



EUROPEAN  
COMMISSION

Community Research

Brussels, 16 February, 2004

News alert

## EU to finance research projects worth €5 billion

*Over 100 000 participants from more than 50 countries responded with nearly 12 000 projects to the first calls for proposals of the €20 billion EU Sixth Research Framework Programme 2002-2006 (FP6). The first crop of FP6 calls closed earlier this year. The response to these first calls, with a budget of some €5 billion, was consistent across all themes and funding instruments, both new and traditional, with partners from the acceding and candidate countries<sup>1</sup> present in nearly 40% of proposals. Contracts are now being negotiated for projects in all areas from ageing to allergies, information and communication technologies, marine sciences, nanotechnology and carbon sequestration.*

'The strong and balanced response to FP6 first calls for proposals is encouraging: the European scientific and business community is vibrant and willing to pool resources at the European level,' says European Research Commissioner Philippe Busquin. 'But our research funding scheme, although important, only represents 5% of overall European research spending. It is for EU Member States and industry to join forces and overcome the present fragmentation of resources. FP6 can encourage this endeavour by helping achieve the critical mass in key scientific areas.'

### **The biggest research funding scheme in the world**

With a budget of €17.5 billion (€20 billion including contributions from acceding and associated countries), FP6 is one of the biggest research programmes in the world. By supporting projects in selected strategic areas it will foster the creation of the European Research Area, a true internal market for knowledge and science. For the first time there are also projects aimed at promoting the co-ordination of national programmes and policies. The first round of calls for proposals under FP6 were published on 17 December 2002<sup>2</sup> and closed in March-April 2003.

### **Almost 12 000 proposals**

The 11 596 proposals received have now been evaluated by independent experts and contract negotiations are underway for those projects selected for funding. Here are the main results (see Attachment 1 for a table showing the number of proposals and participants for each part of FP6, Attachment 2 for some project examples and Attachment 3 for background information on the Sixth Framework Programme):

<sup>1</sup> Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia, Turkey

<sup>2</sup> See press release at <http://europa.eu.int/comm/research/press/2002/pr1612en.html>

- 11 596 proposals were received involving 106 117 participants from over 50 countries;
- all the topics identified as priorities by FP6 have been covered by proposals, and the quality of the proposals submitted was high;
- the Integrated Project were the most popular of the new funding instruments;
- there was a relatively low level of industrial participation in Networks of Excellence, where some proposals show that the intended use of this instrument is not yet clear to all partners; the Commission is taking active steps to ensure greater understanding;
- the high level of interest in the first call means that it will probably be possible to fund only one in six projects overall; increasing the focus of future calls, and greater use of the two-step submission procedure will help to improve this;

### **More participants, in particular from accession and third countries**

- the number of participants per proposal increased with respect to FP5, ranging from 14 to 53 depending on the theme and funding type, compared with an overall average of just 7 under FP5;
- acceding/candidate<sup>1</sup> countries were involved in 40% of proposals; measures to improve the flow of information on FP6 to these countries are under way with a view to increasing the number of co-ordinators in the next round, and the evaluation of a dedicated call for these countries will soon be completed;
- associated states<sup>5</sup> participated in 24% of proposals and other countries outside the EU in 19%;
- in the priority thematic areas, for the projects selected for contract negotiation, Small and Medium-sized Enterprises (SMEs) represented 13% of the funding and 17% of the participants.

A second round of calls based on the results of the first calls and the advice of FP6 Advisory Groups is now being prepared for publication. Details of all calls are available on the Commission's Europa and CORDIS web sites:

[http://europa.eu.int/comm/research/fp6/calls\\_en.cfm](http://europa.eu.int/comm/research/fp6/calls_en.cfm)

<http://fp6.cordis.lu/fp6/calls.cfm>

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### **Commissioner Philippe Busquin's spokesman**

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**For general information on FP6:** <http://europa.eu.int/comm/research/fp6>

**Summaries of Integrated projects and Networks of Excellence:**

[http://europa.eu.int/comm/research/fp6/firstcallresult\\_en.html](http://europa.eu.int/comm/research/fp6/firstcallresult_en.html)

**For general information on research:** <http://europa.eu.int/comm/research>

**For general information on research programmes and projects:** <http://www.cordis.lu>

**For general information requests:** [research@cec.eu.int](mailto:research@cec.eu.int)

**Research DG's press releases:** [http://europa.eu.int/comm/research/press\\_en.html](http://europa.eu.int/comm/research/press_en.html)

