Lecture 1. Introduction to FP6

At the Lisbon summit in March 2000, EU governments called for a better use of European research efforts through the creation of an internal market for science and technology - a 'European Research Area' (ERA). FP6 is the financial instrument to help make ERA a reality.

The purpose of this lecture is to give a brief overview of the basic features of the Sixth EU Framework Programme for Research and Technological Development (FP6).

It gives some FP6 elements to consider if you are interested in submitting a research proposal:

- ⇨ Strategic objectives
- ⇨ Activity areas
- ⇨ Budget
- ⇨ Who could consider participation
- ⇨ The European and international dimension
- ⇨ Focus and concentration
- ⇨ Submission and evaluation of proposals
- ⇨ References

Strategic objectives

Based on the Treaty establishing the European Union, the Sixth Framework Programme has to serve two main strategic objectives:

- ⇨ Strengthening the scientific and technological bases of industry
- ⇨ Encouraging its international competitiveness while promoting research activities in support of other EU policies

These two objectives are setting the general scene for choosing priorities and instruments.

Activity areas

FP6 is divided into five main groups of research areas and research activities that are eligible for funding.

Thematic areas

These are those areas where the EU in the medium term intends to become the most competitive and dynamic, knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion.

- **Life sciences, genomics and biotechnology for health**

To exploit breakthroughs achieved in decoding the genomes of living organisms, for the benefit of public health and to increase the competitiveness of the European biotechnology industry. Also to bring basic knowledge through to the application stage to enable real progress at European level in medicine and improve the quality of life.

- **Information society technologies**

Intended to stimulate the development in Europe of both hardware and software technologies and applications at the heart of the creation of the information society in order to increase the competitiveness of European industry and allow European citizens the possibility of benefiting fully from the development of the knowledge-based society

- **Nanotechnologies and nano-sciences, knowledge-based multifunctional materials and new production processes and devices**

Intended to help Europe achieve a critical mass of capacities needed to develop and exploit, especially for greater eco-efficiency and reduction of discharges of hazardous substances to the environment, leading-edge technologies for the knowledge-based products, services and manufacturing processes of the years to come.

- **Aeronautics and space**

To strengthen, by integrating its research efforts, the scientific and technological bases of the European aeronautics and space industry and encouraging it to become more competitive at international level; and to help exploit the potential of European research in this sector with a view to improving safety and environmental protection.

- **Food quality and safety**

Intended to help establish the integrated scientific and technological bases needed to develop an environmentally friendly production and distribution chain of safer and varied food. To control food-related risks, relying on biotechnology tools taking into account post-genomic research, as well as to control health risks associated with environmental changes.

- **Sustainable development, global change and ecosystems**

Intended to strengthen the scientific and technological capacities needed for Europe to be able to implement sustainable development, and integrating its environmental, economic and social objectives with particular regard to renewable energy, transport, and sustainable management of Europe's land and marine resources.

- **Citizens and governance in a knowledge-based society**

Intended to mobilise in a coherent effort, in all their wealth and diversity, European research capacities in economic, political, social sciences and humanities necessary to develop an understanding of the emergence of the knowledge-based society and new forms of relationships between its citizens, on the one hand and between its citizens and institutions, on the other.

Cross-cutting research activities

Activities under this heading will complement research within the 7 thematic areas.

- **Research for policy support**

Intended to respond to the scientific and technological needs of the policies of the Community, underpinning the formulation and implementation of Community policies, bearing in mind also the interests of future members of the Community and associated countries. They may include pre-normative research, measurement and testing.

- **New and emerging science and technology (NEST)**

Intended to respond flexibly and rapidly to major unforeseeable developments, emerging scientific and technological problems and opportunities, as well as needs appearing at the frontiers of knowledge, more specifically in multi-thematic and interdisciplinary areas.

- **Specific SME activities**

Carried out in support of European competitiveness and enterprise and innovation policy, these specific activities are intended to help European SMEs in traditional or new areas to boost their technological capacities and develop their ability to operate on a European and international scale.

- **International co-operation activities**

In support of the external relations, including the development policy of the Community, specific measures aimed at encouraging international research cooperation will be undertaken. Apart from these specific measures, third country participation will be possible within the 7 thematic priorities.

- **Joint Research Centre (JRC) activities**

In accordance with its mission of providing scientific and technical support for Community policies, the JRC will provide independent, customer-driven support for the formulation and implementation of Community policies, including the monitoring of the implementation of such policies, within the areas of its specific competence.

Strengthening the foundations of ERA

To stimulate the coherent development of research and technology policy in Europe by supporting programme co-ordination and joint actions conducted at national and regional level as well as among European organisations. Activities may be implemented in any scientific and technological area.

- **Co-ordination of research activities**

Develop synergies between existing national activities; enhance the complementarity between Community actions and those of other European scientific co-operation organisations in all fields of science (examples: health, biotechnology, environment, energy)

- **Development of research/innovation policies**

Encourage coherent development of research and innovation policies in Europe by early identification of challenges and areas of common interest and by providing policy makers with knowledge and decision-aiding tools.

