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GUIDE FOR APPLICANTS UNDER THE SIXTH FRAMEWORK PROGRAMME
FOR EUROPEAN RESEARCH & TECHNOLOGICAL DEVELOPMENT (2002-2006)



SIXTH FRAMEWORK PROGRAMME

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PARTICIPATING IN EUROPEAN RESEARCH

**Guide for applicants under the Sixth Framework
Programme for European Research & Technological
Development (2002-2006)**



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Notes

Role and scope of this guide

This Guide is intended as a source of information and assistance to the various interested parties and potential participants in the different programmes and activities in the Sixth Framework Programme.

While every effort has gone into making this an accurate and, indeed, practical guide on FP6, the information provided is not legally binding and the Commission cannot be held responsible for any errors or misrepresentations.

Neither the European Commission nor any person acting on its behalf is responsible for the use which might be made of the following information.

Exhaustive

As this Guide is being produced during the Sixth Framework Programme's infancy stages it is by no means exhaustive. In accordance with its intended purpose (see the back cover page), it gives an overview of the fundamental aspects of the objectives and mechanisms of the FP6 without going into detail.

Interested parties should decide whether or not to participate on the basis of a careful examination of all the official documents produced for applicants.

In addition, some of the information contained in this Guide may subsequently be updated, changed or reviewed without notice.

Validity of internet websites

Many of the reference documents mentioned in this guide are also available on the internet – URL addresses are indicated in such cases. However, some of them may change with the passage of time. If you do not find a document, send an email to the site's webmaster or contact the relevant Info or Help Desks (see Chapters 4 and 5) for the programme concerned.

The Research DG's website on Europa provides several pages of information about FP6:

http://europa.eu.int/comm/research/index_en.html

The CORDIS server offers useful information on FP6 at the following address:

<http://www.cordis.lu/fp6>

Introduction to the Sixth Framework Programme

FP6 in a nutshell

The Sixth Framework Programme for Research and Technological Development (FP6) is a decisive step towards marshalling Europe's research and scientific networks and the European Union (EU) into the most dynamic and competitive knowledge-based economy in the world.

What is the Framework Programme for research?

FP6 is the Union's main instrument for funding research in Europe. Proposed by the European Commission and adopted on 3 June 2002 by the Council of Ministers and European Parliament, it is open to public and private entities, large or small, for four years from the end of 2002 through to 2006.

The overall budget for FP6 is €17.5 billion, which is 17% more than the Fifth Framework Programme and represents 3.4% of the EU's total budget in 2002.

Within this total, **€12 billion has been set aside for the seven key areas or 'thematic priorities'** earmarked to achieve FP6 objectives: life sciences, genomics and biotechnology for health; information society technologies; nanotechnologies and nanosciences, knowledge-based multifunctional materials and new production processes and devices; aeronautics and space; food quality and safety; sustainable development, global change and ecosystems; and citizens and governance in a knowledge-based society.

What's new in FP6?

Traditional activities under previous Framework Programmes will continue (such as the special actions for SMEs). However, with the introduction of several 'new instruments' such as the networks of excellence and integrated projects, FP6 will break new ground.

With the European Research Area (ERA) as the central focus, FP6 will act as a conduit for securing the future of research in Europe underpinned by scientific excellence, improved competitiveness and innovation. This will be achieved by encouraging greater co-operation and coordination – leading to synergies – among all interested parties, whether they are regional, national or transnational.

Simplified management and procedures will promote greater efficiency and a lasting impact on the European scientific and technological landscape.

Fewer thematic priorities (replacing 'key actions') will improve the move towards a more streamlined integration of activities.

The new support instruments (networks of excellence and integrated projects) in FP6 will give the Union's research activities greater impetus – leading to 'critical mass' and a strengthening of the ERA. They will also encourage improved researcher mobility and research infrastructures, while emphasising partnering and collaboration as well as science and society issues.

CHAPTER 1

WHAT IS THE SIXTH FRAMEWORK PROGRAMME?

Putting Framework Programmes into perspective

The Sixth Framework Programme

FP6 priorities

New ERA for European research

Sharing skills and results

Training for better performance

Budget for FP6

How research projects are organised and funded

Integrated projects

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Article 169

Traditional Instruments



Chapter 1

Since the launch of the First Framework Programme for Research and Technological Development (RTD) in 1984, EU institutions have played a leading role in initiating and organising multidisciplinary research and co-operation inside Europe and beyond. Yet, while Europe leads the way in many important areas of scientific research, it still finds it difficult to roll out scientific breakthroughs into commercially viable products and services which are both competitive and sustainable.

To create a lasting and coherent impact on EU research initiatives, FP6 will focus on:

- high-quality research with a lasting or 'structuring' impact which also strengthens Europe's science and technology foundations; and
- maximum 'added value' from transnational co-operation, 'progressive integration' of relevant activities and participants, and concentration of European effort on fewer priorities.

Putting Framework Programmes into perspective

To understand the procedures and participation rules described in this guide, it is important to take into account several basic principles governing Framework Programmes:

1. The European Commission does not itself undertake or participate in RTD projects (except via its Joint Research Centre), but does offer financial support to carefully described work or research by private and public research bodies, companies and institutions.
2. Generally, proposals for projects must be submitted in response to a specific call for proposals or tenders published in the *Official Journal of the European Communities*.
3. The project's content must correspond to objectives set out in one of the programmes of the Framework Programme; while the partners involved must satisfy all the eligibility criteria, and their proposal must comply with the scientific, thematic and formal requirements of the call.
4. Proposals received in response to a call which satisfy the above requirements are evaluated by a panel of independent experts in the various fields concerned.
5. Projects are selected solely on the basis of their quality, measured by specified criteria, such as scientific and technical quality and socio-economic impact, and on condition that they comply with the programme objectives, within the limits of the budgets available. There are no national quotas.

To show EU funding in action, several examples of successful projects from past Framework Programmes are featured throughout this guide. More success stories can be found on the following websites:

- RTD *info* magazine:
http://europa.eu.int/comm/research/rtdinfo_en.html
- General:
http://europa.eu.int/comm/research/success/en/success_en.html
- SMEs:
http://sme.cordis.lu/experience/case_histories.cfm
- Archives of projects on which press releases have been issued:
<http://www.cordis.lu/innovation-smes/vips/en/home.html>



The Sixth Framework Programme

The Sixth Framework Programme (FP6), while representing a radical shift in approach to EU research funding, has also been designed to fit in with previous Framework Programmes (FPs). Its objective continues to be the development of a true European scientific community equipped with the best skills and know-how, and to support scientific and technical work of the highest quality, conducted through transnational projects benefiting from mobile researchers. But the success of past programmes needs to be reinforced, in particular the networks and projects supported by the European Union.

FP6 will distribute €17.5 billion to the parties involved in European research and technological development (RTD), but its aims go far beyond mere co-financing of research projects.

This programme provides a coherent and ambitious pan-European framework for supporting RTD as part of EU research policy and constitutes a five-year strategic plan for the period 2002-2006. During this period, it will stimulate transnational collaboration in research, particularly between industry and universities, and in the establishment of networks of excellence.

FP6 will also help to establish a conducive environment in Europe for innovation to flourish. This means encouraging technology transfer, ensuring the availability of venture capital, providing greater protection for intellectual property rights, and developing human resources. Increased resources will also be devoted to encourage SME participation in all the Framework Programme activities.

The Sixth Framework Programme represents the third largest operational budget line within the EU's overall budget, after the Common Agricultural Policy and Structural Funds. This is 3.9% of the EU's overall 2001 budget (or 3.4% of 2002) and 5.4% of all 2001 public (non-military) research spending in Europe.

FP6 will be instrumental in achieving the March 2000 Lisbon European Council goal of turning Europe into the world's most competitive knowledge-based economy by 2010. It will also greatly contribute to the creation of the European Research Area (ERA), a true European internal market for research and knowledge, where EU and national R&D efforts are better integrated.

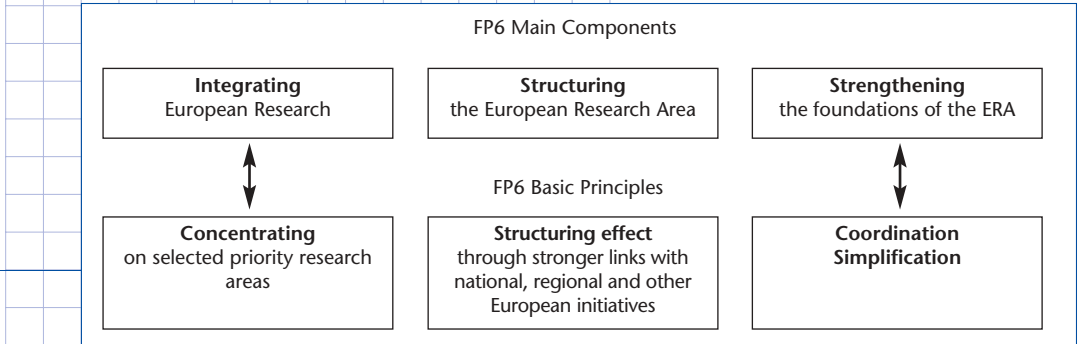
To reach the necessary critical mass at EU level and to pool together both financial and intellectual resources, FP6 will introduce new instruments, such as networks of excellence and integrated projects.

In order to achieve this more effectively and, in turn, to contribute to both the creation of the European Research Area and to innovation, the Sixth Framework Programme will be structured around three headings:

- focusing and integrating EU research
- structuring the European Research Area
- strengthening the foundations of the European Research Area

The activities under these three headings will be instrumental in the integration of research efforts and actions on a European scale, as well as contributing to the structuring of the various dimensions of the European Research Area. The coordination of activities carried out under these headings will be ensured.

This is shown in the following simple figure:



FP6 priorities

The priorities covered by FP6 are listed in the budget table (see later) and described in detail in Chapters 4 and 5 of this guide. They include: life sciences, genomics and biotechnology for health; information society technologies; nanotechnologies and nanosciences, 'intelligent' materials, new production processes and devices; aeronautics and space; food quality and safety; sustainable development, global change and ecosystems; citizens and governance; and other promising research areas, including support for participation of small and medium-sized enterprises (SMEs). FP6 also addresses research and innovation, human resources and mobility, research infrastructures, and science/society relationships. The Commission respects fundamental ethical principles in implementing these priorities.

SMEs will be encouraged to participate in all areas of the Sixth Framework Programme, in particular in the context of the activities carried out in the priority thematic areas. The SME National Contact Points will be reinforced in order to provide appropriate information and assistance to potential SME participants (informing, awareness raising, advising, assisting in partner search, training). SME associations or 'groupings' will be allowed to participate in the projects on behalf of their members.

International participation in these activities will be assured and will be open to all countries having concluded association agreements with the EU to this effect, including associated states and candidate countries. Other 'third' countries may participate in FP6 via bilateral co-operation agreements.

Researchers and organisations from third countries may also participate in projects on a case-by-case basis. The detailed conditions under which entities from third countries and international organisations involved in research activities may participate in the Framework Programme, including the financial arrangements, are specified in the regulation which will be adopted pursuant to Article 167 of the Treaty.

Participation in the activities of the Sixth Framework Programme will be encouraged through publication of the necessary information on content, conditions and procedures in a timely and thorough manner to potential participants, including those from the candidate and other associated countries.

New ERA for European research

Europe has a long-standing tradition of excellence in research and innovation, and European teams continue to lead progress in many fields of science and technology. However, its centres of excellence are scattered across the Member States and all too often their efforts fail to add up in the absence of adequate networking and co-operation. In the past, collaborative actions have been initiated at both European and EU level, but now is the time to bring Europe's endeavours together and to build a research and innovation structure equivalent to the 'common market' for goods and services. That structure is called the European Research Area (ERA) and is regrouping all EU supports for the better coordination of research activities and the convergence of research and innovation policies, at national and EU levels.

ERA implements the European Union's declared ambition of achieving a genuine common research policy. This includes the indispensable and long-awaited integration of Member States' scientific and technological capacities.

Sharing skills and results

The basic idea underpinning the ERA is that the issues and challenges of the future cannot be met without much greater 'integration' of Europe's research efforts and capacities. The objective is to move into a new stage by introducing a coherent and concerted approach at EU level from which genuine joint strategies can be developed. Without this political will, Europe is condemned to increasing marginalisation in a global world economy. With the ERA, on the other hand, Europe is giving itself the resources with which to fully exploit its exceptional potential, and thus to become – in the words of the Lisbon European Summit of March 2000 – 'the world's most competitive and dynamic knowledge-based economy'.

With often substantial resources at their disposal, national research programmes are undertaken to a large extent independently of one another. This dispersion effect is definitely a key factor in Europe's present underperformance when compared with the world's other research centres, and is preventing Europe from fully exploiting the EU's human and material resources. The longer-term objective is therefore to achieve greater co-operation between Member States' research strategies and a mutual 'opening up' of programmes.

Training for better performance

Recognising the importance of generating 'new knowledge' and 'knowledge transfer', several programmes in FP6 include training components to improve Europe's overall research performance. To achieve this, the budget for training schemes in FP6 has been substantially increased. Training-related activities and awards made a valuable contribution to European research in past Framework Programmes, especially by encouraging younger researchers and scientists to take up and pursue careers in science and technology. Such initiatives included the Marie Curie Fellowships, Descartes Prize, Archimedes Prize, EU Young Scientist Contest, as well as numerous actions under the broad title of 'Improving Human Research Potential and the Socio-economic Knowledge Base'.

Budget for the Sixth Framework Programme

	€ million	€ million
1. FOCUSING AND INTEGRATING COMMUNITY RESEARCH		13 345
Thematic priorities ⁽¹⁾		
Life sciences: genomics and biotechnology for health ⁽²⁾	2 255	
• Advanced genomics and its applications for health (€1 100 million)		
• Combating major diseases (€1 155 million)		
Information society technologies ⁽³⁾	3 625	
Nanotechnologies and nanosciences, knowledge-based multifunctional materials and new production processes and devices	1 300	
Aeronautics and space	1 075	
Food quality and safety	685	
Sustainable development, global change and ecosystems	2 120	
• Sustainable energy systems (€810 million)		
• Sustainable surface transport (€610 million)		
• Global change and ecosystems (€700 million)		
Citizens and governance in a knowledge-based society	225	
Specific activities covering a wider field of research ⁽⁴⁾		
Policy support and anticipating scientific and technological needs	555	
Horizontal research activities involving SMEs ⁽⁵⁾	430	
Specific measures in support of international co-operation	315	
Non-nuclear activities of the Joint Research Centre	760	
2. STRUCTURING THE EUROPEAN RESEARCH AREA		2 605
Research and innovation	290	
Human resources and mobility	1 580	
Research infrastructures ⁽⁶⁾	655	
Science and society	80	
3. STRENGTHENING THE FOUNDATIONS OF THE EUROPEAN RESEARCH AREA		320
Support for the coordination of activities	270	
Support for the coherent development of R&I policies	50	
EURATOM PRIORITIES ⁽⁷⁾		1 230
Priority thematic areas of research	890	
• Controlled thermonuclear fusion (€750 million)		
• Management of radioactive waste (€90 million)		
• Radiation protection (€50 million)		
Other activities in the field of nuclear technologies and safety	50	
Nuclear activities of the Joint Research Centre	290	
TOTAL		17 500

(1) Of which at least 15% is for SMEs.