<sup>3</sup> Networks of Excellence

<sup>4</sup> Integrated Projects

<sup>5</sup> Iceland, Israel, Liechtenstein, Norway, Switzerland

## Proposals and participants by area

FP6 Activity Areas	All Countries	
	Proposals	Participants
<b>6TH FRAMEWORK PROGRAMME - ALL ACTIVITY AREAS</b>	<b>11 596</b>	<b>106 117</b>
<b>Integrating and strengthening the ERA</b>	<b>6 334</b>	<b>91 459</b>
Focusing and integrating Community research	6 261	91 034
1. Life sciences, genomics and biotechnology for health	541	8 331
2. Information society technologies	1 584	21 480
3. Nanotechnologies and nanosciences, knowledge-based multifunctional materials and new production processes and devices	1 017	21 960
4. Aeronautics and space	180	2 605
5. Food quality and safety	245	4 312
6. Sustainable development, global change and ecosystems	578	9 190
7. Citizens and governance in a knowledge-based society	273	3 370
Joint call (Thematic priorities 2, 3)	97	2 520
Joint call (Thematic priorities 4, 6a, 6b)	186	2 637
Policy support and anticipating scientific and technological needs	402	3 286
Horizontal research activities involving SMEs	845	8 946
Specific measures in support of international cooperation	313	2 397
Support for the coordination of activities	73	425
Support for the coherent development of research & innovation policies	No calls	
<b>Structuring the ERA</b>	<b>5 221</b>	<b>13 959</b>
Research and innovation	212	1 600
Human resources and mobility	4 721	9 623
Research infrastructures	170	1 937
Science and society	118	799
<b>Euratom</b>	<b>41</b>	<b>699</b>
1. Controlled thermonuclear fusion	No calls	
2. Management of radioactive waste	Joint call – see below	
3. Radiation protection	Joint call – see below	
Joint call (Thematic priorities 2,3)	36	670
Other activities in the field of nuclear technologies and safety	5	29

## Examples of some of the projects proposed for funding

### Aeronautics & Space

One of the main Aeronautics research objectives is meeting the short- and long-term goals of future aircraft development for the competitiveness of the European aircraft industry as specified in the *Vision for 2020* Report. Environmental friendliness is one of the most important prerequisites for the growth of air traffic. Noise emissions are primarily related to the take-off and landing phase. Advanced aerodynamic high-lift systems promise to reduce noise emissions considerably. Improved aircraft efficiency will also be achieved by advanced, high-lift systems with reduced maintenance requirements. A **Specific Targeted Research Project** on advanced aerodynamics will provide urgently needed reliable simulation capabilities for full aircraft in high-lift configurations and will allow the assessment of optimised, advanced, high-lift systems for meeting future aircraft design challenges at takeoff and landing.

### Ageing

The ageing population is one of Europe's most pressing problems, but the efficiency and impact of international and interdisciplinary research efforts are constrained by fragmentation. National and transnational programme co-ordination is lacking, and institutional bottlenecks hamper the take-up and spread of good practice and new knowledge. The **ERA-NET<sup>6</sup> network** on ageing will bring together research programmes and partners from 14 European countries that actively support research on ageing. A systematic process of mapping activity, identifying and sharing good practice, and defining common objectives and mechanisms will lead to joint research activities, under the management of a permanent forum of national research programme managers.

### Cancer

Aggressiveness, poor prognosis and resistance to therapy of solid tumours are associated with a certain degree of hypoxia (low oxygen concentrations) in one or more core zones throughout the tumour. During the last decade, research has revealed a number of regulating responses in cells exposed to hypoxia. These processes have been proven highly important for tumour progression and resistance to therapy, and may open a therapeutic window for cancer treatment targeting hypoxia-responsive processes. EU stakeholders in academic research and industry will therefore explore and validate these new molecular targets as a necessary step in the pre-clinical development of innovative new diagnostics and treatment.

### The Environment

Geological sequestration of CO<sub>2</sub> may soon provide the EU and the world with a means of reducing CO<sub>2</sub> emissions from burning coal, oil and gas and thus combating global warming. To better understand the safety and environmental impact of CO<sub>2</sub>, sequestration research is needed. The project on carbon sequestration using a saline aquifer underneath the city of Ketzin near Berlin, will study the behaviour of injected CO<sub>2</sub> and involves a public outreach programme in a major metropolitan area. It could become a showcase for Europe on CO<sub>2</sub> sequestration.

