

The sixth Framework programme of european union

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1. INTRODUCTION

The research and technological development (RTD) is an essential element in the functioning of industrialized countries, such as EU Member States. Taking up this challenge the European Commission, Member States and the European Parliament, the scientific community and industry are now committed to work jointly towards the creation of a "European Research Area" (ERA). The start of the Sixth Framework Programme for Research & Technological Development (FP6) marks a decisive step towards the involvement of Europe's research and scientific networks in the transformation of the European Union into the most dynamic and competitive knowledge-based economy in the world. The FP6 will be the main financial and legal instrument of the European Commission to implement the ERA, alongside national efforts and other European co-operative research activities. The Framework Programme will support collaboration in research, promote mobility and co-ordination and invest in mobilizing research in support of other EU policies.

2. FUNDING OVERVIEW

The FP (Framework Programme) is the EU's main instrument for research funding in Europe ^[1]. The FP is proposed by the European Commission and adopted by Council and the European Parliament following a co-decision procedure. It is a collection of the actions at EU level to fund and promote research. Following the principle of subsidiarity, projects have to be transnational. In other words: only consortia of partners from different member and associated countries can apply; for mobility and training actions the fellows typically 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 not be eligible under the Framework Programme. Based on the Treaty establishing the European Union, the Framework Programme has to serve two main strategic objectives: Strengthening the scientific and technological bases of industry and encourage 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. FPs cover a period of five years with the last year of one FP and the first year of the following FP overlapping. The first FP started in 1984, followed by five successive FPs. Table 1 shows the funding volume of the 6 FPs.

Table 1. Funding volume of the Framework Programme

FP	Duration	Funding
1st	1984–1987	3,27 Mrd. EUR
2nd	1987–1991	5,36 Mrd. EUR
3rd	1990–1994	6,6 Mrd. EUR
4th	1994–1998	13,2 Mrd. EUR
5th	1998–2002	15,0 Mrd. EUR
6th	2002–2006	17,5 Mrd. EUR

The Sixth FP (FP6) is the actual European Community Framework Programme for Research, Technological Development and Demonstration. Traditional actions such as the active participation of SMEs (small or medium-sized enterprise) under previous Framework Programmes will continue. However, FP6 represents a quantum leap beyond simply funding projects. The main focus of FP6 is the creation of a European Research Area (ERA) as a vision for the future of research in Europe. It aims at scientific excellence, improved competitiveness and innovation through the promotion of increased co-operation, greater complementarity and improved co-ordination between relevant actors, at all levels. Management methods and procedures have been simplified to promote greater efficiency and a lasting impact on the European scientific and technological landscape. Priorities have been reduced to better focus on a progressive integration of activities. New support instruments have been introduced (networks of excellence and integrated projects), which will give EU activities a bigger impact and bring about a stronger structuring effect on research conducted in Europe. FP6 will make it possible to assemble genuine critical masses of resources, to better co-ordinate national research efforts and to diversify support activities in key areas such as the mobility of researchers, research infrastructures and science and society issues. The promotion of partnering and collaboration is a central commitment of the Commission.

2.1 BLOCK OF ACTIVITIES

With a budget of 17.5 billion euros for the years 2002 - 2006 FP6 represents about 4 to 5 percent of the overall expenditure on RTD in EU Member States. The main objective of FP6 is to contribute to the creation of the European Research Area (ERA) by improving integration and co-ordination of research in Europe which is so far largely fragmented. At the same time research will be targeted at strengthening the competitiveness of the European economy, solving major societal questions and supporting the formulation and implementation of other EU policies. Activities under FP6 have to be conducted in compliance with ethical principles, including those reflected in the Charter of Fundamental Rights of the European Union. Furthermore they should strive both to increase the role of women in research and to improve information for, and dialogue with, society. FP6 is made up of three main blocks of activities with different budget (see. Table 2).

Table 2. Budget of the three blocks of activities in FP6

Block of activities	Budget
Focusing and integrating European research	13,345 million EUR
Structuring the ERA	2,605 million EUR
Strengthening the foundations of the ERA	320 million EUR

The first block of activities "*Focusing and integrating European research*" defines seven thematic priority areas of research. They cover 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. The seven thematic areas are:

Life Science, Genomics and biotechnology for health (2,255 million Euro)

Integrating post-genomic research into the more established biomedical and biotechnological approaches. Involvement of key stakeholders e.g. industry, healthcare providers and physicians, policy makers, regulatory authorities, patient associations and experts on ethical matters.

Information Society technologies (3,625 million Euro)

Direct contribution to European policies for the knowledge society and the e-Europe Action Plan; medium and long term RTD on the future generation of technologies integrating computers and networks into the everyday environment; placing the individual at the center.

Nanotechnologies and nanosciences, knowledge-based multifunctional materials, and new production processes and devices (1,300 million Euro)

Contribution to the creation of the scientific base for the transition of European production industry from resource-based towards knowledge-based, more environment-friendly approaches.

Aeronautics and space (1,075 million Euro)

Striving towards higher levels of technological excellence by consolidating and concentrating RTD efforts in the context of the Advisory Council for Aeronautics Research in Europe and the European Strategy for Space.

Food safety and health risks (685 million Euro)

Improve health and well-being of European consumers through a higher quality of food, improved control of food production and of related environmental factors. Readdress the classical "farm-to-fork" approach by giving priority to consumers' demands and rights for high-quality and safe food. "Fork-to-farm" approach as primary driver for developing new and safer food production chains and foods.