(2) Including up to €400 million for cancer-related research.

(3) Including up to €100 million for the further development of GEANT and GRID.

(4) This amount of €315 million will fund specific measures in support of international co-operation involving developing countries, Mediterranean countries including Western Balkans, and Russia and the Newly Independent States (NIS). Another €285 million is earmarked to finance the participation of third-country organisations in the 'thematic priority areas' and the 'specific activities covering a wider field of research', thus bringing the total amount devoted to international co-operation to €600 million. Additional resources will be available under the 'human resources and mobility' section to fund research training for third-country researchers in Europe.

(5) Covering the whole field of science and technology.

(6) Including up to €200 million for the further development of GEANT and GRID.

(7) European Atomic Energy Community: certain activities within the context of FP6 fall under the jurisdiction of the Euratom Treaty and not the Treaty establishing the European Community. However, this has no practical significance for participants.

How research projects are organised and funded

Research projects in the Sixth Framework Programme are implemented using particular ‘instruments’ that specify how the work is to be organised and funded. FP6 introduces two new instruments – significant innovations by comparison with previous Framework Programmes. Integrated projects (IP) and networks of excellence (NoE) represent a departure from multiple project funding in favour of coherent and long-term research activities and partnerships. Strong, sustainable EU-funded research relationships have a better chance of achieving ‘critical mass’.

Integrated Projects

The integrated projects (IP) instrument is designed to **generate the knowledge** required to implement the priority thematic areas. It will do this by integrating the **critical mass** of activities and resources needed to achieve **ambitious, clearly defined scientific and technological objectives** of a European dimension.

The activities carried out as part of an IP’s ‘implementation plan’ should include research and, as appropriate, technological development and/or demonstration activities, activities for the management and use of knowledge in order to promote innovation, and any other type of activity directly related to the IP’s objectives (including training). These activities should all be integrated within a coherent management framework. An IP may span large parts of the spectrum from basic to applied research. Most projects are expected to be multidisciplinary in nature.

Scale of critical mass and duration

Each IP must assemble the critical mass of **activities, expertise and resources** needed to achieve its ambitious objectives. However, critical mass could differ widely in scale from field to field and even from topic to topic within a field.

The **value** of the activities integrated by a project may total many tens of millions of euro. However, there is no minimum threshold, provided of course that the necessary ambition and critical mass are there.

The **partnership** of an IP must be made up of at least three participants from three different Member or Associated States, of which at least two are Member States or Associated candidate countries. In practice, however, to achieve ‘ambitious’ objectives most consortiums are likely to include significantly more partners. The relevant call for proposals may, in fact, specify a higher minimum number of participants.

The typical **duration** of an IP is expected to be between three and five years.

Financial regime – main features

Community support will be in the form of a ‘grant to the budget’ paid as a contribution to eligible costs incurred (excluding indirect taxes, duties, interest, etc.) in the lifetime of the project. These costs must be both necessary and ‘economic’, as well as properly recorded in each of the participants’ accounts (or, when foreseen by the contract, in the accounts of a ‘third party’). Maximum rates of support differ according to the type of activity. Each participant must provide, among other things, a simplified annual financial statement, together with an audit certificate by an independent auditor certifying the overall total of eligible costs incurred. A major simplification is that there will be no predefined cost categories, participants being free to use their usual accounting principles.

Cost models for FP6

There is a single family of three closely related cost models:

- **FC** – a full cost model in which all eligible direct and indirect costs can be charged;
- **FCF** – a simplified variant of the full cost model in which a flat rate of 20% of all eligible direct costs (excluding subcontracting) can be charged to cover indirect costs;
- **AC** – an additional cost model, covering all eligible, non-recurring direct costs, together with a flat rate of 20% of these direct costs (excluding subcontracting) to cover indirect costs.

Rates of Community support

The maximum rate of Community support for FC and FCF participants is:

- 50% for RTD and innovation-related components;
- 35% for any demonstration component;
- 100% for consortium management and training.

AC participants will be supported at up to 100% of additional costs for all components of the project (with the exception of consortium management, for which they will be supported as under the FCF model).

A share of no more than 7% of the Community contribution will be reserved for consortium management costs reimbursed at up to 100%.

Calls for proposals

IPs will be selected following calls for proposals which will be published in the *Official Journal of the European Communities* and elsewhere – for example, on the Europa and CORDIS websites.

Under FP6, proposals will be simplified, in particular to reflect the evolutionary nature of an IP. For example, proposals will contain an outline description of the activities for the whole duration, while a detailed implementation plan will be required only for the first 18 months of the project.

Calls for proposals may be preceded by invitations to submit **expressions of interest** in order to help focus the calls and limit oversubscription. This will also assist in the processes of proposal-making and consortium-building.

Evaluation procedure

Proposals will be evaluated by a system of **peer review**, strengthened to reflect the more ambitious nature of IPs. This may involve hearings of the applicants by the evaluation panel and the use of a two-stage proposal submission process – where only those applicants whose outline proposal passes the first stage will be invited to submit a full proposal.

For additional general information on the evaluation of proposals, see page 46.

The following considerations will be taken into account when evaluating each IP:

- **Relevance to the objectives of the work programme** – Does the project match the call?
- **Potential impact** – Is the project's European dimension suitably ambitious?
- **S&T excellence** – Does the project have clearly defined objectives showing progress beyond the current 'state of the art', and an S&T approach enabling it to achieve its research and innovation aims?
- **Quality of the consortium** – Is the consortium collectively of a high standard, and is each participant (including SMEs) well-suited and committed to the assigned tasks?
- **Quality of the management** – Are management and organisation sufficiently solid to deal with the complexity of the project and the degree of integration required, and is there a plan to manage 'knowledge', intellectual property and innovation-related activities?
- **Mobilisation of resources** – Can the project successfully mobilise a critical mass of personnel, equipment, finance, and other resources, through coherent and integrated financial and project planning?

Initial contract and advance payment

The contract will specify the maximum Community contribution to an IP, but will not specify the distribution of the grant among participants, enabling the consortium to manage its own financial affairs – and eliminating the source of much of the micro-management associated with FP5 contracts. The project will liaise with the Commission through a **coordinator**, and a simplified contract signature procedure will allow earlier entry into force of the contract.

Participants will be expected to sign a **consortium agreement** among themselves.

An annex to the contract will contain an overall description of the project and a detailed implementation plan – accompanied by an indicative financial plan with cost estimates broken down by activity type and participant – for only the first 18 months of the project. An advance payment of up to 85% of the Community contribution anticipated for this period will be made at the start of the project.

Annual settlement of payments

The Commission will expect an annual report from the consortium, outlining the previous 12 months' activities and accompanied by a financial report with a management-level justification of the costs incurred over the same period. At the same time, the IP will submit its next 18-month detailed implementation and financial plan for approval.

Upon acceptance of these reports by the Commission, an equivalent amount of the advance payment for the period will be converted into an accepted payment (subject, of course, to *ex-post* audits) and the outstanding advance will be supplemented to reach up to 85% of the anticipated Community contribution for the subsequent 18-month period. In this way, optimal continuity of funding is assured throughout the project's lifetime.

Flexible implementation

Flexibility and **management autonomy** will be key elements in the implementation of IPs:

- The **detailed implementation plan** covering the coming 18 months rolls forward annually. The **overall implementation plan** may also be modified by the consortium (as long as the overall objectives and principal deliverables of the project are not changed). Neither can enter into force without the Commission's approval.
- As a project evolves, the consortium may choose to take on **new partners** – sometimes subject to a competitive call organised by the IP itself, according to the contract, but *without* additional funding. Alternatively, the Commission may decide to launch its own calls for proposals to enable existing IPs to extend their scope, this time *with* additional financing. This may be a useful mechanism for enhancing the participation of SMEs.

Monitoring and audits

In light of IPs' novel nature, in addition to the detailed monitoring of inputs undertaken in FP5 the Commission will also undertake the **strategic monitoring of outputs**. It envisages a reinforced monitoring scheme – which may involve high-level independent experts – consisting of annual reviews, an optional mid-term (or 'milestone') review, and an end-of-term review.

The Commission also has at its disposal a range of audits (technical, financial, technological and ethical) which it intends to use more systematically. In fact, each IP can expect to be subject to at least one financial audit.

For more details on integrated projects see:
<http://europa.eu.int/comm/research/fp6/networks-ip.html>

Scale of critical mass and duration

Each network of excellence is expected to have ambitious goals, especially in terms of providing European leadership and being a world force on the topic. It must therefore assemble the critical mass of **resources and expertise** needed to achieve these goals. The scale of this critical mass will vary from topic to topic. Larger networks can be expected to involve several hundreds of researchers. Networks can be more limited in size, but the necessary ambition and critical mass must be there.

A network's **partnership** must be made up of at least three participants from three different Member or Associated States, of which at least two are Member States or Associated candidate countries. However, in practice, for a NoE to achieve the necessary critical mass the Commission would expect at least six partners per network. A minimum of three participants may be specified in the relevant call for proposals. Like IPs, networks of excellence are open to the participation of legal entities from 'third countries'. For certain groups of these countries, financial support from the EU is possible.

The **duration** of the Community support is another important aspect of the critical mass, since a network must be supported long enough for its integration to take on a lasting nature. In many cases, support may be needed for five years and, if justified, perhaps longer – but not more than seven years.

Calls for proposals

NoE will be selected following calls for proposals which will be published in the *Official Journal of the European Communities* and elsewhere – for example, on the Europa and CORDIS websites.

The proposal process for a NoE will be simplified to reflect the evolutionary nature of the networks. For example, application forms will require an overall description of the network's activities over the full duration of the Community support, while – at proposal stage – a detailed JPA will be required only for the first 18 months of the network's existence.

Calls for proposals may be preceded by invitations to submit **expressions of interest** in order to help focus the calls and limit oversubscription. This will also assist in the processes of proposal-making and consortium-building.

Evaluation procedure

The evaluation will be based on the principles of **peer review** by independent experts. The system will be strengthened to reflect the more complex goals of the networks of excellence. It may involve more systematic use of remote assessment – in particular to address questions not covered in the proposal – prior to panel meetings and hearings of applicants by the panel.

Another possibility is a two-stage proposal submission process, in which only those applicants whose outline proposals pass the first stage will be invited to submit full proposals.

For additional general information on the evaluation of proposals, see page 46.

The following considerations will be taken into account when evaluating each NoE:

- **Relevance to the objectives of the work programme** – Does the network of excellence match the call?
- **Potential impact** – Does the NoE have suitably ambitious strategic goals for structuring and shaping the way research on the topic is carried out, is its plan for spreading excellence adequate, and is a durable structuring impact likely?
- **Excellence of the participants** – Is the consortium composed of participants able to conduct excellent research on the topic, well-suited to the tasks assigned and assembling the critical mass of expertise and resources needed to achieve the objectives?
- **Degree of integration and the JPA** – Is the expected degree of integration adequate, is the JPA suitable for that purpose, and do the participating organisations show convincing commitment to deep and durable integration?
- **Organisation and management** – Is the framework for the network's decision-making secure, is its management of high quality, and does it have a plan to promote gender equality?

Financial regime

A network of excellence has to bring about a durable integration of its participants' research capacities. This implies organisational, cultural and human change, and Community financial support needs to be directed towards overcoming the barriers to that change. The financing needed to achieve this cannot be quantified in normal accounting terms.

Community support takes the form of a fixed 'grant for integration' which takes into account the expected degree of integration in the network, the number of researchers proposed for integration by all participants, the characteristics of the field of research concerned, and the JPA. In this way, the grant acts as an **incentive to integration**. The scale of the grant must be sufficient to overcome the barriers to change, while at the same time avoiding the risk of creating dependence on Community financial support.

Calculation of the grant for integration

The model contract contains a table converting the **number of researchers** into the annual average grant to be allocated to the network. The calculation of the number of researchers will be based on the following:

- 'researcher' means research staff with at least four years of research experience or in possession of a doctoral degree;
- a 'researcher' must be either the employee of a participant or working under the direct management authority of a participant under a formal agreement between the participant and that researcher's employer;
- 'number of researchers' means the headcount of those 'researchers' who both (a) are identifiable by name at the time of the deadline for the submission to the Commission of the original proposal for this network of excellence, and (b) constitute the research capacities of the contractors within the frame of the proposed network of excellence.

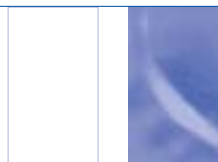
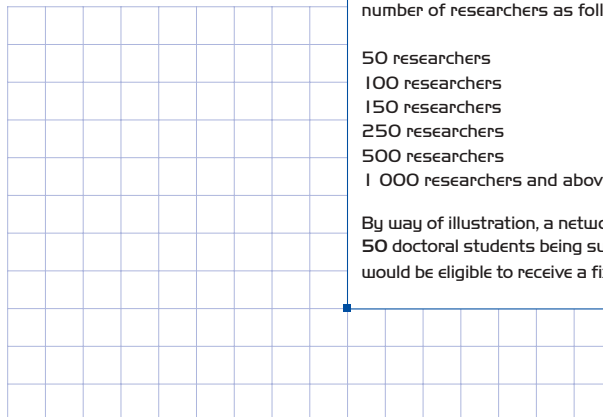
Given the importance of training within a network, a supplementary bonus scheme has been introduced for doctoral students engaged in research activities related to the network. It is equivalent to €4 000/year multiplied by the number of doctoral students, up to 10% of the grant for 'researchers'.

Illustrative calculation of the grant

The average annual grant to a network varies with the number of researchers as follows:

50 researchers	€1 million/year
100 researchers	€2 million/year
150 researchers	€3 million/year
250 researchers	€4 million/year
500 researchers	€5 million/year
1 000 researchers and above	€6 million/year

By way of illustration, a network of 200 researchers and 50 doctoral students being supported over a five-year period would be eligible to receive a fixed amount of €18.5 million.



Initial contract and advance payment

The contract will specify the amount of the grant to a network, but not its distribution among participants, enabling the consortium to manage its own financial affairs. At the start of the contract, the Commission will make an advance payment for the first 18 months up to 85% of the foreseen grant for that period.

Participants will be expected to sign a **consortium agreement** among themselves.

