal R&D capability, Collective and Cooperative Research/CRAFT are considered useful. These initiatives have provided a successful introduction to the Framework Programme for many and achieve their goals in terms of creating knowledge for the SMEs concerned and fostering pan-European linkages. The fact that Collective and Cooperative Research/CRAFT facilitate a “bottom-up” approach as opposed to the “top-down” approach imposed in Thematic Priorities is also seen as positive by SMEs. The main problem is over-subscription. There is a strong case for increasing the budget for these initiatives to €300 million per annum (i.e. €1.5 billion over a five year programme).

For SMEs with internal R&D capabilities, there are a number of routes into research collaboration in the thematic areas. In some thematic areas, there are special calls for SMEs (e.g. “IPs [Integrated Projects] for SMEs” and STREPS specifically targeted at SMEs). While these can work well and should be retained going forward, there may be greater benefit accruing when SMEs participate as equal partners in mainstream calls (alongside research institutes, larger firms and other players). Balance is required in the use of SME-specific calls and SME involvement in general calls.

SMEs in Ireland have expressed a clear preference for “traditional” instruments (including STREPs) and find it more difficult to participate in Integrated Projects. The implementation of the “Marimon Panel” recommendations should go some way towards

addressing the issues raised by SMEs in respect of FP6. Irish authorities should pay close attention to the manner in which these recommendations are reflected in the design of FP7.

In order to better stimulate SME participation, more innovative, bottom-up and attractive funding mechanisms need to be introduced and there may be valuable lessons to be gained from other research programmes (e.g. SBIR in the US³). Member States and the European Commission must work together with industry to bring a greater level of creativity to the design of Framework Programme.

Administration and Management of the Programme

Issues relating to administration and management of the Framework Programme featured prominently in consultations with stakeholders. Some general concerns were expressed with regards to “bureaucracy” and the reporting burden placed on participants. In general, the view of the Irish research community is that administration and management issues have been more of a problem with FP6 (at least in its early stages) compared with previous rounds of the programme.

The issues of administration and management are closely bound up with the debate about instruments. There is a strong view among Framework Programme participants in Ireland that Integrated Projects and Networks of Excellence require specialised management and that the allocations made for management time and resources are not sufficient to cover all of the work involved in managing these large and complex networks.

The Irish research community agrees with the Commission’s proposal that collaborative research should remain under the direct control of the Commission and thinks that the same logic should apply in the area of researcher mobility and training (Marie Curie actions etc.). Day-to-day administrative aspects could be sub-contracted to outside organisations, but control and responsibility should be retained within the Commission.

3 SBIR is the Small Business Innovation Research programme - a set-aside programme for small business concerns to engage in research and development that has the potential for commercialisation.

The following suggestions are also made:

- Improvements are needed in the transparency and consistency of the evaluation process and the level of detail provided to unsuccessful candidates;
- Efforts should be made to avoid “reserve lists” altogether by avoiding over-subscription in the first place. The two-stage evaluation process and/or more fine-tuned scoring of proposals may help to achieve this;
- The time taken from notification of success to contract conclusion must be shortened. ICSTI is aware that this concern has been expressed throughout Europe and encourages the Commission and Member States to implement practical initiatives to address this problem.

Space and Security Research in FP7

The proposals to introduce space research and security research did not receive a strong reaction from the Irish research community.

- In terms of space research, it is important that any budget allocated from the Framework Programme budget be specifically dedicated to research activities rather than a more general space programme.
- In terms of security research, the Irish research community supports the proposal for a wide definition to be used to include “human aspects” such as the causes of conflict. The proposed budget of €1 billion per annum needs to be justified.

Policy-Oriented Research

In terms of policy-oriented research, the Irish research community is of the view that research on policy issues (e.g. agriculture, transport, health, environment) may fit more appropriately with the thematic research priorities. There may be more advantages to aligning policy research with other research in thematic areas as compared with the grouping of all policy-oriented research in a separate strand.

National Initiatives in Support of FP7

There is a need for greater action at a national level in order to help Irish companies and research institutions to participate fully in the Framework Programme, in partnership with their counterparts across the European Union. Examples of initiatives at the national level are presented below:

- There may be scope for more intensive interaction on the part of government agencies and other intermediaries with potential participants in the Framework Programmes (in academia and in industry). There is a perception that other Member States provide potential participants with more “hands-on” support to get involved in the Framework Programme so there is a case for at least examining the potential to offer a wider suite of services to that currently on offer;
- The opportunities afforded by the Framework Programme in general, and the proposed initiative to support excellence in basic research in particular, underline the need for continued investment in research facilities (in terms of equipment, laboratory space, libraries and other resources). This investment at national level will help Irish researchers to participate more actively in the Framework Programme and is an example of the way in which national actions and EU actions can work to complement each other.