Structuring the ERA

The main aim is to fight structural weaknesses of European research. By their nature and means of implementation, the activities carried out within this programme are applicable to all fields of research and technology.

- **Research and innovation**

To stimulate technological innovation, utilisation of research results, transfer of knowledge and technologies and the setting up of technology businesses in the Community and in all its regions, not least in the less developed areas. Innovation is also one of the most important elements throughout this programme.

- **Marie Curie Actions - Human resources and mobility**

To support the development of abundant world-class human resources in all regions of the EU by promoting transnational mobility for training purposes, the development of expertise or the transfer of knowledge, in particular between different sectors. To support the development of excellence and help to make Europe more attractive to third country researchers.

- **Research infrastructures**

To help establish a fabric of research infrastructures of the highest level in Europe and to promote their optimum use on a European scale.

- **Science and society**

To encourage the development of harmonious relations between science and society and the opening-up of innovation in Europe, as well as contributing to scientists' critical thinking and responsiveness to societal concerns, as a result of the establishment of new relations and an informed dialogue between researchers, industrialists, political decision-makers and citizens.

Nuclear energy

Aims at intensifying and deepening the already well established co-operation at European level in the field of nuclear research.

- **Controlled thermonuclear fusion**

Controlled thermonuclear fusion could contribute to long-term energy supply and, therefore, to the requirements of sustainable development for a reliable centralised supply of baseload electricity.

- **Management of radioactive waste**

The exploitation of nuclear fission energy for energy production requires progress to be made in the problem of waste, and more particularly the industrial implementation of technical solutions for the management of long-lived waste.

- **Radiation protection**

Vigilance is still required to ensure a continuation of the EU outstanding safety record. EU enlargement introduces new challenges. Improvement of radiation protection continues to be a priority area. Activities will be carried out in several areas including "risk and emergency management", "radio-ecology", "protection of workplace and environment", *etc.*

- **Other activities in the field of nuclear technologies and safety**

To respond to the scientific and technical needs of the policies of the Community in the fields of health, energy and the environment, to ensure that the European capability is maintained at a high level in relevant fields not covered by priority thematic areas, and to contribute towards the creation of the European Research Area.

Budget

FP6 has a total budget of **17 500 million euro** that is distributed amongst both RTD and demonstration activities and Nuclear (Euratom) activities[1].

[1] Source: DECISION No 786/2004/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004. OJ L 138/7 of 30.4.2004

Sixth framework programme for RTD and demonstration activities

1. Focusing and integrating Community research			**14 682**
Thematic priorities (1)		**12 438**	
• Life sciences, genomics and biotechnology for health. (2)	2514		
Advanced genomics and its applications for health	1 209		
Combating major diseases	1 305		
• Information society technologies (3)	3 984		
• Nanotechnologies and nanosciences, knowledge-based multifunctional materials and new production processes and devices	1 429		
• Aeronautics and space	1 182		
• Food quality and safety	753		
• Sustainable development, global change and ecosystems	2 329		
Sustainable energy systems	890		
Sustainable surface transport	670		
Global change and ecosystems	769		
• Citizens and governance in a knowledge-based society	247		
Specific activities covering a wider field of research		**1 409**	
• Policy support and anticipating scientific and technological needs	590		
• Horizontal research activities involving SMEs	473		
• Specific measures in support of international cooperation. (4)	346		
Non-nuclear activities of the Joint Research Centre		**835**	
2. Structuring the European Research Area			**2 854**
Research and innovation	319		
Human resources	1 732		
Research infrastructures (5)	715		
Science and society	88		
3. Strengthening the foundations of the European Research Area			**347**
Support for the coordination of activities	292		
Support for the coherent development of policies	55		
TOTAL			**17 883**

(1) Of which at least 15 % for SMEs.
(2) Including up to EUR 475 million for cancer-related research.
(3) Including up to EUR 110 million for the further development of Géant and GRID.
(4) The amount of EUR 346 million will fund specific measures in support of international cooperation involving developing countries, Mediterranean countries (including the Western Balkans), and Russia and the New Independent States (NIS). Another EUR 312 million is earmarked to finance the participation of third-country organisations in the "Thematic Priorities" and in the "Specific activities covering a wider field of research", thus bringing the total amount devoted to international cooperation to EUR 658 million. Additional resources will be available under section 2.2 "Human resources and mobility" to fund research training for third-country researchers in Europe.
(5) Including up to EUR 218 million for the further development of Géant and GRID.

Euratom Framework Programme (6)

		(EUR million)
1. Priority thematic areas of research		**890**
1.1. Controlled thermonuclear fusion	750	
1.2. Management of radioactive waste	90	
1.3. Radiation protection	50	
2. Other activities in the field of nuclear technologies and safety		**50**
3. Nuclear activities of the Joint Research Centre (JRC)		**290**
TOTAL		**1 230**

(6) Details of the Euratom Framework Programme are given in a separate brochure: http://europa.eu.int/comm/research/energy/index_en.html.