Annual disbursement of the grant

The grant will be disbursed in annual instalments on the basis of results, with an additional check that costs greater than the value of the grant were incurred in the implementation of the JPA. The Commission will expect an annual report from the consortium outlining the previous year's activities, accompanied by relevant financial documents. At the same time, the network will submit its detailed JPA for the next 18-month period for approval. It may also propose to update the overall JPA, again with the Commission's approval. A supplementary advance for the following 18-month period will be paid once this process is complete.

Because the contract contains a payment-by-result scheme, the Commission will develop a robust output-monitoring scheme consisting of:

- a) an annual independent review of a network's progress and its plans for the next period. The criteria used for the review will include, in particular, one that addresses 'the degree of integration and the efficacy of the JPA', similar to that used to evaluate the original proposal. Failure to pass the review may lead to suspension of disbursements or even termination of the contract.
- b) an end-of-term review to assess the extent of the network's integration and its impact on structuring and shaping the way research is carried out on the topic in Europe.

Integration would be measured, for example, on the basis of:

- 'mutual specialisation' and 'mutual complementarity' (i.e. especially through regular co-programming of the partners' activities);
- sharing common research infrastructures, equipment and platforms;
- regular joint execution of research projects;
- pooling of the partners' knowledge portfolio;
- joint programmes of training for researchers and other key staff;
- interactive working among partners using electronic information and communication systems;
- coherent management framework encouraging staff mobility, exchanges, interoperability of data and other systems, as well as common approaches to science and society issues, and gender equality in research.

Evolution of the consortium

As a network evolves, the consortium may choose to take on new partners – sometimes subject to a competitive call organised by the NoE itself, according to the contract – but *without* additional funding. Alternatively, the Commission may decide to launch calls for proposals to enable existing networks of excellence to take in new participants that may have emerged since the initial proposal was made – this time *with* additional financing.

Governance

A high level of institutional commitment from the partner organisations to the goals of a NoE will be essential for the network's success. The Commission will therefore encourage consortia to set up a 'governing board' consisting of senior representatives of the partnership's members, to oversee the integration of their activities. It may also suggest the establishment of a 'scientific council', involving external experts, to advise on the nature of the JPA, and in particular on the network's missions of strengthening and spreading excellence throughout Europe.

For more details on networks of excellence see:
<http://europa.eu.int/comm/research/fp6/networks-ip.html>

Article 169

Article 169 refers to the article in the Treaty that enables the Community to participate in research programmes undertaken jointly by several Member States, including participation in the structures created for the execution of these programmes. Associated States may also participate.

In terms of the European Research Area and, in particular, the need to help integrate and structure research in Europe, Article 169 is potentially the most powerful instrument in FP6. For example, whereas integrated projects and networks of excellence would tend to integrate the activities of individual performers of research, provisions in Article 169 allow for the integration of activities of entire national programmes in a particular research field.

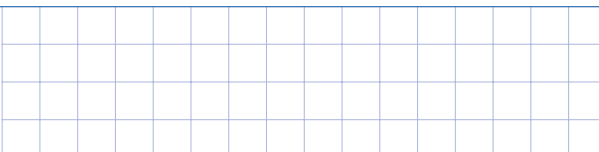
Applying Article 169

To generate a proposal, each possible Article 169 arrangement requires a co-initiative between a number of Member States, perhaps represented by their national programmes, and by the Commission. Formally, it is only then that the Commission can submit the proposal to co-decision by the Council of Ministers and the European Parliament. The decision-making procedure for each Article 169 arrangement is effectively the same as for the Framework Programme itself.

For these reasons, it may be difficult to employ Article 169 extensively during FP6, and its use will be restricted to those research initiatives that are beyond the scope of integrated projects or networks of excellence.

A first pilot proposal, concerning a 'European and Developing Countries Clinical Trials Partnership Programme' (EDCTP), was presented by the Commission to Council and the European Parliament at the end of August 2002, and was adopted by them in spring 2003.

For more details on Article 169 see:
<http://europa.eu.int/comm/research/fp6/networks-ip.html>



Traditional Instruments

1. Specific targeted research projects

Specific targeted research projects aim to improve European competitiveness and meet the needs of society or Community policies. They should be sharply focused and will take one of the following two forms, or a combination of both:

- A **research and technological development** project designed to gain new knowledge either to improve considerably existing products, processes and services – or develop new ones – or to meet other needs of society and EU policies;
- A **demonstration** project designed to prove the viability of new technologies offering potential economic advantages but which cannot be commercialised directly.

Scale and duration: projects need at least three participants from three different Member States or Associated States, of which at least two should be Member States or Associated candidate countries. The relevant call for proposals may specify a higher minimum number of participants.

The value of the activities carried out within a project may reach up to several million euro. Typically, the duration will be two to three years (and possibly more, if justified).

Eligible costs and cost models: the same as for integrated projects.

Community support: 'grant to the budget' at up to 50% for RTD and innovation-related activities; 35% for demonstration projects, or for the demonstration part of a combined project; and 100% for consortium management costs (not exceeding 7% of the Community contribution).

For more details on specific targeted research projects see:
<http://europa.eu.int/comm/research/fp6/networks-ip.html>

2. Coordination actions

Coordination actions are a continuation, in a reinforced form, of the concerted actions/thematic networks used in FP5. They are intended to promote and support the networking and coordination of research and innovation activities aiming to improve integration.

They will cover the definition, organisation and management of joint or common initiatives, as well as activities such as arranging conferences, meetings, the performance of studies, exchange of personnel, exchange and dissemination of 'good practices', training actions, and the setting up of information systems and expert groups.

Community support: 'grant to the budget' of up to 100%.

For more details on coordination actions, see:
<http://europa.eu.int/comm/research/fp6/networks-ip.html>



3. Specific support actions

The specific support actions for use in the priority thematic areas are essentially a continuation of the accompanying measures used in FP5.

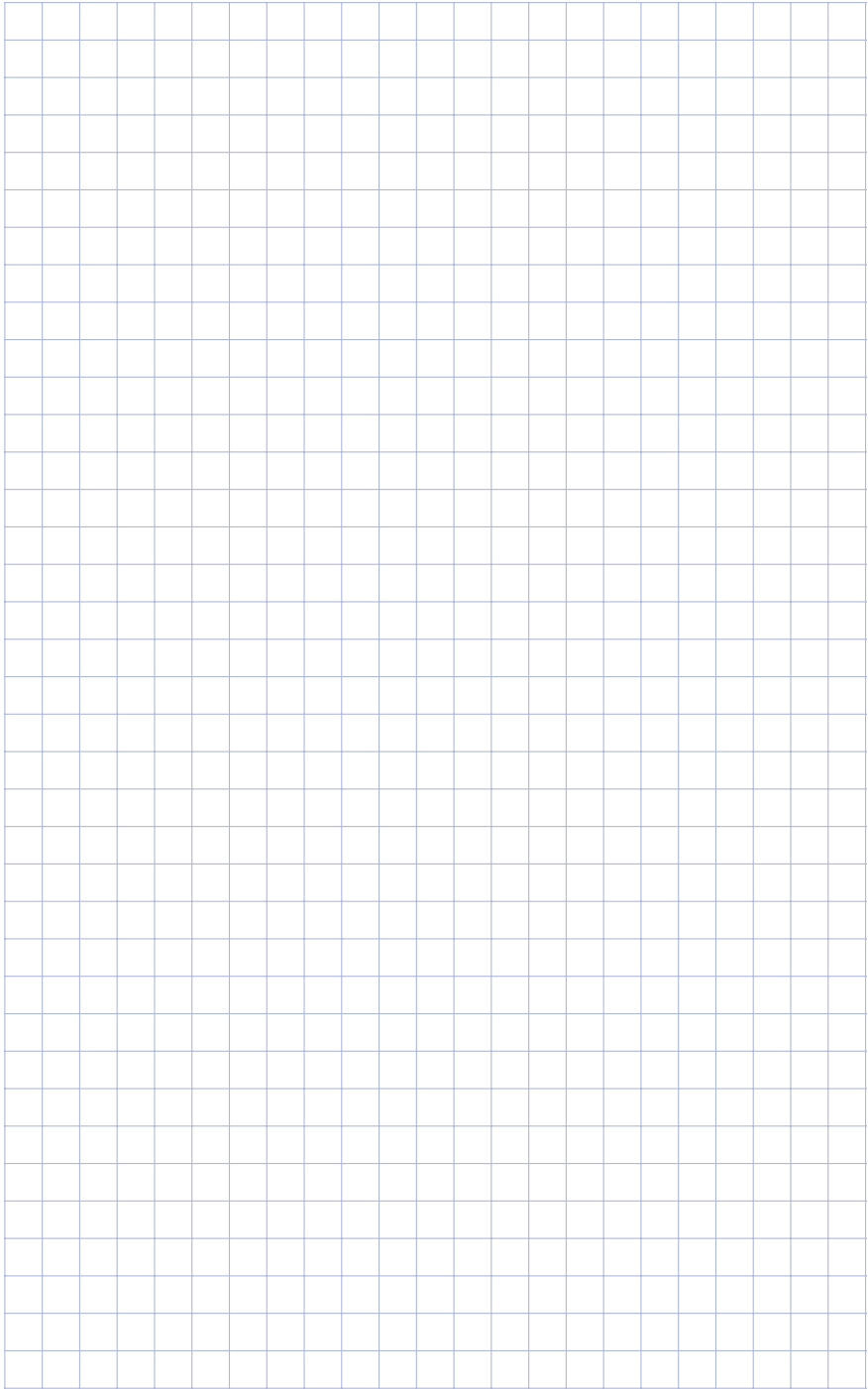
Specific support actions are intended to support the implementation of FP6, and may also be used to help prepare for future Community research policy activities. Within the priority thematic areas they will involve, for example, conferences, seminars, studies and analyses, high-level scientific awards and competitions, working groups and expert groups, operational support and dissemination, information and communication activities, or a combination of these.

Specific support actions will also be implemented to stimulate, encourage and facilitate the participation of small research teams, SMEs, newly developed and remote research centres – as well as organisations from the candidate countries – in the activities of the priority thematic areas, especially through networks of excellence and integrated projects. Implementing these actions will rely on specific information and assistance, including the network of National Contact Points established by Member States and the Associated States, at local, regional and national level, and will aim to ensure a smooth transition from FP5 to FP6.

Community support: 'grant to the budget' of up to 100% of the budget, if necessary as a lump sum.

For more details on specific research projects for SMEs see: <http://www.cordis.lu/sme>





CHAPTER 2

WHO CAN TAKE PART IN THE SIXTH FRAMEWORK PROGRAMME?

Participating in FP6

International co-operation

Categories of participants

Establishing roles and responsibilities

Advantages of participating in FPs

Instruments for FP success

RTD activities and EU funding by type of instrument

Human resources and mobility: Marie Curie Actions

Accompanying measures

Eligible costs

Intellectual property rights



Chapter 2

Candidate countries

A major development in FP6 is that research projects can now involve organisations from the candidate countries alone. This comes at an important stage of the enlargement negotiations. Of the 13 candidate countries, it is hoped that by the end of 2002 at least ten countries will have concluded talks with the EU concerning full accession by 2004. In the interim, they are expected to apply for associated status to FP6, giving them the same entitlements as Member States in the programme. In order to maximise candidate country involvement from day one, the Commission has made arrangements for them to pay into the FP6 budget based on a percentage of their GDP, and it intends to offer rebates to candidate countries of 30% and 20% respectively for the first two years of participation. Once they become Member States, their direct contribution to the FP6 budget will end – it will come from the overall EU budget instead.

Participating on a case-by-case basis

Researchers and organisations from countries other than Member States, candidate countries, or associated states may also participate in projects on a case-by-case basis. The conditions under which entities from 'third countries' and international organisations involved in research activities may participate in FP6 are detailed under Article 167 of the Treaty. Information on content, conditions and procedures, etc. is published throughout the duration of the Framework Programme to encourage wider participation, including from associated and candidate countries.

All other countries

In the case of countries not included in the above categories, participation in projects under the Sixth Framework Programme is possible on a self-funding basis if it is both in accordance with the EU interest and will contribute significant 'added value' in the implementation of all or part of a specific programme. The EU interest and the significant added value must be clearly demonstrated in the proposal.

In exceptional cases, EU funding for a participant from a third country or for an international organisation may be granted under the programme if this is essential to achieve the project's objectives. These cases must still comply with rules relating to the minimum number of legal entities.

For more information about association agreements and enlargement issues, please visit the following websites:
<http://www.cordis.lu/fp5/enlargement.htm>
<http://europa.eu.int/comm/enlargement/index.htm>

Further details about the participation of third countries are available on the International Co-operation website:
<http://www.cordis.lu/inco2/src/participation.htm>

For more information about international co-operation funding, see also the Budget for the Sixth Framework Programme in this guide.

FP6 case study – Integrated Project

An integrated project for the design and testing of vaccine candidates against tuberculosis: Identification, development and clinical studies

Taking advantage of the complete sequencing of the *Mycobacterium tuberculosis* genome and the availability of new research tools, the project links 30 leading European research institutions with the objective of optimising and developing improved tuberculosis vaccines.

RTD activities and EU funding by type of instrument

TYPE OF INSTRUMENT	RTD ACTIVITIES	COMMUNITY CONTRIBUTION* ⁽¹⁾
Networks of excellence	<ul style="list-style-type: none"> • Priority thematic areas • Policy support and anticipating scientific and technological needs 	Community grant for integration: maximum of 25% of the value of the capacity and resources proposed for integration by participants as a fixed amount to support the joint programme of activities ⁽²⁾
Integrated projects	<ul style="list-style-type: none"> • Priority thematic areas • Policy support and anticipating scientific and technological needs 	Community grant of up to a maximum of <ul style="list-style-type: none"> • 50% for research • 35% for demonstration • 100% for certain other activities such as training of researchers and consortium management ⁽³⁾⁽⁴⁾
Specific targeted research or innovation projects	<ul style="list-style-type: none"> • Priority thematic areas • Policy support and anticipating scientific and technological needs • Specific international co-operation activities • Promoting interaction between research and innovation • Developing harmonious relations between science and society 	Community grant of up to a maximum of 50% of the budget ⁽³⁾⁽⁴⁾
Participation in programmes undertaken by several Member States (Article 169)	<ul style="list-style-type: none"> • All activities in the Sixth Framework Programme 	To be defined in subsequent decisions taken on the basis of Article 169
Specific research projects for SMEs	<ul style="list-style-type: none"> • Whole field of science and technology • Specific research activities for SMEs 	Community grant of up to a maximum of 50% of the budget ⁽³⁾⁽⁴⁾
Actions to promote and develop human resources and mobility	<ul style="list-style-type: none"> • Promotion of human resources and mobility 	Community grant of up to a maximum of 100% of the budget ⁽³⁾ , if necessary as a lump sum
Co-ordination actions	<ul style="list-style-type: none"> • In all the activities of the Sixth Framework Programme 	Community grant of up to a maximum of 100% of the budget ⁽³⁾
Specific support actions	<ul style="list-style-type: none"> • In all the activities of the Sixth Framework Programme 	Community grant of up to a maximum of 100% of the budget ⁽³⁾⁽⁶⁾ , if necessary as a lump sum
Integrated infrastructure initiatives	<ul style="list-style-type: none"> • Support for research infrastructures 	Community grant: depending on the type of activity, up to a maximum of 50% to 100% of the budget ⁽³⁾⁽⁴⁾⁽⁵⁾
Direct actions	<ul style="list-style-type: none"> • Non-nuclear activities of the Joint Research Centre 	100% ⁽⁷⁾

* In this column budget means a financial plan estimating all the resources and expenditure needed to carry out the action.