- The Technology Platforms proposed for FP7 could have a very significant impact on the shape and direction of the Framework Programme going forward. There is a need for more proactive involvement on the part of the Irish research community and on the part of national authorities to have a greater say in the research agendas being decided under this proposed pillar of FP7.
- Finally, there is scope for Irish authorities to get more closely involved in linking research programmes in Ireland with those of other Member States through “ERA-NETs”. An audit should be undertaken to examine the potential for greater involvement between research programmes in Ireland and those of other countries through existing and/or new “ERA-NETs”.

2.0 Introduction

This report provides reaction to a set of proposals put forward by the European Commission in June 2004 on “future EU policy to support research”⁴. These proposals represent the first step in planning for the Seventh EU Framework Programme for Research and Technological Development, a programme to be proposed by the European Commission and to be agreed by the Council of the European Union and the European Parliament in co-decision. The Seventh EU Framework Programme (FP7) will come into play in 2007 following on from the current programme (FP6), which runs from 2002 to 2006.

The Irish Council for Science, Technology and Innovation was requested by the Office of Science and Technology in the Department of Enterprise, Trade and Employment to undertake a national consultation process on the European Commission’s proposals and to provide advice on these proposals based on feedback received during the consultation process.

The European Commission has yet to produce its formal, detailed proposals for FP7 so it is important to note that the consultation process has focused on certain “high-level” issues relating to the structure of the next Framework Programme and, in particular, the new initiatives that the Commission is proposing to adopt as part of FP7.

ICSTI commenced its consultation process in September 2004 by preparing a draft position paper on the Commission’s proposals⁵. This document was used to stimulate discussion with the research community in Ireland (in academia and in industry) and with science and technology related organisations in Ireland.

In addition to a nationally advertised call for submissions (based around a dedicated website www.forfas.ie/icsti/fp7), a number of events and meetings were organised by ICSTI to discuss the Commission’s proposals and the draft Irish position paper with stakeholders. Among the events organised were:

4 “Science and technology, the key to Europe’s future – Guidelines for future European Union policy to support research” COM(2004) 353 final – Document available at http://europa.eu.int/comm/research/future/index_en.html.

5 ICSTI Consultation Paper - Preparation of an Irish Position on Seventh EU Framework Programme – Document available at www.forfas.ie/icsti/fp7.

- A workshop with research funding organisations (which focused on the alignment of the EU Framework Programme and national funding structures for research and development);
- A workshop with industry representative groups (which focused on issues relating to industry participation in the EU Framework Programme);
- A workshop with National Delegates and National Contact Points for FP6 (which focused on their assessment of the proposals for FP7 and prospects for Irish participation in light of experience with FP6);

The ICSTI consultation process received the active support of the FP6 Information and Support Unit (based in Enterprise Ireland) and from the network of National Delegates and National Contact Points for FP6 who organised events during the consultation process to elicit views from the Irish research community (including a number of events organised in the third-level colleges).

The Consultation process was managed by the ICSTI Task Force on the European Research Area which is chaired by Dr Peter Heffernan, Member of ICSTI and Chief Executive of the Marine Institute. The full membership of the Task Force is set out in Appendix I.

3.0 Overview of the Commission's Proposals and Principles Underpinning the Assessment

3.1 Overview of the Commission's Proposals for FP7

The EU Framework Programme for Research and Technological Development is the main instrument for implementing EU research policy. The Framework Programme was introduced in the 1980s (to complement national funding of science, technology and innovation) with a focus on trans-national collaborative research of an applied, industry-oriented nature. Europe is currently implementing its Sixth Framework Programme (FP6) with a budget of close to €20 billion and covering the five year period 2002 to 2006. Its scope has now extended to a number of areas over and above trans-national collaborative research to include, for example:

- Support for mobility and training of researchers;
- Support for access to research infrastructures;
- Support for policy-oriented research;
- Support for SME-specific actions;
- Co-ordination of national programmes.

The Framework Programme is proposed by the European Commission and is agreed by the Council of the European Union and the European Parliament in co-decision. The Commission's high-level proposals for FP7 are dealt with in subsequent sections but the main proposals are:

- There should be a doubling of the EU budget for research – this proposal will be part of the discussions on the overall budget for the EU for the period 2007 to 2013 (EU Financial Perspectives) and may require a general increase in Member State contributions;
- The following axes or “pillars” would feature in FP7 with the overall objective of strengthening the European Research Area:
 - A fund to stimulate excellence in basic research;
 - A strengthening of coordination activities across Europe including the possibility of direct funding to inter-governmental research organisations;

- Extending EU involvement in research infrastructures to include the possibility of developing new infrastructures of European interest;
- The introduction of Technology Platforms, described as industry-driven initiatives to create strategic research agendas and to implement these agendas through public and private actions;
- New programmes for space research and security research.

