

## **THE SIXTH RESEARCH FRAMEWORK PROGRAMME OF THE EUROPEAN UNION (2002-2006)**

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### **ABSTRACT**

A short overview of the basic features of the 6<sup>th</sup> EU Framework Programme for Research and Technological Development (FP6) is presented. FP6 is the frame for the EU activities in the field of science, research and innovation. With a budget of 17.5 billion Euro for the years 2002 – 2006 it represents about 5 percent of the overall expenditure on RTD in EU Member States. The main objective is to contribute to the creation of the European Research Area (ERA) by improving integration and coordination of research in Europe which is so far largely fragmented.

### **KEYWORDS**

European research funding, European research area, Framework programme for research and technological development.

### **OBJECTIVE**

FP6 aims to contribute to the creation of a true "European Research Area" (ERA). ERA is a vision for the future of research in Europe, an internal market for science and technology. It fosters scientific excellence, competitiveness and innovation through the promotion of better co-operation and coordination between relevant actors at all levels. Economic growth increasingly depends on research, and many of the present and foreseeable challenges for industry and society can no longer be solved at national level alone. At their summit in Lisbon in March 2000, heads of state and governments called for better leveraging of European research efforts through the creation of ERA. The FP is the financial instrument that will help make the European Research Area a reality.

### **BACKGROUND**

The European Union (EU) has been conducting a policy of research and technological development based on multiannual framework programmes since 1984. The sixth framework programme is now in force and like its predecessors constitutes a useful instrument which exerts a significant impact on research activities in the Member States.

To exploit this potential to the full, however, a broader approach is necessary, requiring the creation of a real European Research Area , the goal of which is to create an arena to

promote the development of Europe's capacity to become one of the driving forces for research worldwide.

The European Research Area (ERA) is the cornerstone of the sixth framework programme. By improving greater cooperation between the various economic, social and scientific players, the ERA promotes scientific excellence, competitiveness and innovation.

## **INSTRUMENTS**

The new framework programme aims to introduce two new instruments, networks of excellence and integrated projects.

- networks of excellence aim at progressively integrating the activities of partners networked through "virtual" centres of excellence,
- integrated projects are substantial in size and aim at constituting a critical mass in research activities focusing on clearly defined scientific and technological objectives.

In parallel, there are plans to use an instrument provided for in the Treaty but so far never deployed: the EU will participate in research programmes undertaken by several Member States.

## **STRUCTURE AND LINES OF ACTION**

The sixth framework programme comprises five specific programmes:

- integrating and strengthening the European Research Area, including the thematic priorities;
- structuring the European Research Area;
- the activities of the Joint Research Centre ( JRC );
- nuclear energy;
- the activities of the Joint Research Centre (Euratom).

The total budget for the sixth framework programme is 17.5 billion, 16.270 billion of which is for the European Community (EC) part and 1.230 million for the Euratom part. The framework programme will last for four years from 1 January 2003 to 31 December 2006.

A) Integrating and reinforcing the European Research Area (thematic priorities). Budget: 13.345 billion

- 1) Life sciences, genomics and biotechnology for health: Budget: 2.255 billion
  - Objective: to help Europe exploit breakthroughs achieved in decoding the genomes of living organisms, particularly for the benefit of public health and to increase the competitiveness of the European biotechnology industry.
- 2) Information society technologies: Budget: 3.625 billion
  - Objective: to stimulate the development of both hardware and software technologies and applications to allow European citizens the possibility of benefiting fully from the development of the knowledge-based society.
- 3) Nanotechnologies, knowledge-based multifunctional materials, new production processes: Budget: 1.300 billion

Objective: human resources development (Marie Curie fellowships) through the promotion of transnational mobility for training purposes or the transfer of knowledge to help make Europe more attractive to third country researchers.

- 3) Research infrastructures: Budget: EUR 655 million  
Objective: to establish a fabric of research infrastructures in Europe which is more accessible.
- 4) Science and society: Budget: EUR 80 million  
Objective: to encourage the development of harmonious relations between science and society as well as contributing to critical thinking on ethical questions, the precautionary principle, women and science, etc.

C) Strengthening the foundations of the European Research Area: Budget: EUR 320 million

The activities carried out under this heading are intended to step up coordination and to support the coherent development of research and innovation-stimulation policies and activities in Europe.

- 1) Coordination of national activities  
Objective: to coordinate activities in areas such as health, biotechnology, the environment and energy.
- 2) European coordination  
Objective: to set up initiatives under the aegis of scientific organisations such as COST (Cooperation in the field of scientific and technical research), ESO (European Southern Observatory), EMBL (European Molecular Biology Laboratory), etc. (see "international cooperation").

## **IMPLEMENTATION OF THE PROGRAMME**

A) Participation

Any legal entity, i.e. any natural or legal person established in accordance with national, international or Community legislation may apply for and receive support. In other words, universities, international organisations, research institutes, SMEs and large companies may apply for financial support.

Up until now, it was impossible for a team of researchers from the candidate countries to coordinate a project unless they were partnered with researchers from the EU, but now these candidate countries are treated in the same way as the Member States.

B) Call for proposals

Projects must respond to a specific call for proposals. Research teams and consortia wishing to put forward a proposal in response to a call normally have at least three months to draw up and submit their file.

C) Information sources

In order to guarantee equality of access and fair treatment to all applicants, calls for proposals are published in the Official Journal of the European Communities and on

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the Commission Internet pages designed for this purpose. In parallel, the CORDIS server and the RTD info magazine also provide information.