- (1) *As a general principle, the EU's financial contribution cannot cover 100% of the expenditure of an indirect action, with the exception of proposals covering a purchase price governed by the terms applicable to public procurement procedures or taking the form of a pre-defined lump sum pre-set by the Commission. However, the EU's financial contribution may bear up to 100% of the expenditure of an indirect action if they complement those otherwise borne by the participants. Also, in the specific case of coordination actions, this covers up to 100% of the budget necessary for the coordination of activities funded by the participants themselves.*
- (2) *This rate varies for different areas.*
- (3) *Subject to specific conditions, specific legal entities, particularly public bodies, will receive funding of up to 100% of their marginal/additional cost.*
- (4) *The rates of assistance may be differentiated in accordance with the rules of the EU framework for state aid for research and development depending on whether activities relate to research (maximum 50%) or demonstration (maximum 35%) or to other activities implemented, such as training of researchers (maximum 100%) or the management of the consortium (maximum 100%).*
- (5) *The activities of an integrated initiative relating to infrastructure must include one networking activity (Coordination Action: maximum 100% of the budget) and at least one of the following activities: research activities (maximum 50% of the budget) or specific service activities (Specific Support Action, for example, transnational access to research infrastructures: maximum 100% of the budget).*
- (6) *For actions in support of research infrastructure relating to preparatory technical work (including feasibility studies) and the development of new infrastructure, Sixth Framework Programme participation is restricted to maximum of 50% and 10% of the budget respectively.*
- (7) *In addition, the JRC will be entitled to participate in indirect actions on the same basis as entities established in Member States.*

Human resources and mobility programme: the Marie Curie Actions

Training schemes supported via the human resource and mobility programme of FP6 (with its budget of €1.58 billion) will consolidate and widen researchers' career prospects and mobility, while promoting excellence in European research. The **Marie Curie Actions** can be broadly divided into host-driven, individual-driven (where an individual submits the proposal) and 'excellence promotion and recognition' instruments:

Host-driven actions: Marie Curie research training networks; Marie Curie host fellowships for early-stage research training; Marie Curie host fellowships for the transfer of knowledge; Marie Curie conferences and training courses.

Individual actions: Marie Curie intra-European fellowships; Marie Curie incoming international fellowships; and Marie Curie outgoing international fellowships.

Excellence promotion and recognition: Marie Curie grants for 'excellence teams'; Marie Curie chairs; and Marie Curie 'excellence awards'.

There are in fact opportunities for researchers at 'all stages of their career' to take part in these actions – **early-stage, experienced** and **top-level** researchers.

Further information about the Marie Curie Actions in the Sixth Framework Programme may be obtained from the following website:

<http://europa.eu.int/mariecurie-actions>

More information about FP6 can be found at:

http://europa.eu.int/comm/research/fp6/index_en.html

Accompanying measures

These measures contribute to the implementation of a specific programme or the preparation of future activities under the programme: information and assistance concerning access to the programmes, promotion of the results of projects, etc. They are also designed to prepare for or support other indirect RTD actions. Financial assistance: up to 100% of the total eligible costs.

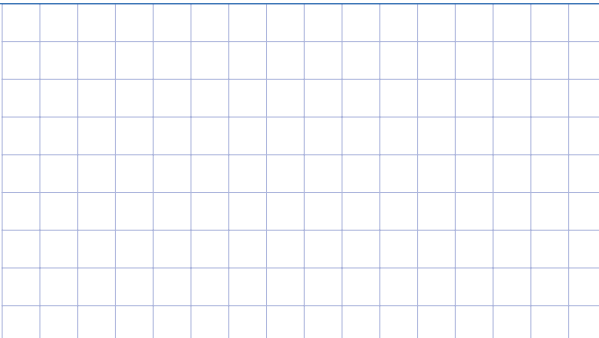
Eligible costs

As the new instruments in FP6 are being supported with public money, the Commission has laid down guidelines on expenses in order to preserve public accountability and to protect EU interests.

Costs may be charged to the contract provided that they fulfil the following conditions:

- they are actual, 'economic' and necessary for the implementation of the project;
- they are determined in accordance with the usual accounting principles of each participant;
- they are incurred within the duration of the project, except when otherwise provided for in the contract;
- they are recorded in the accounts of the participant or, when provided for in the contract in the case of resources made available by third parties on the basis of a prior agreement, in the corresponding accounts of those third parties; and
- they exclude any indirect taxes, duties, interest, costs incurred in respect of another EU project, and do not give rise to profit.

As each participant will be expected to follow its own accounting conventions, there will be no predefined cost categories as there were for RTD projects in FP5. The Commission will issue financial guidelines to inform participants on how eligible costs may be identified and charged to the project as well as to propose good financial practices. Participants are invited to follow these when establishing their proposed project budget and preparing financial reports.



Intellectual property rights

The Commission's model contract for research and technological development (RTD) projects addresses in detail questions relating to intellectual property rights (IPR). The basic principle is that intellectual property must belong to the partner who generated the new knowledge.

The Commission set up an Intellectual Property Rights Helpdesk in September 1998 as a three-year pilot action by the Directorate-General for Enterprise. Following its success as a Europe-wide IPR support service, a new operational phase was launched at the beginning of 2002. The role of the Helpdesk is to inform and assist participants in RTD projects funded by the EU on any questions relating to intellectual property (patents, copyright, trade marks, designs and models, etc.) and to raise public awareness of the importance of intellectual property in Europe. The IPR-Helpdesk offers assistance in a number of different ways. The website, which is available in five languages, provides Framework Programme tutorials, briefing papers and links covering a wide range of IPR topics. In addition, there is a free telephone helpline which deals with IPR queries in whichever of the five Helpdesk languages the caller chooses.

The rules regarding the protection, dissemination and use of knowledge have been simplified allowing greater flexibility for the participants, notably:

- rules are identical for all participants;
- rules concentrate on the principles and provisions considered necessary for efficient co-operation and the appropriate use and dissemination of the results; and
- participants may define among themselves the arrangements that best suit them within the framework provided in the model contract.

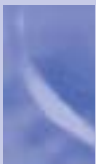
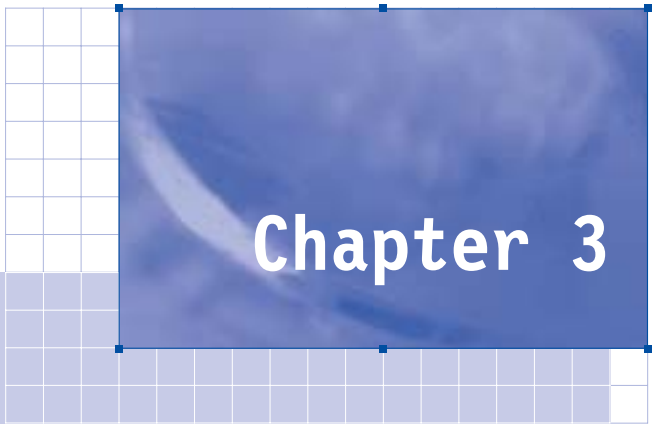
More information
ipr-helpdesk@ua.es
<http://www.ipr-helpdesk.org/>

The IPR-Helpdesk is not only for IPR-related questions.
More information about the ownership, protection, use and dissemination of 'knowledge' – as well as the access rights of the partners – is provided in the 'working documents' located at the following web address:
<http://europa.eu.int/comm/research/fp6/networks-ip.html>

CHAPTER 3

HOW TO TAKE PART IN THE SIXTH FRAMEWORK PROGRAMME

- Offering a helping hand
- Expressing interest in proposals
- Where to find help: Infodesks and Info-days
- Identifying a call for proposal
- Finding official information
- Choosing a call
- Important documents and how to get them
- Supporting preparation material
- Preparing a proposal
- Top tips on how to increase your chances of success
- Submitting your proposal
- Sending proposals and next steps
- Evaluation of proposals - general information
- Meeting the evaluation criteria
- Ethical review of successful proposals
- Rejected proposals
- Proposals on the priority list
- Contract negotiations
- Contractors' rights and obligations
- Project management, monitoring and impact
- Monitoring procedures
- Payments



Offering a helping hand

This chapter is intended to give the reader an overall picture of the procedures involved but is not intended to help applicants submit effective proposals – that is the role of the detailed *Guide for Proposers* included in the Information Package which will be available free of charge via CORDIS (<http://www.cordis.lu/fp6/>). The information provided here is to enable potential participants to judge whether or not their organisation is capable of submitting a project to the Commission by answering a 'call for proposals'.

Expressing interest in proposals

Calls for proposals will be published in the *Official Journal of the European Communities*, and will be disseminated widely, in particular on the Europa and CORDIS websites – for more detailed information see Chapter 6 (Other useful sources of EU information).

The proposals will be simplified to reflect the evolutionary nature of the new instruments in FP6. In some cases, calls for proposals will be preceded by an invitation to submit expressions of interest to help determine topics for subsequent calls. The advantage of this approach is that it will help focus the calls for proposals, while containing the problem of over-subscription, and will contribute to proposal-making and consortium-building.

FP6 case study – Network of Excellence

NeuroPrion – Prevention, control and management of prion diseases

By making possible the sharing of historical, current and future knowledge, this 52-member network of excellence will provide European researchers with a platform for effective collaboration, as well as for communication with policy-makers and the public. It is expected to improve the value for money of EU- and nationally funded research, allowing better exploitation of knowledge and a concerted European response to future TSE crises.

Where to find help

The European Commission and the Member States carry out a range of activities to help applicants. This assistance varies according to the nature of the call for proposals and the specific thematic priority or activity concerned.

For example, in each Member State a network of official **National Contact Points** (NCPs – see Chapter 6) for Framework Programmes has been set up. Their task is to help potential applicants to identify the most appropriate activity, and to obtain information about the procedures and administrative requirements, etc. A similar network of NCPs has also been set up for **SMEs** in response to their specific concerns. In addition, for each programme Member States may establish a network of specialists who, for example, can help organisations in one country find partners in other countries.

Applicants can also make use of other information and assistance services such as the **Innovation Relay Centres (IRC)** and the **European Information Centres (EIC)** (see Chapter 6 for details).

The three types of networks mentioned above are also generally available in those countries associated to the Framework Programme.

Infodesk

The European Commission runs an information service (infodesk) for each programme while the calls remain open. Any questions not covered in the relevant Information Package, in the material available on the programme's website homepage on Europa or CORDIS, or on the FP6 Frequently Asked Questions website page may be directed to the appropriate infodesk at:
<http://www.cordis.lu/fp6/>

For FAQs and general information about FP6:
<http://europa.eu.int/comm/research/faq.html>
http://europa.eu.int/comm/research/fp6/index_en.html

In addition, the infodesk posts any last-minute information – plus additions or corrections – concerning the call on the programme websites. Applicants should visit these sites regularly. Details of the infodesks are given under each activity in Chapter 6.

Info-days

In addition, the Commission organises info-days to present the thematic priorities and activities or a particular call for proposals, and also to provide an opportunity for applicants to meet potential partners.

The Commission's Europa and CORDIS websites promote a number of services and information sources which can be particularly useful for partner-search activities. Similarly, the Commission offers a range of tools and networks that may help European RTD performers to identify potential partners. These services are generally free of charge and most are also accessible in many countries outside the European Union. Other national and commercial resources are also available.

Details of all these information and assistance services are given in Chapter 6.

Calls for expression of interest

On 20 March 2002, the Commission published a 'call for expression of interest' in an effort to receive as much feedback as possible from the scientific and industrial community on ideas for cutting-edge research in line with FP6 priorities and new instruments.

This call invited research teams and consortia to give the Commission an outline of the projects they intend to submit for funding once the formal 'calls for proposals' were published later that year. This initiative is designed to ensure that the European Commission's policy objectives and the commitment of the scientific and industrial community actually match up.

This is the first time that such a procedure has been followed, and the response to it confirms that this is the right approach, as more than 15 000 proposals have been submitted. At the time of publication, these are being analysed and the results will feed into the definition of the forthcoming calls for proposals.

More information about the calls and expressions of interest is available at:

<http://www.cordis.lu/fp6/eoi-instruments/>

<http://eoi.cordis.lu/search-form.cfm>

Finding official information

The official source of information concerning FP6 calls for proposals and calls for tenders is the *Official Journal of the European Communities* (OJ) which is the only periodical published every working day in all 11 official languages of the EU. It comprises two related series (L for legislation and C for information and notices) and a supplement (S for public tenders). There is also an electronic section to the C series, known as the OJ C E on which documents are only published electronically.

Series and formats

- The **L** series contains EU legislation including regulations, directives, decisions, recommendations and opinions; applicants should refer to these documents for all legislative decisions relating to FP6.
- The **C** series contains EU information and notices including calls for expression of interest for EU programmes and projects, other documents pursuant to EU legislation, minutes of Parliamentary meetings, etc.
- The **S** series is an OJ supplement which publishes invitations to tender in numerous sectors including European Development Fund, Investment Bank, and Central Bank contracts, Phare, Tacis and other contracts from Central and Eastern Europe, etc. The CD-ROM version is published from Tuesday to Saturday and contains up to 750 invitations to tender every day. A daily updated on-line edition is available in the TED database, access to which is free of charge (<http://ted.eur-op.eu.int>).

It is possible to take out an annual subscription to the daily **paper** edition, and certain specialised annexes are available to subscribers free of charge.

The **on-line** version – known as the EUR-Lex portal (<http://europa.eu.int/eur-lex>) – offers integrated access to legal texts found in the CELEX, EUR-Lex and Court of Justice's CURIA websites. It also provides links to PreLex, the European Commission's database on interinstitutional procedures, and OEIL, the European Parliament's Legislative Observatory, as well as other EU and Member States legislative sites. EUR-Lex offers harmonised search functions for, and free access to, all types of documents: the Official Journal, the Treaties, legislation, case-law, parliamentary questions and documents of public interest. Archive documents are available on payment.