3.2 Principles Underpinning ICSTI's Assessment of the Commission's Proposals

Subsequent sections of this Statement set out ICSTI's view on each of the FP7 proposals informed by feedback received during the national consultation process. Prior to this, some general points in relation to the Framework Programme and the European Commission's proposals are presented below:

- The Framework Programme addresses scientific and technological challenges in key policy areas of concern to Europe and its citizens, including environmental concerns and societal welfare. The Framework Programme must continue to address these important challenges and problems while, at the same time, focussing on the core objective of the Framework Programme – *to strengthen the scientific and technological bases of community industry and encouraging it to become more competitive at international level*. Given the targets set down in Lisbon and Barcelona⁶, this objective must be a key consideration in planning for FP7.
- European research policy must be targeted towards those areas where the case for action at the European level is strongest. As with all European actions, the Framework Programme is designed to complement national endeavours and not to replace them.

6 High level objectives were agreed by the European Council in Lisbon in 2000, the objective being to make Europe "the world's most competitive economy" by 2010. A specific target was agreed in Barcelona (2002) to bring Europe's investment in research and development to 3 per cent of GDP by 2010 (from approximately 1.8 per cent at the time).

Assessment of the proposals for FP7 must begin with the question of “European additionality” – *why is action at the European level required and why is this preferable to action at the national level?*

- Subject to the points above and without prejudice to the detailed discussions that have yet to take place on the overall EU budget for the period 2007 to 2013, Ireland should be supportive of proposals to significantly increase the EU research budget. In broad terms, the goals of European research policy are consistent with Ireland’s strategy to move towards a knowledge-based economy.
- The Framework Programme should continue to be built in very large measure around the traditional “pillars” of encouraging collaborative actions, facilitating researcher mobility and initiatives specifically for SMEs (e.g. Collective and Cooperative Research/CRAFT). The European “value added” of these pillars has been established over many years and it has been demonstrated that they complement rather than compete with national initiatives.
- Given the already high levels of over-subscription in the three areas of the Framework Programme identified above, there should be no decrease in the share of funding allocated to these activities even in the event of a large increase in the Framework Programme budget.
- Ireland should take a lead in improving SME participation in the Framework Programme. Despite on-going efforts by the Commission and by Member States, the view of SMEs and their representative organisations is that the Framework Programme remains largely inaccessible. Instruments need to be SME-friendly to ensure that SMEs can participate fully in the collaborative/thematic areas of the Programme and there is a need for a significant increase in the resources allocated to SME-specific actions (e.g. Collective and Cooperative Research/CRAFT).

ICSTI’s view on each of the pillars proposed for FP7 and on certain other “horizontal” issues is presented in Sections 4 and 5 which follow.

4.0 Reaction to the Proposed Six Pillars of FP7

4.1 Trans-National Collaborative Research

Collaborative research in thematic areas involving academic research groups, industrial participants (including SMEs) and research centres has been the cornerstone of the EU Framework Programme from the beginning. The Commission's proposals point to the European "value added" of this activity in terms of fostering linkages that would not otherwise take place, improving the quality of research by facilitating greater co-operation among researchers, promoting technology transfer and training and improving the dissemination of knowledge and results across the European Union.

The research community in Ireland re-echoed these sentiments throughout the consultation process and go even further than the Commission's own statement by supporting the view that **this pillar of Framework Programme should continue as the dominant pillar in FP7 and future programmes**. The Irish research community is of the view that, given the large amount of over-subscription in FP6, collaborative research should account for no less than two-thirds of the Framework Programme budget even in the event of a doubling of this budget.

The choice of instruments to implement collaborative research was the main issue raised by researchers during the consultation process. The research community in Ireland expressed a strong preference for instruments that suit smaller scale and shorter-term collaborations with Specific Targeted Research Projects (STREPs) receiving specific mention. Academic researchers, industrial participants and industry representative groups have all come out strongly in favour of "traditional" instruments such as STREPs and have suggested that difficulties in participating in FP6 can be attributed in large part to the "over-use" of new instruments including Integrated Projects (IPs) and Networks of Excellence.

At the same time, many researchers see the benefit and rationale for Integrated Projects and support the use of this instrument in appropriate circumstances. Integrated Projects for SMEs (IPs for SMEs) also received positive reaction.

There is less enthusiasm for Networks of Excellence among the research community in Ireland. Whether intended or not, the scale of these networks is such that they are judged “unmanageable” by many researchers. The use of Networks of Excellence should be limited to very special circumstances going forward and the research community would like to see this reflected in the design of FP7.

The views expressed by Irish researchers are consistent with the conclusions and recommendations of the “High Level Expert Panel” chaired by Professor Marimon. The design of FP7 must reflect the recommendations of this group and, in particular, Recommendations No. 7 and No. 9 of this report which address the issue of re-balancing the Framework Programme in favour of traditional instruments.