At national level, there are networks of contact points to supply information on the framework programme for research. The national authorities can assist applicants who have no experience in applying for financial support. The national contact points (NCPs) are independent, decentralised help desks found in the Member States, the acceding countries and other partner countries.

D) Selection of projects

As far as is possible, project selection will comprise two phases. Participants will first be invited to submit a summary of their proposal. Subsequently, if their application following the initial selection procedure is accepted, they will be invited to submit a detailed proposal.

E) International cooperation

Research activities may be pooled in other European cooperation contexts, such as COST (Cooperation in the field of scientific and technical research of activities of public interest financed nationally in Europe and coordinated with the support of the EU) and EUREKA (an extra-Community programme for technological research and development based on mixed financing of activities).

F) Financing

The Commission contributes financially to the work of the research projects selected. Financial assistance is provided as follows:

1) Networks of excellence. The Commission finances:

- areas of thematic priority;
- supporting policies and anticipating scientific and technological needs.

Funding: grant for integration, i.e. a maximum of 25% of the value of the capacities and resources which the participants propose to contribute as a fixed amount.

2) Integrated projects. The Commission finances:

- priority thematic areas;
- supporting policies and anticipating scientific and technological needs.

Funding: a grant which totals a maximum of 50% of the budget for research, 35% for demonstration and 100% for certain other activities such as researcher training and consortium management.

3) Specific targeted research or innovation projects. The Commission finances:

- priority thematic areas;
- supporting policies and anticipating scientific and technological needs;
- specific measures in support of international cooperation;
- promoting the interaction between research and innovation;
- the development of harmonious relations between science and society.

Funding: a grant totalling a maximum of 50% of the budget.

4) Participation in programmes implemented by several Member States. The Commission finances:

- all the activities of the sixth framework programme.

Funding: (still to be determined).

5) Specific research projects for small and medium-sized enterprises (SMEs). The Commission finances:

- specific research projects for SMEs.

Funding: a grant totalling a maximum of 50% of the budget.

6) Actions to promote and develop human resources and mobility. The Commission finances:

- the development of human resources and promotion of mobility.

Funding: a grant totalling a maximum of 100% of the budget, possibly in the form of a lump sum payment.

7) Coordination actions. The Commission finances:

- all the activities of the sixth framework programme.

Funding: a grant totalling a maximum of 100% of the budget.

8) Specific support actions. The Commission finances:

- all the activities of the sixth framework programme.

Funding: a grant totalling a maximum of 100% of the budget, possibly in the form of a lump sum payment.

9) Integrated infrastructure initiatives. The Commission finances:

- support for research infrastructure.

Funding: according to the nature of the activities, a grant to the budget totalling between 50 and 100% of that budget.

10) Direct actions. The Commission finances:

- non-nuclear activities of the Joint Research Centre (JRC).

Funding: 100% of the budget.

## **WORK PROGRAMME**

### Work programme 1.1.6.3 Global Change and Ecosystems

Global Change and Ecosystems sub-priority is addressing seven areas relative to the issues of :

- I. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks
- II. Water cycle, including soil-related aspects**
- III. Biodiversity and ecosystems
- IV. Mechanisms of desertification and natural disasters
- V. Strategies for sustainable land management, including coastal zones, agricultural land and forests
- VI. Operational forecasting and modelling including global climatic change observation systems
- VII. Complementary research

The topics of each of the areas are the subjects of the calls for proposals.

#### **II. Water cycle, including soil-related aspects**

The objective is to understand the mechanisms and assess the impact of global change, and in particular climate change, on the water cycle, water quality and availability, as well as soil functions and quality to provide the bases for management and technological tools for water systems, to mitigate the impacts. The research will focus on hydrology and climate processes, the ecological impacts of global change, soil functioning and water quality, integrated management strategies and mitigation technologies, and scenarios of water demand and availability.

#### Topics

- II.1. Hydrology and climate processes
  - II.1.1 Climate modelling at catchment regional scale
  - II.1.2 Climate variability, floods and droughts
- II.2. Ecological impact of global change, soil functioning and water quality
  - II.2.1 Impacts of global change on the ecology of surface water bodies
    - II.2.1.a Assessment of ecological impacts of global change on freshwater bodies, development of ecological indicators of ecosystem "health" and related remediations strategies
  - II.2.2 Water-soil system functioning and management
    - II.2.2.a River-soil-groundwater system functioning
    - II.2.2.b Soil-groundwater protection
- II.3. Integrated management strategies and mitigation technologies
  - II.3.1 Integrated water management at catchment scale
    - II.3.1.a Twinning European / Third Countries river bassins
    - II.3.1.b Methodologies of Integrated Water Resource Management and Transboundary issues
  - II.3.2 Integrated urban water management and mitigation technologies
    - II.3.2.a Waste-water treatment for re-use
  - II.3.3 Management of scarce water resources and mitigation technologies
    - II.3.3.a Technologies for monitoring and mitigating the impact of water scarcity
    - II.3.3.b New approaches to water stress

- II.4. Scenarios of water demand and availability
- II.4.1 Water scenarios for Europe and for neighbouring countries

## **REFERENCE**

Decision No 1513/2002/EC of the European Parliament and of the Council of 27 June 2002 concerning the sixth framework programme of the European Community for research, technological development and demonstration activities, contributing to the creation of the European Research Area and to innovation (2002-2006) [Official Journal L 232, 29.08.2002].