Important documents and how to get them

Document	Recommended Reference	Legally Obligatory	Status	Where to find it
Legislative Decision on Sixth Framework Programme. Decision No 1513/2002/EC	Yes		Legal value	EUR-LEX DGR
Work Programme	Yes		Legal & informative value	CORDIS*
Call for Proposal or Tender		Yes	Legal & informative value	CORDIS*
Guide for Proposers	Yes		Informative value	CORDIS*
Speaking Notes and Working Documents	Yes		Informative value	DGR/CORDIS
Various forms for the notification, submission and acknowledgement of receipt of proposals		Yes	Legal value	CORDIS
Background information	Yes		Informative value	DGR/CORDIS
Rules for Participation in FP6		Yes	Legal & informative value	DGR
FAQs	Yes		Informative value	DGR
INFO PACK	Yes		Informative value	NCPs/Infopoint

EUR-LEX = <http://europa.eu.int/eur-lex/en/>

DGR = http://europa.eu.int/comm/research/fp6/documents_en.html

CORDIS = <http://www.cordis.lu/fp6/>

NCPs = National Contact Points

* Not available at the time of publication

Supporting preparation material

The INFO PACK

The Information Package is specific to each call for proposals or call for tenders. It contains all the documents needed by or useful for applicants. It is provided free of charge on request from the information service of the programme concerned. Its contents can also be downloaded from the CORDIS website in Word, PDF or HTML format – see the home page for each thematic priority. Please make sure you have the latest version of these documents.

The Guide for Proposers

Also found in the Information Package, the *Guide for Proposers* is particularly useful.

This document takes applicants through the entire procedure step by step:

- giving general explanations about FP6;
- making it possible to identify the best programme or theme for their project, and setting out the participation rules;
- indicating the official documents required and useful sources of information; and
- offering detailed explanations and practical advice on the procedures to be followed at each stage.

Special conditions

There may be special conditions for proposals submitted in response to a call. If this is the case, they will be set out in the call for proposals or in the work programme.

Electronic proposal submission system (EPSS)

The new EPSS will allow applicants (individual and organisations) to register, develop and submit proposals via the web. Proposals can be developed either on-line or off-line and submitted either electronically – in which case they can also be amended as many times as required until the call closes – or by post on a CD or diskette. Paper submission is also possible. EPSS is due for live operation from early 2003 and will be accessible via CORDIS.

A useful service: pre-proposal check

In some calls for proposals, the Commission may offer an optional pre-proposal check. This is an informal advisory service provided to the research community.

Language

Proposals may be submitted in any of the 11 official languages of the European Union. However, an English translation of the entire proposal would be useful for the evaluators and **a summary of the proposal must be included in English**. You should get an English-speaker familiar with the technical field in question to check the accuracy and quality of the English translations.

Forms

Special forms will be available to help applicants gather the information needed for each proposal. They are intended to serve as a checklist for applicants to ensure that all the necessary information is provided, and also to enable the proposal to be compared fairly with others.

Top tips on how to increase your chances of success

- **Make an accurate assessment of the effort required**

One of the European Commission's major concerns is to simplify and streamline as much as possible the administrative and other work involved in preparing a proposal. Nevertheless, you should not underestimate the quantity and cost of resources required – in particular with regard to negotiations with partners – in order to submit a top-quality proposal with a reasonable chance of being accepted. On the other hand, the thinking required to reply to the Commission's various questions may make applicants realise that certain factors have not been properly evaluated and thus help them to improve their project. The information packages offer checklists for this purpose.

- **Eligible partners**

First, check whether you and your partners satisfy the conditions for participating in the programme (legal status, etc.), and the conditions relating to the particular activity in question (certain activities may, for example, be earmarked for SMEs, organisations in certain industrial sectors, etc., while certain costs may be limited according to the activity, cost model, partners, etc.).

- **Specific actions and RTD objectives**

Check whether your proposal does in fact correspond to an activity covered by the **call in question**. Ineligible proposals and proposals which do not concern activities covered by the call will be excluded from the evaluation.

- **Selection criteria**

You should pay careful attention to the selection criteria since proposals which do not meet these will not be considered for funding.

- **Management**

You must clearly explain and justify your ability to ensure high-quality management commensurate with the scale of the project.

- **Content**

A good proposal must satisfy the evaluation criteria identified in the call. Since the requirements may vary from one thematic priority to another, refer to the Information Package for the priority you have selected.

- **Ethical issues**

Describe clearly all the possible ethical and regulatory aspects in relation to the research to be carried out, and how they are governed by national regulations.

- **Presentation**

A good proposal will be written in a way that is easy to understand. It should be precise and concise—the evaluators will base their assessment on the content, not on the number of pages. Since the processing of certain forms is automated (optical recognition machines), it is important to complete them legibly and carefully so as not to delay the processing of your file.

- **Results**

A good proposal clearly indicates the expected results and the way in which the participants plan to disseminate or use them.

- **Partnership**

Partners must discuss and preferably agree on their respective responsibilities, rights, obligations and roles before making a proposal.

- **Contract**

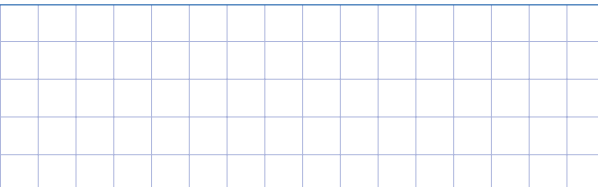
Check to see whether the conditions of the contract applicable to your project are understood by and are acceptable to all the partners.

- **Competition**

Proposals compete against one another. A weakness in an otherwise valid dossier risks undermining it. Therefore, take particular care with your proposal and improve it or eliminate weak points. Applicants can have their proposal checked by a neutral third party (if the 'proposers' agree) to get an independent assessment of any weak points.

- **Quality control**

Before submitting a proposal, take care to ensure that all the formal and administrative criteria are scrupulously satisfied: submission deadline, number of copies, instructions on packaging (double envelopes, etc.), authorised signatures, legal and accounting information, acknowledgement of receipt, etc. Around 10% of proposals received by the Commission are eliminated because they fail to comply with one or more of these criteria. If you have any doubts, please consult the Helpdesk of the thematic priority concerned (see Chapter 6).



- **Use the internet**

Good internet access is particularly useful for any applicant under FP6; the Europa and CORDIS websites offer direct, continually updated and partially multilingual access to useful documents, information and services. However, you do not have to use the internet. All relevant documents and information can also be obtained through more conventional means such as fax, telephone and mail.

Submitting your proposal

Submission dates

Proposals can be submitted in response to continuously open calls for proposals and calls for proposals with a specified deadline.

Continuously open calls for proposals

These are often open for the entire duration of the Framework Programme. The call lists a series of cut-off dates (usually two per year). All proposals which reach the Commission before one of these dates will then be evaluated. A project submitted after a particular deadline will be evaluated later. This very flexible arrangement is most frequently used for, for example, SME measures but the concept is spreading to other programmes.

Call for proposals with a specified deadline

This type of call will specify a single cut-off date. After that date, the call for proposals no longer applies. This procedure generally applies to the thematic priorities. The time between the date of publication of the call and the deadline for submitting proposals is not very long (i.e. around three months). It may therefore be worth preparing the background material for a project even before a call is actually published. Proposals submitted late will be rejected. However, it is possible that new calls covering the same field will be published later. In that event, the proposal should be resubmitted, but make sure that it fully complies with the requirements of the new call.

Advance information on some calls may be published in the *Official Journal* (and on the previously mentioned websites) so that interested applicants can make their preparations more effectively. However, this is not always the case.

In all cases it is important to check carefully **the date and time** of the deadlines specified in each call for proposals. For calls with a single deadline, a proposal submitted the day after a cut-off date, or on the same day but after the time specified, will be rejected. For continuously open calls, evaluation will be postponed to a later date.

Sending your proposal

Submitting proposals step by step

1. A pre-registration of proposals may be requested by the Commission to aid in the setting up of the subsequent evaluation. Calls may be a single or two-stage procedure.
2. In the call for proposals, the applicant may be required to ask for a proposal number. This form (notification of intention to submit a proposal) should be sent to the Commission by fax or e-mail.
3. If requested, the Commission sends the applicant the proposal number by fax or e-mail.
4. The proposal is prepared by the applicant in electronic (EPSS, see above) or paper form.
5. The applicant checks the proposal against the top tips for success set out above. The on-line and off-line systems both do eligibility checks.
6. The proposal is sent to the Commission electronically via EPSS, by post, or delivered in person.
7. An acknowledgement of receipt will be sent once a proposal has been received and registered by the Commission. This is immediate and automatic for EPSS submission.
8. For EPSS submissions, the applicant can review and revise the proposal as often as required until the call closes.

Each edition of the European Commission's quarterly magazine, **RTD info**, contains a table summarising all planned calls and their deadlines. To subscribe to the magazine or browse it on-line, please visit the following website: <http://europa.eu.int/comm/research/rtdinfo>

Evaluation of proposals – general information

Evaluation of proposals for the new FP6 instruments is governed by fundamental principles:

- **transparency:** the framework for applicants, expert evaluators and Commission services will be clear;
- **fair treatment:** all proposals will be treated alike, regardless of who or where they come from;
- **impartiality:** all eligible proposals will be subject to an impartial and independent peer review;
- **efficiency and speed:** evaluation procedures will be as rapid as possible, while maintaining high quality standards and respecting the legal framework of the specific programme;
- **ethical considerations:** research activities will respect fundamental ethical principles;
- **science and society:** research activities will reinforce equality of opportunity in science by stimulating the participation of women, and will promote understanding by communicating results and impacts beyond the research community to the wider public.

EU research and technological development activities are conducted on the basis of equal treatment for all participants. Since budget constraints make it impossible to fund all proposals, a rigorous selection procedure is needed. If applicants satisfy legal and administrative criteria, and their proposals address programme objectives, the sole selection criterion is the **quality of the proposals**.

To ensure efficient, fair and transparent application of the FP6 budget, all projects must meet conditions stipulated in the Framework Programme and the associated Rules for Participation. Before a proposal is evaluated, it is checked for compliance with **minimum eligibility criteria** – date of submission, transnational character, presence of all the documents in the appropriate form, etc. There are **no national quotas** for the allocation of FP6 funding.

The Commission is assisted by panels of independent experts selected from an open list established through a call for applications in the *Official Journal*. All proposals are subjected to scientific and technical evaluation by experts. Experts also evaluate socio-economic and ethical aspects. Anonymity and confidentiality are fully guaranteed to ensure impartiality. Any expert who has a conflict of interests must withdraw from the panel.

More information about evaluation criteria can be found in the sections of Chapter 1 that deal with integrated projects and networks of excellence.

More information about proposal procedures

Proposals received by the Commission pass through eight main stages:

1. Receipt of proposal and acknowledgement of receipt;
2. Verification of eligibility;
3. Evaluation of eligible proposals, including socio-economic and ethical aspects;
4. Summary evaluation reports and recommendations;
5. List of priority proposals;
6. Decision to reject and notification of consortium coordinators or financial and administrative checks and negotiations with participants;
7. Decision to select;
8. Signature of the contract.

Evaluation begins as soon as the call is closed. (For continuously open calls a number of evaluation dates will be given.) Contract negotiations for selected proposals start two to three months after the call deadline, and contracts are usually signed six to eight months after the deadline. The advance (where appropriate) is paid 60 days after the contract has been signed.

Meeting the evaluation criteria

Proposals are evaluated in accordance with criteria clearly set out for each call – see box. Experts examine the proposals individually before meeting as a panel to agree on a ranking. At this stage, they may recommend the combination of similar or complementary proposals.

Following the evaluation, the Commission draws up a list of proposals ranked according to the total of points awarded for each criterion. The Commission generally receives far more proposals than it can fund – selection is therefore competitive, and is determined solely by the **quality** of the projects.

Sixth Framework Programme contracts are made **directly between the contractors and the European Commission**. At no stage in the procedure are applicants required to contact national or regional authorities. Member States are represented on programme committees, through which they play an advisory role. They also make information and assistance services available to anyone interested in participating in FP6.

Ethical review of successful proposals

Ethical issues are raised by any research involving humans, human tissue (especially human embryonic stem cells or foetal tissue), personal or genetic data, or animals. Short-listed proposals may undergo an ethical review and, if found to violate fundamental ethical principles, may be excluded at any time.

Applicants must:

- identify all ethical issues raised by the proposed research;
- address the treatment of such issues in the projects' design and execution;
- explain and fulfil relevant national, European and international ethical and legal requirements;
- respect fundamental ethical principles and the Framework Programme's ethical standards.

Coordinators will be asked to provide detailed information on how ethical issues will be handled. Integrated projects which raise ethical issues must include a specific management component to deal with them. If new ethical questions are raised, the integrated project should include research on these issues in the relevant work packages.

Further information on how to address ethical issues that may emerge can be found at:

http://europa.eu.int/comm/research/science-society/ethics/rules_en.html

Rejected proposals

The Commission officially rejects proposals that are submitted late, are ineligible, are of inadequate quality, or cannot be funded due to budgetary constraints. The rejection decision, together with the main reason for rejection, is communicated to the applicants.

The fact that a proposal is rejected does not necessarily mean that it is not of high quality. A project may be rejected in favour of a proposal which is more in line with the objectives of FP6 or has more

General evaluation criteria

EU Framework Programmes employ a number of general evaluation criteria:

- relevance to the objectives of the specific programme;
- scientific and technological excellence;
- added value to the EU, including the critical mass of resources mobilised, the degree of ambition, and the expected scale of impact or contribution to EU policies;
- quality of proposals for the use and dissemination of results, innovative potential, and ability to manage intellectual property;
- adequacy of resources, skills and organisation for successful completion of the project.

The specific programme's work programmes may clarify or complement these criteria. The complete set of evaluation criteria is described in the relevant call and work programme.

Subcontractors are not project participants. In some cases, the Commission may reimburse payment for their services if work has been awarded transparently and fairly. Subcontractors have no intellectual property rights to the results of the project. More on this subject can be found in the sections of Chapter 1 covering integrated projects and networks of excellence, and in the section of Chapter 2 dealing with intellectual property rights.

Monitoring procedures

So that the Commission can monitor the contract's progress and ensure it complies with EU conditions for financial support, contractors must submit (through the coordinator) periodic reports and an end-of-term report, together with statements of expenses incurred.

Commission staff analyse these reports against the requirements of the contract, and determine whether the Commission will continue to support the project, and in what way. New knowledge or technological developments may prompt the consortium or the Commission to propose changes to the project while it is being carried out. Any changes proposed by the partners require the Commission's prior approval. (In some cases this approval is obtained tacitly – if the Commission does not object to a proposed change within a certain period, it is accepted.) In the case of integrated projects and networks of excellence, the detailed work programme will be updated annually.

In addition, the Commission will monitor implementation of the project's results. Robust output monitoring of integrated projects and networks of excellence will include annual reviews, and a final assessment of the project's impact on EU competitiveness and societal needs. There may also be mid-term or 'milestone' reviews which could result in a decision to terminate the project.