The consultation process did not focus on thematic priorities in FP7 as this will form part of the more detailed planning for FP7 that will take place during 2005. In general terms, there is support in Ireland for continuity between the thematic priorities of FP6 and FP7 subject to a number of specific proposals which need to be fed through to the Commission’s consultation process on thematic priorities. Information and Communications Technology (ICT) and Biotechnology/Life Sciences should continue to feature prominently in FP7. In addition, Ireland should highlight two particular priorities:

- The “Food Quality and Safety” thematic area in FP6 should be expanded to become a wider “Sustainable Agriculture and Food Production” theme in FP7;
- Marine-related research should receive greater prominence in FP7 and Ireland should support the proposal for marine science to become an innovative, cross-cutting horizontal element across all pillars and thematic areas of the next programme.

4.2 Researcher Mobility and Training

This is an established pillar of the Framework Programme and there is a high level of familiarity with Marie Curie Fellowships and other initiatives in this area throughout the research system in Ireland. This pillar received widespread positive endorsement during the consultation process with a strong call for a substantial increase in the budget for this area going forward. **Ireland should seek a doubling of the budget for this pillar and, at a minimum, its share of the overall Framework Programme budget should not fall below 10 per cent.**

There is no doubt about the European “value added” of this pillar - the activity supported here is clearly additional to Member State activity. This pillar also speaks directly to the Barcelona “3 per cent” target which, if it is to be achieved, will require an additional 700,000 trained researchers in Europe by 2010. The mobility actions in Framework Programme can play a large part in developing and nurturing this resource.

Mobility actions are also considered to be relatively straightforward to administer and have less of the complexity of Integrated Projects, Networks of Excellence and some of the other collaborative actions. The experience in Ireland is that business enterprises, large and small, can derive benefit from Marie Curie Fellowships and other placements and have fewer complaints about bureaucracy and administrative issues as compared with other aspects of Framework Programme.

The research community in Ireland supports the proposal to bring about some rationalisation of the number of schemes in this area and supports the proposal for four categories:

- Initial Training: encompassing Research Training Networks, Early Stage Training;
- Transfer of Knowledge: Industry Academic Partnerships;

- Lifelong Research Training: Intra-European, International Fellowships and Staff Exchanges;
- Cooperation between the Marie Curie Schemes and complementary national programmes.

The following proposals were also endorsed during the consultation process:

- Special incentives should be put in place to encourage women, currently or previously working in science and research, to get involved in such mobility programmes;
- More incentives should be put in place to encourage closer university-enterprise training links;
- Greater attention needs to be given to stability of research careers – there is a case for special extended fellowships which could be made subject to achievement of certain targets by the end of the normal fellowship period.

4.3 Stimulating Excellence in Basic Research

The Commission's document of June 2004 raises the possibility of a new pillar in the Framework Programme – support for individual research teams to undertake basic research based on the scientific excellence of their projects. Basic research is already supported in the Framework Programme within certain thematic priority areas, within “New and Emerging Science and Technology (NEST)” and through certain Marie Curie initiatives.

The aspect that is new in this proposed pillar is that there would be no requirement for trans-national collaboration and no pre-defined thematic constraints placed on the submission of proposals. The rationale for this new pillar is that a pan-European competition will act to stimulate excellence in basic research in a manner that cannot be achieved by initiatives at the Member State level alone.

Ireland should support the proposals being made in this area bearing in mind the following considerations:

- Support for this initiative must not be at the expense of the existing pillars (trans-national collaborative research, mobility of researchers and SME-dedicated actions). These pillars of Framework Programme have already demonstrated their European “value added”. Support for the basic research initiative is made subject to the recommendations made elsewhere in this Statement;
- The wording of the Commission’s proposals is very important. It is the scientific excellence of the projects that will be the basis of the European-wide competition. Younger project teams should not be excluded from competitions organised under this pillar nor should there be a bias in favour of more highly resourced institutions *per se*. The scientific excellence of the proposals should be the sole criterion in competitions organised under this pillar;
- The complementarity between this initiative and Member State initiatives to support basic research needs to be set out with greater clarity in the Commission’s detailed proposals. Concerns have been raised that a European initiative in this area will, in time, lead to a reduction in Member State’s own funding of basic research. ICSTI recognises that this is not the intention of the Commission’s proposals, but this concern should be addressed in subsequent communications from the Commission;
- This proposal would have implications for some of the supports for basic research in the current Framework Programme and, in particular, for New and Emerging Science and Technology (NEST), an area that has received positive endorsement from the Irish research community. The Commission’s detailed proposals for FP7 should address the impact that a new pillar for non-collaborative basic research would have on other supports for basic research in Framework Programme;

- There is agreement that a full cost model is the appropriate model to use (i.e. 100 per cent funding of all costs including overheads). While this would have some short-term implications for financial management systems in Irish research institutions, it is important that this model be used;
- The governance structure for this new pillar is the subject of much debate at European level presently. ICSTI agrees with the Commission's view that there is a case for externalised management of this initiative. From the perspective of ICSTI, it is more important that there be agreement between Member States on the principles underpinning this initiative (e.g. basis for competition being scientific excellence of projects, administration burden being kept to a minimum, coherence with national funding arrangements etc.) rather than the precise legal structure used to implement the initiative.