Sustainable development and global change and ecosystems (including energy and transport research) (2,120 million Euro)

Strengthening the S&T capacities needed for Europe to be able to implement a sustainable development model in the short and in the long term, integrating its social, economic and environmental dimensions; contributing to international efforts mitigating adverse trends in global change.

Citizens and governance in the European knowledge-based society (225 million Euro)

Mobilization of European research in economic, political, social sciences and humanities that are necessary to develop an understanding of, and to address issues related to, the emergence of a knowledge-based society and new forms of relationships between its citizens, on the one hand and between its citizens and institutions, on the other.

The specific programme "*Structuring the ERA*" implements the second main block of activities of FP6. It will attack structural weaknesses of European research. The main objectives and activities are summarized as below:

Research and innovation (290 million Euro)

Improving Europe's innovation performance by stimulating a better integration between research and innovation and by working towards a more innovation-friendly policy and regulatory environment.

Human resources and mobility (Marie Curie Actions) (1,580 million Euro)

Enhancing the propensity to turn research into useful and commercially valuable innovations. Providing broad support for the development of abundant and dynamic world-class human resources in the European research system, taking into account the inherent international dimension of research.

Research infrastructures (655 million Euro)

Promoting the development of a fabric of research infrastructures of highest quality and performance in Europe and their optimum use on a European scale.

Science and Society (80 million Euro)

Developing structural links between institutions and activities concerned with the dialogue between the scientific community and society at large.

The objective of “*Strengthening the foundations of the ERA*” is to stimulate the coherent development of research and innovation policy in Europe by supporting programme coordination 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. They will take one of the following two forms:

Support for the co-ordination of activities (270 million Euro)

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).

Coherent development of research and innovation policies (50 million Euro)

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.

2.2 NEW INSTRUMENTS

So far FPs have mainly been implemented through co-operative research projects that - while appropriate at the time of their creation - had two weaknesses:

- in most cases the end of a given research project meant the end of the consortium of research partners as well;
- in many cases projects did not reach the necessary “critical mass” to have real impact – neither in scientific nor in industrial or economic terms.

To help solve these problems and to work towards creating ERA, two new instruments have been designed and will be implemented in the FP6: *Networks of Excellence* and *Integrated Projects*.

The philosophy of both instruments is to move from multiple project funding to the funding of coherent programmes of research activities, leaving the highest degree possible of autonomy and flexibility to European research consortia. Networks of excellence aims at progressively integrating activities of network partners thereby creating “virtual” centres of excellence. Integrated Projects will be projects of substantial size, designed to help build up the “critical mass” in objective-driven research with clearly defined scientific and technological ambitions and aims. It is furthermore foreseen to start using an instrument which has been in principle available for quite some time, but has so far been unused: the EU’s participation in research programmes undertaken by several Member States. This instrument is explicitly foreseen in Article 169 of Amsterdam Treaty.

3. PARTICIPATION

The “ Rules for participation” are the rules that govern the practical implementation of all EU research activities under the FP. These “ Rules” set out detailed provisions in relation to issues such as:

- the type and country of origin of organisations that may apply for EU funding;
- the minimum number of partners that need to be involved in a project proposal, for the project to be eligible for EU support;
- the type of instruments that will be used in the FP;
- the type of funding that might be foreseen for any selected project;

- principles for the evaluation of submitted proposals;
- rules governing the contracts that the Commission will offer to successful applicants;
- rules for the dissemination and use of research results obtained in EU funded research projects etc.

Like the FP, the rules for participation are decided by Council and Parliament in co-decision.

The Commission published firstly a “call for expression of interest” in order to receive as much feedback as possible, from the scientific and industrial community ideas for cutting-edge research in line with the priorities and new instruments in FP6. So the “call for expression of interest” invited research teams and consortia to submit to the Commission outlines for projects they may intend to submit for funding once the formal “calls for proposals” were published later 2002. This initiative is meant to make sure the policy objectives of the European Commission and the commitment of the scientific and industrial community finally match. Research teams and consortia wanting to submit a proposal in response to such a “call” would normally have a minimum of three months to elaborate and submit their proposal. Following receipt of proposals, these will as a first step be checked against the relevant eligibility criteria such as:

- has the proposal been submitted before the deadline?
- are proposing partners eligible for EU funding?
- are proposing partners established in one of the eligible countries?
- is the subject of the proposed research eligible?
- are ethical aspects of the proposed research being taken into due consideration?

Thereafter external experts will proceed with the evaluation of the scientific and technological quality of the proposed project. External experts will then submit to the Commission a shortlist of projects that they recommend for funding.

4. SUMMARY

Past FPs have helped to develop a culture of scientific and technological co-operation between different EU countries and they have been instrumental in achieving good research results. They have not, however, created a lasting impact on greater coherence at European level. FP6 has therefore been re-defined and streamlined with the following objectives:

- concentrating European efforts on fewer priorities
- in particular on areas where co-operation at European level presents clear added value;
- moving towards progressive integration of activities of all relevant participants working at different levels;
- promoting research activities designed to have a lasting, “structuring” impact;
- supporting activities that will strengthen Europe’s general scientific and technological basis;
- using the scientific potential of candidate countries to prepare and assist their accession to the EU for the benefit of European science at large.

More detail about the FP6 and the European research can be found in Internet^[2,3].

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