The Commission may involve independent experts in any stage of this monitoring scheme, and may also carry out more specific scientific, financial or technological audits.

Payments

The Commission will make a financial contribution based on reimbursement of the contractors' eligible costs, and subject to approval of their reports. The contract will specify the maximum EU contribution based on the estimated work per activity per partner. The consortium will have considerable freedom to manage its own financial affairs.

Annex I to the contracts for new instruments will provide the agreed detailed implementation plan (for integrated projects) or joint programme of activities (for networks of excellence) for the first 18 months of the project, plus its associated indicative financial plan. This will provide an estimate of the costs to be incurred by each participant during the period, broken down by type of activity. Implementation plans and joint programmes of activities are updated annually.

FP6 case study – Integrated Project

Innovative modular vehicle concepts for an integrated European railway system

The business scenarios in the ERRAC Strategic Rail Research Agenda call for exacting performance improvements as overall transport demand continues to increase. Reliable, affordable and attractive interoperable rolling stock must become the norm on Europe's rail networks. Initially, this project will concentrate on passenger trains and locomotives capable of 200 km/h and more. As work advances, the partners hope to extend their work to other rolling stock for conventional as well as high-speed interoperable networks.

CHAPTER 4

WHAT ARE THE THEMATIC PRIORITIES OF FP6?

- Life sciences, genomics and biotechnology for health
- Information society technologies
- Nanotechnologies and nanosciences, knowledge-based multifunctional materials and new production processes and devices
- Aeronautics and space
- Food quality and safety
- Sustainable development, global change and ecosystems
- Citizens and governance in a knowledge-based society



Chapter 4

Life sciences, genomics and biotechnology for health

The activities carried out in this area are intended to help Europe exploit, by means of an integrated research effort, breakthroughs achieved in decoding the genomes of living organisms, more particularly for the benefit of public health and citizens, and to increase the competitiveness of the European biotechnology industry. In the field of applications, the emphasis will be put on research aimed at bringing basic knowledge through to the application stage ('translational' approach) to enable real, consistent and coordinated progress in medicine at European level and to improve the quality of life.

The EU activities carried out to this end will address the following aspects:

Advanced genomics and its applications for health

Fundamental knowledge and basic tools for functional genomics in all organisms:

- gene expression and proteomics;
- structural genomics;
- comparative genomics and population genetics;
- bioinformatics; and
- multidisciplinary functional genomics approaches to basic biological processes.

Application of knowledge and technologies in the field of genomics and biotechnology for health:

- technological platforms for developments in the fields of new diagnostic, prevention and therapeutic tools (including pharmacogenomic approaches, stem cell research and alternative methods to animal testing).

Combating major diseases

Application-orientated approach to medical genomics knowledge and technologies, including the use of animal and plant genomics where relevant, mainly in the following fields:

- combating diabetes, diseases of the nervous system (such as Alzheimer's disease, Parkinson's disease and new variant Creutzfeldt-Jakob disease and, where relevant, mental illness), cardiovascular diseases, and rare diseases;
- combating resistance to antibiotics and other drugs; and
- studying human development, the brain and the ageing process.

A broader approach not limited to genomics and other fields of basic research, will be pursued with regard to:

- cancer, with a focus on the development of patient-oriented strategies from prevention to diagnosis and treatment; including three interlinked components;
- developing necessary networks and initiatives to coordinate national research activities;
- supporting clinical research aimed at validating new and improved interventions;
- supporting 'translational' research;
- combating the three poverty-linked infectious diseases (Aids, malaria and tuberculosis) which have priority in terms of disease control at both Union and international level.

For more information:

<http://europa.eu.int/comm/research/fp5/pl/>

<http://www.cordis.lu/rttd2002/fp-activities/genomics.htm>



Interview: Healthy future for life sciences?

Throughout history, Europe has been a crucible for developing new ideas. Genome research, alongside proven conventional approaches, is a good example of this. It will open up new fields of knowledge and unprecedented opportunities to improve human health and stimulate industrial and economic activity. Dr Manuel Hallen, Head of Unit responsible for the area on 'Fundamental genomics' in FP6's thematic priority one, 'Genomics and biotechnology for health', at the European Commission, thinks post-genomic research should lead to many applications in a number of health-related sectors, notably in the development of new diagnostic tools and treatments to combat unchecked diseases. 'This thematic priority area,' says Mr Hallen 'will stimulate and sustain multidisciplinary basic research to exploit the full potential of genome information.'

The emphasis will be on taking basic knowledge through to application, which Mr Hallen calls 'translational research'. The idea, he says, is to provide an environment in which real and consistent progress in medicine can improve the quality of life. 'This thematic priority area will also foster the implementation and development of the European Union's health strategy,' he adds.

But Mr Hallen is a realist. He acknowledges that the Commission faces some challenges within FP6 and this thematic priority. One such challenge is the fact that Europe is made up of different countries, languages and history as well as varying national research systems – hence the need for time to adapt and work towards European standards.

On the subject of investment in research, he says: 'Currently, Europe does not invest enough in research because of a serious lack of coherence among national and European efforts.' On the initiative of Commissioner Philippe Busquin, Heads of State and Governments agreed at the Lisbon summit in March 2000 that R&D investment should be increased with the aim of approaching 3% of GDP by 2010, up from 1.9% in 2000 (*COM(2002) 499 final, 11.9.2002*).

Mr Hallen also sees improvements in Europe's ability to transform R&D into 'real' products and services as an important way forward and a vital issue to be addressed by FP6. Lastly, he stresses that scientific careers should be more appealing to young people, a frequently cited problem in past Commission Framework Programmes, if the above issues were properly addressed.

Information society technologies

The activities carried out in this area, pursuant to the conclusions of the Lisbon European Council and the objectives of the e-Europe initiative, are 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, to increase the competitiveness of European industry and to allow European citizens in all EU regions the possibility of benefiting fully from the development of the knowledge-based society. Concentration on the future generation of IST will bring IST applications and services to everyone and enable the development of the next generation of technologies to be more user-centered.

The actions undertaken will therefore address the following technological priorities:

Integrating research into technological areas of priority interest for citizens and businesses

Completing and building on progress expected in the development of basic technologies, research aimed at finding solutions for major societal and economic challenges, faced by an emerging knowledge-based society – including the consequences for work and the workplace environment – and, accordingly, focusing on:

- research on technologies addressing the key security challenges posed by the ‘all-digital’ world and the need to secure the rights and privacy of citizens;
- ‘ambient intelligence’ systems offering access to the information society for all, regardless of age and situation (such as disability or other individual circumstances), as well as interactive and intelligent systems for health, mobility, security, leisure, tourism, access to and preservation of the cultural heritage, and environment;
- electronic and mobile commerce, as well as technologies for secure transactions and infrastructures, new tools and new methods of work, technologies for learning (such as e-learning) and systems for corporate knowledge management, and for integrated business management for e-government taking account of user needs; and
- large-scale distributed systems and platforms, including global resource information database (GRID) based systems that provide effective solutions to complex problems in areas such as the environment, energy, health, transport and industrial design.

Communication and computing infrastructures

Mobile, wireless, optical and broadband communication infrastructures and computing and software technologies that are reliable, of wide application and can be adapted to meet the growing needs of applications and services. Work will focus on:

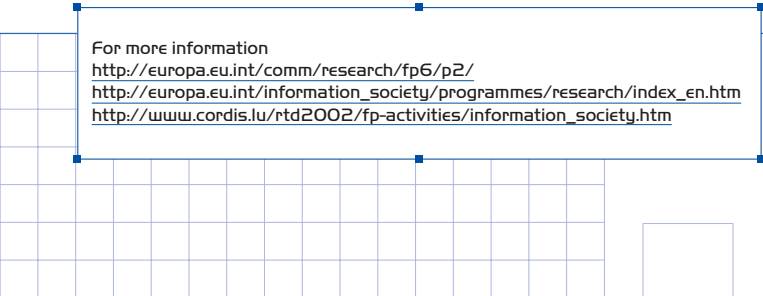
- the new generations of wireless and mobile communications systems and networks; satellite communications systems; all-optical technologies; integration and management of communication networks, including interoperable network solutions; and capacity-enhancing technologies necessary for the development of systems, infrastructures and services, in particular for audio-visual applications. Work will also lead to the development of the next internet generation.
- software technologies architecture, distributed and embedded systems supporting the development of multifunctional and complex services that involve multiple actors, and engineering and control of complex and large-scale systems to ensure reliability and robustness.

For more information

<http://europa.eu.int/comm/research/fp6/p2/>

http://europa.eu.int/information_society/programmes/research/index_en.htm

http://www.cordis.lu/rtd2002/fp-activities/information_society.htm



Components and microsystems

Miniaturised and low-cost components based on new materials and integrating extended functionalities, with the effort focusing on:

- the design and production of nano-, micro-, and optoelectronic and photonic components, including those used for information storage, pushing the limits of miniaturisation and minimising the costs and power consumption of micro-electronic and micro-system components, and taking account of the environmental impact of IST systems; and
- nano-electronics, microtechnologies, displays and microsystems, and multidisciplinary research into new materials and quantum devices; new computing models and concepts.

Information management and interfaces

Research into information management tools and interfaces, with a view to enabling easier interaction everywhere and at all times with knowledge-based services and applications, addressing:

- knowledge representation and management systems based on context and semantics, including cognitive systems, as well as tools for creating, organising, navigating, retrieving, sharing, preserving and disseminating digital content; and
- multisensorial interfaces capable of understanding and interpreting the natural expression of human beings through words, gestures and the various senses; virtual environments, as well as multilinguistic and multicultural systems indispensable to the establishment of the knowledge-based society on a European scale.

Interview: The importance of IST

It might sound like a mouthful, but the second thematic priority of FP6 – information society technologies (IST) – is really self-explanatory. It takes a little from the worlds of information, communication technologies (ICT) and inserts ‘society’ into the picture to emphasise that research and technological development (RTD) does not occur in a vacuum – it impacts society.

G rard Comyn, who is coordinating the IST activities in FP6, explains: ‘Progress in IST is essential to address major societal challenges such as health, people with special needs, learning, etc., but also economic challenges.’ IST strengthens Europe’s hand in creating ‘a knowledge-based society’ as agreed during the Lisbon, Stockholm and Seville Council meetings. Mr Comyn also thinks that industry competitiveness depends to a large extent on progress in IST. He backs this up with some statistics: ‘This sector is now one of the most important in the economy, with an annual turnover of  2 000 billion, providing employment for more than 12 million people in Europe.’

IST also supports other research fields, says Mr Comyn, such as genomics and biotechnology, physics and material sciences, and helps researchers to collaborate, virtually and in person, which in turn addresses the problem of research fragmentation across Member States. He cites Finland as a model for the kind of benefits that can be expected from IST. ‘Experience shows that only a sustained and appropriate research effort in IST can have the desired impact. In Europe, the effort of countries like Finland is a direct illustration of the benefit of RTD investment in IST.’ In Finland, IST has been a research priority for more than 30 years and the relevant RTD investment is the world’s highest as a percentage of GDP.

When asked what projects he expects to see coming out the IST thematic priority, Mr Comyn says the Information Society Directorate-General was pleased with the response to the 2002 call for expressions of interest (Eol). But he stresses, ‘We do not expect specific projects out of this exercise. We need instead to better understand how our constituencies have reacted to the new instruments, how they use them to turn their ideas into integrated projects or networks of excellence.’ With more than 3 000 expressions of interest submitted, it demonstrates the high level of interest. ‘There are several newcomers, which is very encouraging for IST,’ says Mr Comyn. ‘This Eol exercise will help in preparing the first call in FP6.’ The plan is to wage an intensive information campaign to counter any misunderstandings arising out of the new IST activities in FP6.

Nanotechnologies and nanosciences, knowledge-based multifunctional materials and new production processes and devices

The activities carried out in this area are intended to help Europe achieve a critical mass of capacities needed to develop and exploit, especially for greater eco-efficiency and reduction of the discharge of hazardous substances to the environment, leading-edge technologies for the knowledge-based products, services and manufacturing processes of the years to come.

Nanotechnologies and nanosciences

- long-term interdisciplinary research into understanding phenomena, mastering processes and developing research tools;
- supramolecular architectures and macromolecules;
- nano-biotechnologies;
- nanometer-scale engineering techniques to create materials and components;
- development of handling and control devices and instruments; and
- applications in areas such as health, chemistry, energy, and the environment.

Knowledge-based multifunctional materials

- development of fundamental knowledge;
- technologies associated with the production and transformation, including processing of knowledge-based multifunctional materials and of biomaterials; and
- support engineering.

New production processes and devices

- the development of new processes and flexible and intelligent manufacturing systems incorporating advances in virtual manufacturing technologies, including simulations, interactive decision-aid systems, high-precision engineering and innovative robotics;
- systems research needed for sustainable waste management and hazard control in production and manufacturing, including bio-processes, leading to a reduction in consumption of primary resources and less pollution; and
- development of new concepts optimising the life cycle of industrial systems, products and services.

For more information

<http://europa.eu.int/comm/research/fp6/p3/>

<http://www.cordis.lu/rttd2002/fp-activities/nanotechnologies.htm>

<http://www.cordis.lu/ist/fetnid.htm> (in IST)

<http://europa.eu.int/comm/research/growth/gcc/ga01.html>
(Growth programme)



Interview: Small but with a huge future

'Nanotechnologies and nanosciences, knowledge-based multifunctional materials and new production processes and devices' – it may not be the most memorable of titles, but for Commission Head of Unit, Hervé Péro, this FP6 thematic priority is a crucial means of moving towards a sustainable society. 'The existing production and consumption paradigm is not sustainable,' he says. 'We need to move towards a more sustainable way of producing and consuming. For that, we must reduce material and energy content, and reduce the resources needed to produce and use products. If we can also develop more knowledge-based production we can, at the same time, be cleaner, safer and more conscious of quality and productivity issues.' This will have a 'positive impact' on the environment, as well as on people and the economy.

'Nanotechnology gives us the opportunity to look differently at production processes,' says Mr Péro. 'In addition, intelligent and multifunctional materials offer many opportunities to develop new types of products. Totally new industrial solutions, integrating all relevant technologies, are needed to conceive products and processes which are more knowledge-based and quality-oriented while requiring drastically less new resources.'

Mr Péro suggests that major projects under this theme would be selected by studying and validating breakthrough solutions aimed at the challenges of sustainable development. These might be 'flagship' projects for the modernisation of industry and an improved quality of life, linked to long-term objectives such as 'nanomanufacturing of tomorrow's products', 'the clean, safe and intelligent factory of the future', 'new sensors and control systems for safety and security of all people', 'industrial technologies for health', the 'intelligent building', etc. – all examples of multidisciplinary 'converging issues' which can be effectively tackled at a European level.