4.4 Coordination of National Programmes

The Commission proposes to build on initiatives (e.g. ERA-NETs) already supported within FP6 to bring about greater coordination of national research programmes. Funding from the Framework Programme budget can be used to support coordination activities, networking of national programmes and opening up of national programmes to other Member States. In FP6, these coordination activities account for less than 2 per cent of the overall budget.

There is broad support within the research community in Ireland for continuation of coordination activities and certainly at the level operated in FP6. The Commission proposes to extend activity in FP7 with specific mention of Article 169 of the Treaty to support greater co-operation between Member State RTD Programmes. Mention is also made of inter-governmental research organisations (such as CERN, EMBO, EMBL, and ESO) with the suggestion that Framework Programme funding could be used to directly support some of their

activity. These inter-governmental organisations have always operated on the basis of multi-lateral actions between interested Member States so this would be a significant departure that has not been fully explored in the Commission's current proposals.

Given the lack of detail in the Commission's document, it is difficult for ICSTI to advise on a national position. Based on feedback from the research community, Ireland should certainly endorse the type of networking activities facilitated under FP6 and seek their continuation into FP7 with a resource allocation of the same magnitude as FP6. Ireland should suspend judgement on other proposals contained in the Commission's document under this heading (i.e. use of Article 169 to support larger initiatives and direct funding to inter-governmental research organisations) pending the publication of more detailed proposals.

4.5 Industry-Led Technology Initiatives (Technology Platforms)

In the European Commission's document of June 2004, "technology platforms" are described as initiatives to bring together companies, research institutions, the financial world and regulatory authorities at European level to map out research agendas for particular technology/sectoral areas.

These research agendas could become operationalised in the Framework Programme in the form of "Integrated Projects" within the collaborative research pillar. A certain number, because of their scale and/or complexity, may become "joint technology initiatives" which could be directly supported by the European Union under Article 171 of the Treaty (which allows for joint undertakings between the Community and other parties).

The Commission has documented more than twenty candidate platforms⁷ and it is possible that others will emerge prior to the launch of FP7. Of the total number, the Commission expects a certain number to be implemented through the collaborative research pillar and a small number to become “joint technology initiatives”. Undoubtedly, there will be others that never get to the implementation stage.

It is clear to ICSTI that there are varying interpretations of what may or may not be feasible in this area and variation even in the definition of a “technology platform”. For some, the emphasis is on ensuring that the outputs of future research are compatible with standards that will be developed over the coming years. For others, the emphasis is on the Framework Programme as a source of funding for research endeavours.

One of the main concerns in Ireland is that these platforms and/or “joint technology initiatives” should be genuinely open networks accessible by all Member States. There is a concern that large companies in Europe will operate these technology platforms as “closed networks” with no real involvement of outsiders. Questions have been raised about the intellectual property developed in these networks and whether the results from EU-supported research will be disseminated outside of the “platform” members.

In overall terms, and subject to the reservations expressed above, Ireland should be supportive of technology platforms. Insofar as these platforms are attempting to increase the relevance of the Framework Programme to industry, it should be acknowledged that they are well intentioned.

7 Technology Platforms – From Definition to Implementation of a Common Research Agenda, European Commission, 2004 (located at www.cordis.lu/technology-platforms).

It is likely that the technology platforms which are implemented through the collaborative research pillar will be of more direct relevance to the Irish research community and Ireland should, therefore, seek to have as many of the platforms as are possible implemented through this route. The Commission will need to have a very strong rationale for using the more complex instrument of “joint technology initiatives”. The likelihood that most platforms will be implemented via the collaborative research pillar gives further strength to the Irish position that at least two-thirds of the Framework Programme budget must be allocated to this pillar.

At the national level, a very strong message has come through from the consultation process that the Irish authorities and the Irish research community need to engage in a more proactive way with developments in this area. The Technology Platforms which are being proposed need to be assessed in detail for their fit with research/sectoral priorities in Ireland and networking opportunities exploited so that potential Irish partners can be introduced to these platform groups at an early stage.

4.6 Research Infrastructures of European Interest

The Framework Programme currently supports European researchers in terms of access to existing specialist RTD infrastructures and also supports initiatives for certain pan-European infrastructures in the area of computing networks (e.g. GEANT project for the interconnection of electronic research networks).