### Food safety

In the area of prion diseases, such as mad cow disease, known as Transmissible Spongiform Encephalopathies or TSEs, a **Network of Excellence** is expected to provide European researchers with an effective communication strategy with the public, policy makers and between themselves. This will allow the sharing of prior, current and future knowledge. It is expected to provide better value for money from European and other research projects, funded at national level, allow better exploitation of knowledge and promote a concerted European response to various issues or future TSE crises.

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<sup>6</sup> The objective of the ERA-NET scheme is to step up the cooperation and coordination of research activities carried out at national or regional level in the Member States and Associated States through the networking of research activities, including their 'mutual opening' and the development and implementation of joint activities. See [http://europa.eu.int/comm/research/fp6/coordination/era-net\\_en.html](http://europa.eu.int/comm/research/fp6/coordination/era-net_en.html)

## Genomics

The complete sequence of a mammalian genome defines the total information content. The next major challenge is to understand how the information is used in subsets during development and how the transitions between these states are made. A research partnership of leading academic and commercial experts will address this next, major milestone in human biology. The substantial aim is to generate a functional and expression atlas database which will provide hypotheses for testing with advanced functional tools. By understanding how mammalian genomic information is selectively used in development, we will acquire an essential key to understanding ourselves, and our health.

## Health

There has been a dramatic increase in allergy rates in the EU in the last few decades. But why? In the search for some answers, and to help reduce the socio-economic burden of allergy and asthma, a **Network of Excellence** will study allergy and asthma throughout the course of life, including the interaction between genetic and environmental factors in early life, and the development of allergies. It will establish an international network of European centres of excellence that will conduct specific integrated multidisciplinary research programmes on issues relating to environment, nutrition, lifestyle, infections and genetic susceptibility. The work also includes the relationship between nutrition and allergies, and the dissemination of information to patients and the public.

## Information and communication technologies (ICT)

Projects to be funded in this area aim to allow all European citizens and businesses to benefit from the advantages that progress in ICT can bring, and to reinforce Europe's role in shaping the development of the technology and its applications. For more details, see the analysis of call results for the Information Society Technologies programme at <http://www.cordis.lu/ist/call1.htm>.

## Marine science

The Baltic Sea is Europe's largest internal body of water, and represents an important natural resource. Its sustainable development requires regional policies based on sound scientific knowledge. Several associations link marine scientists from the nine countries bordering the Baltic Sea, but joint planning of these countries' national research programmes has never taken place. The proposed **ERA-NET network** on marine science brings together organisations involved in the funding and organisation of Baltic marine science to pool their research funding and co-ordinate the use of infrastructures. Sharing good practice in programme management and removing administrative barriers will pave the way for joint research programmes. New structures created by the BONUS consortium will be responsible for fully integrated programme funding and management.

## Materials

An ambitious **Integrated Project** on new materials brings together the unique experience of some top EU laboratories and high performance client industries to understand the critical link between materials processing, structure and final properties of novel high performance intermetallic alloys. The partnership includes 11 SMEs, and involves both public and private funding.

## Medical emergencies

Europe deals with 100 million medical emergencies each year, ranging from heart attacks to natural disasters. The infrastructure to respond to these events varies considerably between countries, but particular concerns about bio-terrorism and new diseases show that Europe must prepare for these threats at a transnational level. An **ERA-NET coordination action** has been created to overcome the drawbacks of research fragmentation and provide the infrastructure to generate long-term co-operation in the organisation of research. Through a process of comparing and benchmarking national programmes, the partners (all of which are Government bodies plus an international organisation – the World Health Organisation) will identify future areas for collaborative research and possible joint programmes. Greater co-operation will help to ensure that citizens get the same level of medical emergency response wherever they are in Europe.

## Nanotechnologies

An **Integrated Project** aims to develop new multifunctional materials that are processed by additive manufacturing (e.g. direct printing) to form components with designed electronic, optical, sensing and magnetic capabilities in an environmentally friendly way. The partnership combines expertise in

nanofabrication, synthesis, analysis, modelling, engineering, metrology and economic and environmental assessment, and has the potential for very high commercial impact.

### **Opening up the European Research Area**

Two projects aim to make it easier for other parts of Europe to participate in the Framework Programme. To this end, they will extend the network of National Contact Points and other information relays to the Western Balkans and those parts of the Mediterranean region where there is currently no support infrastructure as well as looking at ways to improve coordination with other EU activities such as MEDA and EUMEDIS.

### **Radiation protection**

An ambitious **Integrated Project** involving some 30 European research teams will try to quantify the risk of low and protracted doses of ionising radiation better. The main focus will be the risk of radiation-induced cancer and the variation in individual responses among the human population. The research will answer the following specific questions:

- Who is at low/high risk according to genetic code?
- What are the mechanisms?
- Is there a link between the short-term radio-sensitivity of individuals and susceptibility to radiation-induced cancer after 20 years of exposure?