Aeronautics and space

The aim of activities carried out in this area is two-fold: 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.

Aeronautics

EU aeronautical research activities including air transport systems will address research and technological development activities necessary in order to:

- increase the competitiveness of European industry with regard to civil aircraft, engines and equipment;
- reduce the environmental impact of aviation, by reducing fuel consumption, CO₂, NO_x and other chemical pollutants and noise pollution;
- increase aircraft safety in the context of the substantial rise in air traffic; and
- increase the capacity and safety of the air transport system, in support of a 'Single European Sky' (air traffic control and management systems).

Space

EU space activities carried out in close co-ordination with the European Space Agency (ESA), other space agencies, research centres, and industry, in order to strengthen the coherence of the very major investment involved, will address:

- research on satellite-based information systems and services relevant to the Galileo satellite navigation project;
- research on satellite-based systems relevant to the Global Monitoring for Environment and Security (GMES) platform, taking into account the needs of users; and
- advanced research needed to integrate the space segment and the earth segment in the field of communications.

For more information

<http://europa.eu.int/comm/research/fp6/p4/>

<http://www.cordis.lu/rtd2002/fp-activities/aeronautics.htm>

<http://europa.eu.int/comm/research/growth/gcc/ka04.html>



Food quality and safety

The activities carried out in this area are intended to help establish the integrated scientific and technological bases needed to develop an environmentally friendly production and distribution chain of safer, healthier and varied food, including sea food, and to control food-related risks, relying in particular on biotechnology tools and taking into account the results of post-genomic research, as well as to control health risks associated with environmental changes.

EU activities will cover research including, where appropriate, post-genomics research, relating to various aspects of the control of health risks and links between health and food:

- safer and environmentally friendly production and processing methods and healthier, nutritious, functional and varied foodstuffs and animal feed, based on systems such as integrated production, lower-input farming including organic agriculture, and the use of plant and animal sciences and biotechnologies;
- epidemiology of food-related diseases and allergies, including the impact of diet on the health of children and methods for the analysis of causes of food-related allergies;
- impact of food, for example, new products, products resulting from organic farming, functional food, products containing genetically modified organisms (GMOs), and those arising from recent biotechnology developments on health;
- 'traceability' processes all along the production chain, for instance relating to GMOs, including those based on recent biotechnology developments;
- methods of analysis, detection and control of chemical contaminants and existing or emerging pathogenic micro-organisms (such as viruses, bacteria, yeasts, fungi parasites, and new agents of the prion type including development of ante-mortem diagnostic tests for BSE and scrapie);
- impact of animal feed, including products containing GMOs, and the use of sub-products of different origins for that feed, on human health; and
- environmental health risks linked to the food chain (chemical, biological and physical), and combined exposures of authorised substances, including impact of local environmental disasters and pollution on the safety of foodstuffs, with emphasis on cumulative risks, transmission routes to human beings, long-term effects and exposure to small doses, as well as the impact on particularly sensitive groups, especially children.

For more information

<http://europa.eu.int/comm/research/fp6/p5/>

http://www.cordis.lu/rtd2002/fp-activities/food_safety.htm

http://europa.eu.int/comm/research/agriculture/index_en.html

Sustainable development, global change and ecosystems

The activities carried out in this area are intended to strengthen the scientific and technological capacities needed for Europe to be able to implement sustainable development, emphasised by the Gothenburg European Council, 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. They should enable Member States, the candidate and other associated countries to make a significant contribution to international efforts to understand and control global change and preserve the equilibrium of ecosystems.

The EU's RTD efforts will concentrate on activities in the following areas:

Sustainable energy systems

In the short and medium term, especially in the urban environment:

- clean energy, in particular renewable energy sources and their integration in the energy system, including storage, distribution and use;
- energy savings and energy efficiency, including those to be achieved through the use of renewable raw materials; and
- alternative motor fuels.

In the medium and longer term:

- fuel cells, including their applications;
- new technologies for energy carriers, transport and storage on a European scale, in particular hydrogen technology;
- new and advanced concepts in renewable energy technologies with a significant future energy potential and requiring long-term research efforts; and
- disposal of CO₂ associated with cleaner fossil fuel plants.

Sustainable surface transport

Developing environmentally friendly, safe and competitive transport systems and means of transport for passengers and freight, and clean urban transport with rational use of the car in the city:

- new technologies and concepts for surface transport, including novel propulsion systems and integration of fuel cells for transport purposes; and
- advanced design and production techniques leading to improved quality, safety, recyclability, comfort and cost-effectiveness.



Making rail and maritime transport more effective and more competitive, addressing the interoperability of transport modes, and assuring intelligent and safe transport of passengers and freight:

- rebalancing and integrating different modes, in particular in the urban and regional context, including new mobility management and transport logistics systems making rail and maritime transport more effective (for example, by means of promoting intermodality and interoperability); and
- increasing safety, and avoiding traffic congestion (in particular in urban areas), through the integration of innovative electronics and software solutions and by means of the use of advanced satellite navigation systems and telematics solutions.

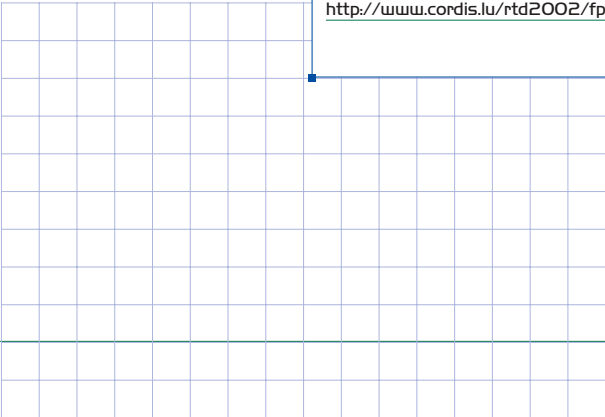
Global change and ecosystems

EU activities will address the following aspects as a matter of priority:

- impact and mechanisms of greenhouse gas emissions and atmospheric pollutants from all sources, including those resulting from energy supplies, transport and agriculture on climate, ozone depletion and carbon sinks (oceans, forests and soil), in particular to improve prediction and to evaluate mitigation options;
- water cycle, including soil-related aspects;
- understanding marine and terrestrial biodiversity, marine ecosystem functions, protection of genetic resources, sustainable management of terrestrial and marine ecosystems and interactions between human activities and the latter;
- mechanisms of desertification and natural disasters;
- strategies for sustainable land management, including integrated coastal zone management (ICZM), and including integrated concepts for the multipurpose utilisation of agricultural and forest resources, and the integrated forestry/wood chain; and
- operational forecasting and modelling, including global climate change observation systems.

Research undertaken under this priority will be complemented by the development of advanced methods for risk assessment and methods of appraising environmental quality, including relevant prenormative research on measurements and testing for these purposes.

For more information
<http://europa.eu.int/comm/research/fp6/p6/>
http://www.cordis.lu/rtd2002/fp-activities/sustainable_development.htm



Citizens and governance in a knowledge-based society

The activities carried out in this area are intended to mobilise in a coherent effort, in all their wealth and diversity, European research capacities in economic, political, social sciences and humanities that are necessary to develop an understanding of, and to address issues related to, 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.

Action by the EU will focus on the following themes:

Knowledge-based society and social cohesion

- research with reference to the objectives set by the Lisbon European Council and subsequent Councils, in particular systematic analysis of best methods for improving the production, transmission and utilisation of knowledge in Europe;
- options and choices for the development of a knowledge-based society serving the EU's objectives emphasised at the Lisbon, Nice and Stockholm European Councils, in particular as regards improving the quality of life, social, employment and labour market policies, life-long learning, and strengthening social cohesion and sustainable development with due consideration for the various social models in Europe and taking into account aspects relating to the ageing of the population; and
- variety of transition dynamics and paths towards the knowledge-based society at local, national and regional level.

Citizenship, democracy and new forms of governance, in particular in the context of increased integration and globalisation, and from the perspectives of history and cultural heritage

- consequences of European integration and enlargement of the Union for democracy, the concept of legitimacy, and the functioning of EU institutions through a better understanding of political and social institutions in Europe, and their historical evolution;
- research on the redefinition of and the relationship between areas of competence and responsibility, and new forms of governance;
- issues connected with the resolution of conflicts and restoration of peace and justice, including the safeguarding of fundamental rights; and
- emergence of new forms of citizenship and cultural identities, forms and impact of integration and cultural diversity in Europe; social and cultural dialogue involving Europe as well as the rest of the world.

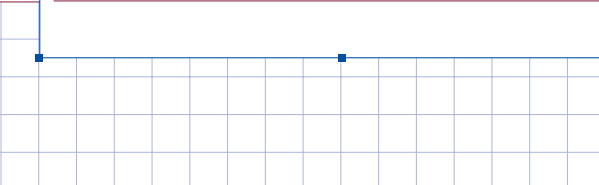
In operational terms, EU activities will focus on support for:

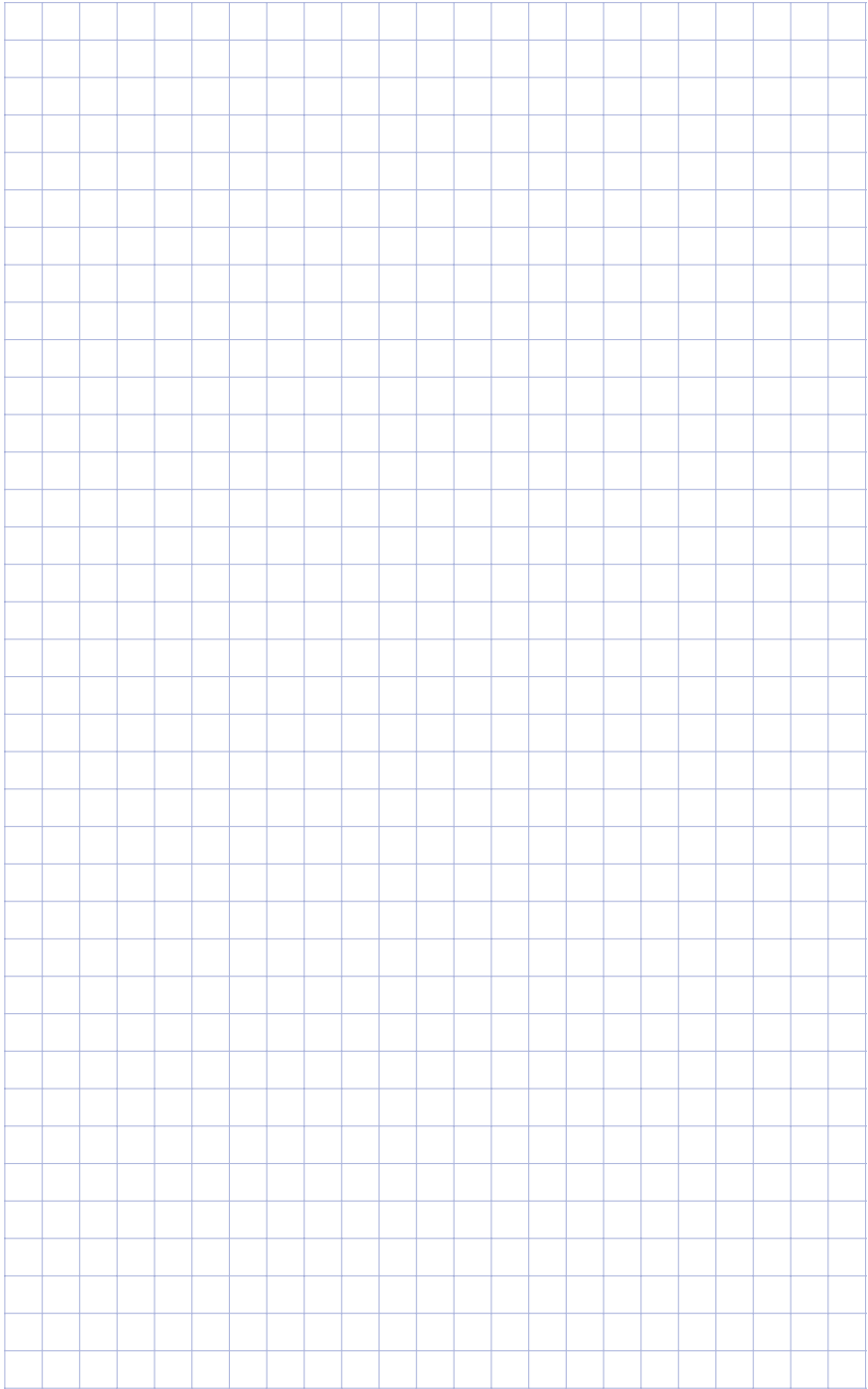
- transnational research and comparative studies, and the coordinated development of statistics and qualitative and quantitative indicators;
- interdisciplinary research in support of public policies; and
- the establishment and exploitation on a European scale of research infrastructures and data and knowledge bases.

For more information

<http://europa.eu.int/comm/research/fp6/p7/>

http://www.cordis.lu/rtd2002/fp-activities/citizens_governance.htm





CHAPTER 5

WHAT ARE THE OTHER PRIORITIES OF FP6?

- Specific activities covering a wider field of research
 - Policy support and anticipating scientific and technological needs
 - Horizontal research activities involving SMEs
 - Specific measures in support of international co-operation
 - Joint Research Centre

- Structuring the European Research Area
 - Research and innovation
 - Human resources and mobility
 - Research infrastructures
 - Science and society

- Strengthening the foundations of the European Research Area
 - Co-ordination activities
 - Coherent development of research and innovation policies in Europe

- Euratom priorities
 - Priority thematic areas of research
 - Controlled thermonuclear fusion
 - Management of radioactive waste
 - Radiation protection
 - Other activities in the field of nuclear technologies and safety



Chapter 5

SPECIFIC ACTIVITIES COVERING A WIDER FIELD OF RESEARCH

Policy support and anticipating scientific and technological needs

These activities will assure efficient and flexible conduct of research essential for the fundamental objectives of the EU, by underpinning the formulation and implementation of EU policies and exploring new and emerging scientific problems and opportunities, where these requirements cannot be satisfied under the thematic priorities.

A common feature is that they will be implemented within a multiannual perspective taking direct account of the needs and views of the main associated actors. In principle, they will be implemented in conjunction with an annual programming mechanism by which specific priorities, corresponding to identified needs and falling within the objectives indicated above, will be determined.

Policy-oriented research

Research activities under this heading are intended to respond to the scientific and technological needs of EU policies, underpinning their formulation and implementation, and bearing in mind the interests of future members of the EU and associated countries.

Such activities require flexible, policy-driven definition plus specific actions and methods of intervention to complement the thematic priorities and to be coordinated within the overall context of this Programme.