The Commission’s document of June 2004 speaks of extending EU competency by getting more involved in the construction and operation of new infrastructures of European interest. The Commission does not make a specific statement that the Framework Programme budget would be used to directly support the construction costs of new infrastructures. Instead, the Commission has spoken in broad terms about the Framework Programme being used to leverage other

sources of European funding (e.g. European Investment Bank, structural funds etc.) and national funding (public and private) in support of these endeavours.

The Commission is also supporting the work of the European Strategy Forum on Research Infrastructures (ESFRI) to develop roadmaps of infrastructure requirements in different scientific areas. The Commission has suggested that these roadmaps could be used to guide decision-making about infrastructures of European interest to be supported through the EU Framework Programme and/or other European mechanisms. Infrastructure roadmaps are also being prepared by the various sectoral ERA-NETs supported under FP6.

The research community in Ireland endorsed the view put forward in the ICSTI consultation document that, as far as Framework Programme budgets are concerned, the emphasis should remain on facilitating access to infrastructures rather than building new infrastructures. Among the concerns expressed within the research community are:

- A large share of the Framework Programme budget could be taken up by a small number of large projects impacting negatively on the budget available for access to existing infrastructures and/or the existing pillars of the Framework Programme which have already proven their European additionality (e.g. collaborative research, mobility of researchers and SME-specific actions);
- While infrastructures supported under this initiative would undoubtedly be of high scientific merit, there is a danger that Europe could lose sight of the original objective of the Framework Programme which remains as valid today as it ever was – to underpin the “scientific and technological bases of European industry”;
- There are concerns that the work of ESFRI is being rushed to fit in with the timeframe for FP7. Even if they are advised not to, there is a danger that different scientific groups will rush to complete roadmaps on the basis that they will lose out to other scientific area in the allocation of funding in FP7.

In summary, Ireland should seek to have funding for access to existing infrastructures and the other endeavours that are part of FP6 continue into FP7. The development of pan-European infrastructures has, in the past, been progressed through multi-lateral actions by interested Member States and it is not clear that actions in this area should be part of the Framework Programme. The next few years should be used to see the ESFRI work through to proper completion and to undertake pilot actions and feasibility studies (with modest budgets) that would test the rationale for moving competency for this area from Member State level to EU level.

5.0 Other Issues in Planning for FP7

5.1 SME Participation in the Framework Programme

The Commission's document of June 2004 has little to say on the issue of SME participation in the Framework Programme. ICSTI considers this surprising for a number of reasons:

- Targets for SME participation were set in FP6 to reinforce the imperative of involving SMEs in EU research policy. A document setting out proposals for policy going forward might be expected to make more references to this policy goal;
- The general view of SMEs (in Ireland at least) is that it is getting harder rather than easier to participate in Framework Programme - this should be seen as a matter for concern given the policy goal that has been established;
- The issue of SME participation in the programme dominated in discussions involving industry groups during the consultation process and it would be surprising if this were not the case in most other Member States as well;

A key message communicated during the consultation process is that SMEs are a heterogeneous body and, therefore, a "one size fits all" approach must be avoided in planning for FP7.

For a large number of SMEs, facing technological challenges but without internal R&D capability, the "SME-specific initiatives" in FP6 (e.g. Collective and Cooperative Research/CRAFT) received special mention. These programmes are popular with their target audience, have provided a successful introduction to the Framework Programme and, on the whole, achieve their goals in terms of creating knowledge for the SMEs concerned and fostering pan-European linkages. The fact that Collective and Cooperative Research/CRAFT facilitate a "bottom-up" approach as opposed to the "top-down" approach imposed in Thematic Priorities is also seen as positive by SMEs. The main problem is over-subscription. There is a strong case for increasing the budget for this scheme to €300 million per annum (i.e. €1.5 billion over a five year programme).

For SMEs with internal R&D capabilities, there are a number of routes into research collaboration in the thematic areas. In some thematic areas, there are special calls for SMEs (e.g. IPs for SMEs and STREPS targeted at SMEs). While these can work well and should be retained going forward, there may be greater benefit accruing when SMEs participate as equal partners in mainstream calls (alongside research institutes, larger firms and other players). A balance is required between the merits of special SME calls and the potential downside of less scope for the collaboration and knowledge transfer involved when there is a greater mix of partners in the consortia.

In terms of participating in general collaborative research calls, SMEs in Ireland have expressed a clear preference for “traditional” instruments (including STREPs) and find it much more difficult to participate in Integrated Projects. The implementation of the “Marimon Panel” recommendations should go some way towards addressing the issues raised by SMEs in respect of FP6 and the Irish authorities should pay close attention to the manner in which these recommendations are reflected in the design of FP7.

In addition to the thematic priority areas, there is scope for a much greater level of creativity in order to bring SMEs into the heart of the Framework Programme. Examples of actions that could be taken are presented below:

- Within the Marie Curie schemes, there is potential for a higher level of SME participation;
- In the new Technology Platforms that are proposed, there is a perception that large firms are driving the agenda. Special initiatives should be put in place to engage with SMEs and give them a greater say in the direction of these platforms;
- In order to better stimulate SME participation, more innovative, bottom-up and attractive funding mechanisms need to be examined and introduced and there may be valuable lessons to be gained from other research programmes (e.g. SBIR in the US⁸).