Who could consider participation?

- **A research group at university or at a research institute**

Research institutions are one of the main target groups of FP6. They find possibilities in virtually all actions of FP6, from participation in research projects to becoming hosts for mobility and training actions.

- **A company intending to innovate**

Companies are one of the main target groups of FP6, in particular SMEs, for which 15% of the budget of the thematic priorities is reserved. Companies can take part in all research activities. They can also become hosts for mobility and training actions.

- **A small or medium-sized enterprise (SME)**

SMEs are encouraged to take part in all thematic areas. 15% of the budget is reserved for them. In addition, for SMEs intending to innovate without having their own research capacity, the "co-operative research" instrument is appropriate. Consortia involving a minimum of three SMEs from two different countries can entrust research and development tasks to scientific institutions. The SMEs will own the results.

- **A SMEs Association or grouping**

To boost innovation of whole groups of SMEs or of sectors dominated by SMEs, the instrument "collective research" is foreseen. Business associations (consortia of at least two national associations from two different countries or one international association) may receive funding to entrust research activities to research institutions.

- **Public administrations**

If the organisation is dealing with research policy or management of public research programmes, the ERA-NET scheme might be of interest. The scheme gives support to transnational coordination and co-operation of research activities carried out at national or regional level. Otherwise, public administrations can be valuable partners of consortia in areas where they play a role in the use of research results (*e.g.* in health, environment, transport, legislation, *etc*.)

- **Undergraduate students**

In general, activities funded under FP6 do not seek to target undergraduates directly, with the exception of some actions to promote science among young people.

- **Early stage researchers (post-graduate)**

Special mobility and training schemes are foreseen in FP6 for early-stage researchers, enabling them to further their research career by working in an institution in a country different from their country of origin or residence. Furthermore, these researchers can get support for participation in international conferences and training courses.

- **Experienced researchers**

Special mobility actions are foreseen in FP6 for experienced researchers (having a PhD or 4 years research experience). Their aim is to provide advanced training or to support the transfer of knowledge to institutions intending to develop new areas of activities or to institutions in less favoured regions.

- **Acknowledge world-class**

There are Excellence Grants to enable a promising researcher to create a team engaged in leading edge or multi-disciplinary research, and Chairs for making top-level teaching appointments, in particular to attract world-class researchers and encourage them to resume their careers in Europe.

- **Institutions running research facility of transnational interest**

The infrastructure actions are of interest to institutions hosting an important research facility. They offer support for transnational access for guest researchers from Europe or other countries. Moreover, support will also be given for design studies and development of new infrastructures and for communication networks.

- **Organisations and persons from third country**

International co-operation (co-operation with third countries not being a member state or an associated state) is an integral part of FP6, with the following three complementary routes for participating and funding:

  - ⇨ The opening of the bulk of research activities to third country organizations
  - ⇨ Specific measures in support of international co-operation
  - ⇨ International mobility of researchers (fellowships to and from third countries)

- **Others**

The list of potential participants is just exemplary, not exhaustive. Other entities like European Economic Interest Groups (EEIGs), European interest organisations, international organisations, non-governmental organisations, end-users, specialist service providers (management, dissemination, *etc*.) and many others may also participate.

The European and international dimension

Following the principle of subsidiarity, projects have to be transnational: only consortia of partners from different member and associated countries can apply.

For mobility and training actions the fellows have to go to a country different from their country of origin or residence.

Activities that can better be carried out at national or regional level, *i.e.* without co-operation across borders will in general not be eligible under the Framework Programme.

Focus and concentration

FP6 does not cover all areas of science and technology (with the exception of some special actions).

A limited number of thematic priorities have been identified. Detailed descriptions of these areas and specific topics will be given in the calls for proposals. Potential participants have to check carefully if their ideas for projects fit within the scope of these priorities and topics. Multidisciplinary proposals addressing several topics may be submitted.

Submission and evaluation of proposals

- **The submission process**

Submission of proposals is only possible in response to calls for proposals, which are published in the Official Journal of the European Communities Calls have strict deadlines which are enforced to the minute.
Special information packages are issued for each call comprising documents, explanations and forms which are needed for the preparation of a proposal.

- **The electronic submission**

An electronic proposal submission system (EPSS) is offered and proposers are strongly encouraged to use electronic submission.

- **The selection process**

Proposals are evaluated and selected for funding by the European Commission with the help of independent external experts (peer review). Evaluation criteria and a detailed description of the process of evaluation are published in advance. For successful proposals, the European Commission enters into (financial and scientific-technical) contract negotiation leading, eventually, to the signature of a contract.

References

- FP6 website at CORDIS: http://www.cordis.lu/fp6