### **Scientific advice**

One of the first FP6 contracts resulted in a European Conference on *Scientific Advice, Crisis Management and Media* held in Athens in June 2003. The **conference** attracted 300 participants: scientists, media representatives, academics, health workers, decision-makers, NGO's, etc. Although focusing on biological risks, it covered wider underlying principles and key public policy, ethical and communication aspects that have an effect on crisis management. It was among the first conferences internationally to examine the relation between scientific advice, crisis management and the role of the media.

### **Social and human sciences**

An **Integrated Project** is to be carried out by a core group of about 40 scholars (including experts in political science, sociology, international relations, peace and conflict studies, economics and law) from 13 countries (including four new Member States). It will study in detail the relationships between external and internal security in Europe, and the related changing character of the relationships between security and liberty. It aims to improve understanding of the changing nature of the very notions of 'danger', 'security', and 'liberty', and to build an *observatory* that could provide early warning on infringements of liberties, and help Europe to balance security and liberty.

### **Women and Science**

One of the first projects to be funded under the Sixth Framework Programme, a **workshop** entitled *Debating bioethical issues with women scientists from the Enwise countries*<sup>7</sup>, took place in Budapest in October (2003) with 65 participants from 15 countries, mainly women scientists, philosophers, lawyers and NGOs. They debated the following topics: ethics and gender issues in stem cell research and tissue transplantation, and ethical and gender aspects of genetic testing, storage and use of genetic information. The proceedings of this workshop will be published next year and feed into the debates of the Enwise conference in Tallinn.

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<sup>7</sup> Bulgaria, Estonia, Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Western Balkans

## Fact sheet on FP6

### What is the Framework Programme for Research?

**The Sixth Framework Programme (FP6)** is the Union's main instrument for the funding of research in Europe. Proposed by the Commission and adopted by the Council and Parliament in co-decision, it is open to all public and private entities, large or small.

**The overall budget** covering the four-year period 2003 - 2006 is **€17.5 billion (€20 billion with the contribution of accession and associated countries)**, representing an increase of 17% from the Fifth Framework Programme and making up 3.9% of the Union's total budget (2001), and 6% of the Union's public (civilian) research budget. There are no national quotas for FP6 funds.

**Seven key areas** for the advancement of knowledge and technological progress within FP6 have been chosen: genomics and biotechnology for health; information society technologies; nanotechnologies and nanosciences; aeronautics and space; food safety; sustainable development; and economic and social sciences. With a view towards achieving the biggest possible impact, over **€12 billion** is being allocated to them.

### What are the main differences between FP6 and previous programmes?

**Traditional actions** under previous Framework Programmes continue (such as the active participation of SMEs). However, FP6 represents a quantum leap beyond simply funding projects.

**The main focus** of FP6 is the creation of a **European Research Area** 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.

### What are the 'instruments' of FP6?

- **Integrated projects (IP)** aim either to increase Europe's competitiveness or address major needs in society. Their main task is to deliver knowledge for new products, processes, services, etc. Projects must contain a research component. They may also focus on technological development, demonstration components and involve training

activities. A single project may span over the whole research spectrum (i.e. from basic to applied research).

- **Networks of excellence (NoE)** are designed to strengthen scientific and technological excellence on a particular research topic. They aim to overcome the fragmentation of European research by networking together the critical mass of resources, networking the expertise needed to provide European leadership. NoE must also spread excellence beyond the boundaries of the partnership.
- **Specific targeted research projects (STREP)** are research projects designed to gain knowledge or improve existing products, processes or services or a demonstration project designed to prove the viability of new technologies. Typically between 2 to 3 years, but may be extended beyond 3 years.
- **Coordination actions (CA)** aim to promote and support the networking and co-ordination of research and innovation activities. They cover activities such as: conferences, studies, exchanges of personnel, exchange and dissemination of good practices, setting up common information systems and expert groups. A single project may span over the whole research spectrum.
- **Specific support actions (SSA)** aim to support the implementation of FP6 and in particular to stimulate, encourage and facilitate the participation of: SMEs, small research teams, newly developed and remote research centres, organisations from the candidate countries, etc. Examples of actions: conferences, seminars, studies and analysis, working and expert Groups, operational support and dissemination, information and communication, or a combination of these.

**For more on the instruments of FP6:**

[http://europa.eu.int/comm/research/fp6/instruments\\_en.html](http://europa.eu.int/comm/research/fp6/instruments_en.html)