8 SBIR is the Small Business Innovation Research programme - a set-aside programme for small business concerns to engage in research and development that has the potential for commercialisation.

Ireland should take a lead in this area and should work actively with other Member States, the European Commission and industry to bring a greater level of creativity to the design of the Framework Programme. SMEs should seek to participate in the programme and see their participation as providing a “badge of honour” that will stand them well in their business dealings.

It is clear from the ICSTI consultation process that more steps can be taken at the national level to increase SME participation in Framework Programme. National authorities must actively engage with SMEs and assist them to participate in the programme. In the long run, this will pay dividends for the SMEs themselves, for Ireland and for Europe as a whole.

5.2 Administration and Management of the Programme

Issues relating to administration and management of the Framework Programme featured prominently in consultations with stakeholders. Many groups expressed concerns with “bureaucracy” and the reporting burden placed on participants. In general, the view of the Irish research community is that administration and management issues have been more of a problem with FP6 (at least in its early stages) as compared with previous Framework Programmes.

The issues of administration and management are closely bound up with the debate about instruments. There is a strong view among Framework Programme participants in Ireland that Integrated Projects and Networks of Excellence require specialised management and that the allocations made for management time and resources are not sufficient to cover all of the work involved in managing these large and complex networks.

There is general agreement in Ireland with the findings of the “Marimon Panel” and it is hoped that implementation of the Marimon recommendations, together with the experience that has been gained

since the introduction of FP6, will have a positive impact going forward. The Irish research community agrees in general with the points made in the Commission's document relating to administration and management of the programme. The view in Ireland, however, is that the proposed "basic research" pillar is the only area that should be managed outside the Commission.

The Irish research community agrees with the Commission's proposal that collaborative research should remain under the direct control of the Commission and thinks that the same logic should apply in the area of researcher mobility and training (Marie Curie actions etc.). Day-to-day administrative aspects could be sub-contracted to outside organisations, but control and responsibility should be retained within the Commission.

The following suggestions are also made:

- Improvements are needed in the transparency and consistency of the evaluation process and the level of detail provided to unsuccessful candidates;
- Efforts should be made to avoid "reserve lists" altogether by avoiding over-subscription in the first place. The two-stage evaluation process and/or more fine-tuned scoring of proposals may help to achieve this;
- The time taken from notification of success to contract conclusion must be shortened. ICSTI is aware that this concern has been expressed throughout Europe and encourages the Commission and Member States to implement practical initiatives to address this problem.

5.3 Space and Security Research in FP7

The proposals to introduce space research and security research did not receive a strong reaction from the Irish research community.

In terms of space research, it is important that any budget allocated from the Framework Programme budget be specifically dedicated to research activities rather than a more general space programme.

In terms of security research, the proposal received a generally positive reaction. The Irish research community supports the proposal for a wide definition of security research to be used to include “human aspects” such as the causes of conflict. The proposed budget of €1 billion per annum needs to be justified.

5.4 Policy-Oriented Research

The policy-oriented research that is undertaken within FP6 is valuable and, based on feedback received during the consultation process, ICSTI supports the continuation of such research in FP7.

While it may make sense from an administrative perspective to group policy-oriented research projects together, the Irish research community is of the view that research on particular policy issues (e.g. agriculture, transport, health, environment) fits more appropriately with the thematic research priorities. There may be more to be gained by aligning policy research with other research in thematic areas as compared to grouping all policy-oriented research in a separate strand.

ICSTI supports the view that policy-oriented research should be re-integrated, where appropriate, with the thematic priorities chosen for FP7.

6.0 National Initiatives in Support of FP7

In addition to the views expressed by Irish researchers and Irish industry on the Commission's proposals, a recurring theme that emerged during the consultation process relates to the need for greater action at a national level in order to help Irish companies and research institutions to participate fully in the Framework Programme.

The following are some of the areas where initiatives could be undertaken to engage in a more proactive manner with the Framework Programme and bring about greater alignment between national initiatives in support of science, technology and innovation and EU initiatives in this area.

6.1 Pro-active Support for Industry and Academic Involvement in the Framework Programme

A view was expressed by industry in general, and SMEs in particular, that national authorities and/or others should be better resourced to provide an enhanced brokerage service in relation to the Framework Programme and other international programmes. There was positive endorsement of the work of the FP6 National Information & Support Unit within Enterprise Ireland and of the work done by the network of National Delegates and National Contact Points for FP6. The work of CHIU (Conference of the Heads of Irish Universities) to encourage greater industry participation in the "Marie Curie" initiatives within FP6 was also identified by a number of stakeholders during the consultation process. In general, there was a view that, when it is provided, intensive "hands-on" support helps industry to engage in a meaningful way with the Framework Programme.

The provision of a greater level of "hands-on" support may help to address many of the problems associated with the administration, management and perceived "bureaucracy" of the Framework Programme. There is a perception that other Member States provide industry with a greater level of "hands-on" support so there is a case for at least examining the potential to offer a wider suite of services.

Researchers in Irish universities, colleges and other research institutes also expressed similar sentiments to those presented above. Most universities and colleges have offices dedicated to supporting access to international programmes. There may be a case for strengthening these resources and adding additional services nationally that address complaints about the amount of research time taken up in making proposals and managing the administrative aspects of Framework Programme.

6.2 Infrastructural Investment to Support Participation in the Framework Programme and Other International Programmes

Another area for action at the national level is to ensure that adequate facilities and infrastructures are in place so that the Irish research community will be able to participate in Framework Programme opportunities. This applies to the Framework Programme and other international programmes generally, but it is particularly important in terms of the proposed pillar for basic research in FP7.

The opportunity to engage in an initiative to stimulate excellence in basic research is welcomed by the Irish research community. The opportunity it affords underlines the need for continued investment in research facilities (in terms of equipment, laboratory space, libraries and other resources) in place in Irish higher education institutes.

An over-riding principle set down by ICSTI in considering FP7 is that national initiatives and EU initiatives should complement each other. National investment in the underlying research facilities in place in Irish research institutes which, in turn, facilitates Irish participation in European programmes is a good example of such complementarity at work.

6.3 Proactive Approach to Technology Platforms

Another area for national action relates to Technology Platforms. As stated in Section 4.5, a very strong message has come through from the consultation process that the Irish authorities and the Irish research community must engage in a more proactive way with developments in this area. The Technology Platforms which are being proposed need to be assessed in detail for their fit with research/sectoral priorities in Ireland and networking opportunities exploited so that potential Irish partners can be introduced to these platform groups at an early stage.

6.4 Proactive Approach to the Coordination of National Programmes

The coordination of national programmes is another obvious area where the emphasis is on national action rather than European Commission action. Leaving aside new elements that might feature within this pillar in FP7, it is likely that the ERA-NETs of FP6 will continue into the next programme. Irish authorities need to examine the potential offered by these ERA-NETs and the opportunities afforded by greater alignment of Irish RTD investments with those of other Member States.

Appendix

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ICSTI Statements (1997-2004) *

Title of Statement	Ratification Date
Towards the Seventh EU Framework Programme for Research and Technological Development	Nov. 2004
Strategic Technology Platforms	Nov. 2004
State Expenditure Priorities for 2005	Aug. 2004
Sustainable Development in Ireland: The Role of Science & Technology May 2004	
Nanotechnology	Jan. 2004
National Code of Practice for Intellectual Property from Publicly Funded Research	Jan. 2004
EU Debate on the Role of Fundamental Research	Nov. 2003
A Comparison of Starting Salaries for Science Graduates and Engineers	Aug. 2003
State Funding Priorities for 2004	July 2003
Utilising Intellectual Property for Competitive Advantage	Feb. 2003
Embedding the PharmaChem Industry in Ireland	Feb. 2003
Design and Development	Sept. 2002
Measuring and Evaluating Research	Aug. 2002
Report on Biotechnology	Feb. 2002
Commercialisation of Publicly Funded Research	Feb. 2001
Benchmarking School Science, Technology and Mathematics Education in Ireland Against International Good Practice	Feb. 2000
Science in Second Level Schools	Nov. 1999

Title of Statement	Ratification Date
Public Sector Research and Technology Services for Innovation in Enterprises	Sept. 1999
Technology Foresight Ireland ⁹	April 1999
Investing in Research, Technology and Innovation (RTI) in the Period 2000 to 2006	Mar. 1999
State Expenditure Priorities for 1999	Nov. 1998
Science Technology and Innovation Culture	Nov. 1998
Innovation in Enterprises in Ireland	July 1998
Mechanisms for Prioritisation of State Expenditures on Science and Technology	June 1998
Science in Primary Schools	May 1998
A Partnership Approach to Research Funding – The Need for a National Science and Engineering Board	May 1998
£250 million Scientific and Technological Education (Investment) Fund	Jan. 1998
State Expenditure Priorities for 1998	Sept. 1997

* A CD of ICSTI Statements published between 1997 and 2001 is available from the ICSTI Secretariat.

9 A suite of nine reports comprising an ICSTI overview and eight individual reports from expert panels established in the following areas: Chemicals & Pharmaceuticals; Information & Communications Technologies; Health & Manufacturing Processes; Health & Life Sciences; Natural Resources (Agri-Food, Marine, Forestry); Energy; Transport & Logistics; Construction & Infrastructure.

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