Accordingly, they will include themes linked to the thematic priorities, but which do not lend themselves to the science-driven approach for identifying the relevant individual topics. Appropriate division of tasks and synergy will also be assured between these activities and the Joint Research Centre's (see below) direct actions oriented towards the needs of EU policies.

The areas to be supported are as follows:

- the common agricultural policy (CAP) and the common fisheries policy (CFP);
- sustainable development, in particular the EU policy objectives relating to environment, transport and energy;
- other EU policies, namely health, regional development, trade, development aid, internal market and competitiveness, social policy and employment, education and training, culture, gender equality, consumer protection, the creation of an area of freedom, security and justice, and external relations, including policies supporting enlargement, along with the requisite statistical methods and tools; and
- EU policy objectives derived from the orientations given by the European Council with regard to, for instance, economic policy, the Information Society as well as eEurope and enterprise.

Within these areas, the research priorities responding to policy needs identified initially, which will be supplemented during the course of the Programme, follow in the ensuing paragraphs.

For more information
<http://europa.eu.int/comm/research/fp6/policy-needs/>



Sustainable management of Europe's natural resources

Research will focus in particular on:

- the modernisation and sustainability of agriculture and forestry, including their multifunctional role in ensuring the sustainable development and promotion of rural areas;
- tools and assessment methods for sustainable agriculture and forestry management;
- the modernisation and sustainability of fisheries, including aquaculture-based production systems;
- new and more environment-friendly production methods to improve animal health and welfare;
- environmental assessment; and
- assessment of environmental technologies in support of policy decisions, in particular those able to fulfill environmental legislation.

Providing health, security and opportunity to Europe's citizens

Research will focus in particular on:

- health determinants and the provision of high-quality and sustainable health care services and pension systems;
- public health issues, including epidemiology contributing to disease prevention and responses to emerging rare and communicable diseases, allergies, secure blood and organ donations, non-animal test methods;
- the impact of environmental issues on health;
- quality of life issues for handicapped/disabled people;
- understanding migration and refugee flows;
- understanding crime trends in the context of public safety; and
- issues related to civil protection and crisis management.

Underpinning the economic potential and cohesion of a larger, more integrated EU

Research will focus in particular on:

- underpinning European integration, sustainable development, competitiveness and trade policies;
- the development of tools, indicators and operational parameters for assessing sustainable transport and energy systems performance;
- global safety analysis and validation systems for transport and research relating to accident risks and safety;
- forecasting and developing innovative policies for sustainability in the medium and long term;
- Information Society issues;
- the protection of cultural heritage and associated conservation strategies; and
- improved quality, accessibility and dissemination of European statistics.

Research to explore new and emerging scientific and technological problems and opportunities

These research activities are intended to respond flexibly and rapidly to major unforeseeable developments, emerging scientific and technological problems and opportunities, as well as needs arising at the frontiers of knowledge:

- research in emerging areas of knowledge and future technologies, outside or cutting across the thematic priority areas, in particular in transdisciplinary fields; and
- research to assess new discoveries rapidly, or newly observed phenomena which may indicate emerging risks or problems of high importance to European society, and to find appropriate responses.

In identifying potential research topics here special attention will be paid to the views of the research community and to areas where EU action is appropriate because of the potential to develop strategic positions at the leading edge of knowledge and in new markets, or to anticipate major issues facing European society.

Horizontal research activities involving SMEs

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 both a European and international scale.

Information and advice about the possibilities of SME involvement will be ensured via entry points set up by the Commission, and by making use of the National Contact Point scheme (see Chapter 6).

In addition to these specific research activities for SMEs, small and medium-sized enterprises will be encouraged to participate in all areas of this Programme, in particular in the context of the activities carried out within the priority thematic areas.

Actions that may be pursued throughout the entire field of science and technology covered by EU research policy, will take the form of:

Co-operative research activities

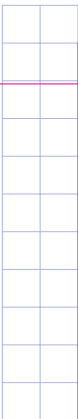
A limited number of SMEs from different countries with specific needs or problems outsource the required research to an RTD performer, while retaining the ownership of the results. The projects are relatively short term and may include research and innovation activities and activities of consortium management.

Collective research activities

Collective research is a form of research undertaken by RTD performers on behalf of industrial associations or industry groupings in order to expand the knowledge base of large communities of SMEs and thus improve their general standard of competitiveness.

The projects may include research and innovation activities, as well as dissemination and training activities and consortium management.

For more information
<http://europa.eu.int/comm/research/fp6/sme/>



SME TechWeb

Recognising the importance of SME participation in research and innovation to future European economic and employment growth, FP6 will strengthen the special measures put in place in the previous Framework Programme. In addition, 15% of the FP6 budget will be earmarked for SMEs, up 5% on FP5.

The range of information which currently exists to facilitate SME involvement in EU research has recently been completed by SME TechWeb, a new website designed specifically for technology-oriented companies with less than 250 employees, in particular those wishing to innovate and internationalise. Using clear, simple language, and offering numerous examples of projects, this website is of particular value to those applying for research funding through the SME Specific Measures: <http://www.cordis.lu/sme>

Information on the site includes a step-by-step approach to completing a successful project, sources of local and personal assistance, previous projects and Programmes, implications for SMEs in ERA, details of the new FP6 pilot action, collective research, plus useful links and contacts.

Specific measures in support of international co-operation

In support of external relations, including the EU's development policy, specific measures aimed at encouraging international research co-operation will be undertaken. Apart from these specific measures, third country participation will be possible within the thematic priorities. The following groups of third countries will be involved:

- developing countries;
- Mediterranean countries, including the Western Balkans; and
- Russia and the Newly Independent States (NIS) including, in particular, activities carried out through the International Association for the Promotion of Co-operation with Scientists from the NIS (INTAS).

The research priorities in this category of activities are defined according to the interests and objectives of the partnership between the EU and the groups of countries concerned, as well as their specific economic and social needs.

In order to facilitate the involvement of these countries, a single entry point within the Commission will be created for information about activities undertaken in the fields of international co-operation.

These activities are complementary to international research co-operation undertaken within the thematic priority areas.

The Joint Research Centre

The Joint Research Centre (JRC) is the EU's scientific and technical research laboratory and the Directorate-General of the European Commission responsible for providing scientific advice and technical know-how to support EU policies. JRC will make an important contribution to the Sixth Framework Programme, both directly and through support for Member States and applicant country scientific communities. It is one of the largest Commission DGs with some 2 100 staff in five countries working in seven scientific institutes.

The budget for JRC direct action in FP6 is €1 050 million. Two research areas in FP6 involve the JRC directly:

- a €715 million programme on food safety and health, environment and sustainable development, technology foresight, metrology, combating fraud, monitoring/prediction of natural disasters and data security; and
- a €330 million programme covering the nuclear field.

While the majority of JRC work is institutional, some **15-20% should involve FP6 shared cost actions.**

As in the past, the JRC will co-ordinate and contribute to numerous networks linking industry, universities and Member State institutes. It will also continue to participate in projects with a range of partners in the Member States, and liaise with a variety of non-EU and global scientific and standard-setting bodies. For example, it has a collaborative relationship with more than 2 000 public and private organisations in over 150 major networks, including partnerships with applicant countries.

For more information

INCO

<http://europa.eu.int/comm/research/fp6/inco/>

JRC

<http://europa.eu.int/comm/research/fp6/jrc/>

The seven institutes of the JRC

- Institute for Reference Materials and Measurements (IRMM)
- Institute for Transuranium Elements (ITU)
- Institute for Energy (IE)
- Institute for the Protection and the Security of the Citizen (IPSC)
- Institute for Environment and Sustainability (IES)
- Institute for Health and Consumer Protection (IHCP)
- Institute for Prospective Technological Studies (IPTS)

In FP6, the JRC will continue its important role in providing scientific and technological support for EU enlargement, developing a pan-European science and technology reference system and streamlining the application process, as well as refocusing its activities in terms of the thematic priorities and the need for integrated scientific support for EU policy-making.

As with FP6, the JRC will concentrate on fewer, more specialised priorities, making it more responsive to innovation and change. Eight vertical and three horizontal priorities have been identified to capitalise on JRC strengths.

Vertical priorities include:

- Food safety – a wide range of JRC competences have been brought together in a new food products unit intended to ensure quality systems in the food chain;
- Biotechnology – a vast field but the JRC will focus on genetically modified organisms (GMOs), an area where it will have most impact;
- Chemicals – the second largest industry in Europe and a major Commission policy area in which the JRC is already deeply involved through both the European Centre for Validation of Alternative Methods (ECVAM) and the European Chemical Bureau (ECB);
- Health – the JRC is building on new Commission priorities in public health, as well as working on health concerns linked to specific areas such as air and water;
- Environment – this includes support to the Commission's Sixth Environmental Action Plan as well as climate change, sustainability and biodiversity;
- Nuclear – work here involves safety of existing plants and advanced developments in nuclear waste, nuclear safeguards and non-proliferation control techniques on behalf of the International Atomic Energy Authority (IAEA) and the European Safeguards Organisation (ESO).

Horizontal priorities range from work on reference materials for applications such as faster BSE identification to tackling major issues in cybersecurity and industrial risk.

The JRC is identifying integrated scientific actions in each of its multi-annual work programmes to provide added value, including research training for young scientists and students as well as experts from applicant countries and Member States. The training is linked to specific projects with the intention of fostering innovation.

STRUCTURING THE EUROPEAN RESEARCH AREA

Research and innovation

These activities are intended to stimulate technological innovation, the utilisation of research results, transfer of knowledge and technologies and the setting up of technology businesses in the EU and in all its regions, not least in the less-developed areas. Innovation is also one of the most important elements throughout this activity.

Activities will be carried out under this heading to complement activities relating to innovation included in those carried out under 'Policy support and anticipating scientific and technological needs'.

These actions will provide general support to innovation, and will complement national and regional activities with a view to increasing the coherence of efforts in this area.

They will take the form of support for:

- the networking of stakeholders and users in the European innovation system, and carrying out analyses and studies in order to promote exchanges of experience and good practice and to better engage users in the innovation process;
- actions to encourage transregional co-operation regarding innovation and support for the setting-up of technology businesses, as well as for the preparation of regional and transregional strategies in this area, including the accession countries;
- actions to experiment with new tools and new approaches concerning technological innovation, addressing in particular critical points in the innovation process;
- the establishment or consolidation of information services and, in particular, electronic services, such as CORDIS, and assistance services relating to innovation (technology transfer, protection of intellectual property, access to risk capital), and including the activities of Innovation Relay Centres (IRCs – see Chapter 6);
- economic and technological intelligence activities (analyses of technological developments, applications, markets and processing, along with dissemination of information which may help researchers, entrepreneurs and, in particular, SMEs and investors in their decision-making); and
- analysis and evaluation of innovation activities carried out within the framework of EU research projects, and exploitation of lessons that can be drawn from innovation policies.

Some of these activities will be carried out in liaison with the European Investment Bank (EIB) (in particular by means of the European Investment Fund (EIF)) under its 'Innovation 2000 Initiative', as well as in co-ordination with measures taken through the Structural Funds.

JRC support for ERA

The European Research Area (ERA) will receive a significant boost from FP6. The JRC's impact will be in line with its mission, size and competence, acting as the scientific reference point for policy-makers and implementers. Participation in networking is an important element of ERA and FP6. Under FP6, the JRC will identify five to ten networks of excellence and integrated projects that it will either participate in or initiate – benefits include being able to provide access for smaller players, such as SMEs and university start-ups, to JRC's resources.



Human resources and mobility

The activities carried out under this heading are intended to support the development of abundant world-class human resources in all the 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; by supporting the development of excellence; and by helping to make Europe more attractive to third country researchers. This should be done with the aim of making the most of the potential offered by all sectors of the population, especially women and younger researchers, taking appropriate measures for this purpose, including those towards creating synergies in the area of higher education in Europe.

These activities, which will be carried out in the entire field of science and technology, will take the following forms, in particular:

- support measures for universities, research centres, businesses including in particular SMEs and networks, for the hosting of European and third country researchers, including training of pre-doctoral researchers. These activities could include the setting up of long-term training networks and encouraging mobility between different sectors;
- individual support measures for European researchers for the purposes of mobility to another European or a third country, and for top-class third-country researchers wishing to come to Europe. Such support will provide for a sufficiently long training period and focus on researchers with at least four years of research experience, while also addressing the needs of training in research management;
- financial contribution to national or regional programmes in support of researcher mobility open to researchers from other European countries;
- support for the creation and development of European research teams considered as having the potential to reach a high level of excellence, more particularly for leading-edge or interdisciplinary research activities where such support can add value to national measures; and
- scientific prizes for works of excellence carried out by researchers who have received Union financial support for mobility.

Mechanisms will be set up to facilitate the return of researchers to their countries or regions of origin, and for their professional reintegration.

Efforts aimed at achieving equal gender representation in the actions envisaged will be ensured.



Research infrastructures

The activities carried out under this heading are intended to help establish a fabric of research infrastructures of the highest level in Europe and to promote their optimum use on a European scale.

The following activities will be carried out in the whole field of science and technology, including in the priority thematic areas:

- transnational access to research infrastructures;
- implementing integrated activities, by means of European-scale infrastructures or consortia of infrastructures, making it possible to ensure the provision of services on a European scale and possibly covering, in addition to transnational access, the establishment and operation of co-operation networks, and the execution of joint research projects; raising the level of the performance of the infrastructures concerned;
- a high-capacity and high-speed European communication infrastructure (possibly based on GRID-type architectures), building on the achievements of the GEANT project (see below) as well as electronic publishing services;
- carrying out feasibility studies and preparatory work for the creation of new European-scale infrastructures, taking into account the needs of all potential users and systematically exploring the possibilities of contributions from, for example, the EIB or the Structural Funds for funding these infrastructures; and
- optimising European infrastructures by providing limited support for the development of a restricted number of projects for new infrastructures in duly justified cases where such support could have a critical catalysing effect in terms of European added value. This support, taking due account of Member States' opinion, may supplement contributions from the EIB or the Structural Funds for funding these infrastructures.

A GEANT achievement

The launch of GEANT on 1 December 2001 was a hallmark event for European research. GEANT has quickly become the global leader in research networking, reaching some 3 000 research and education facilities in over 30 countries and National and Regional Research and Education Networks. GEANT is a practical example of the European Research Area and FP6 in action.

Although new to the Research Directorate-General, this scheme has been a feature of the Information Society Directorate-General in past Framework Programmes. In FP6, it will continue to be supported in conjunction with the priority thematic area, information society technologies (IST). A denser network between related initiatives will be established especially through GEANT, a high-capacity and high-speed communications network for researchers in Europe, and high-performance GRIDs and test-beds.

A budget of up to €200 million has been set aside from the total available for supporting research infrastructures, plus €100 million from the IST priority, to further develop both GEANT and GRIDs.





Science and society

The activities carried out under this heading are intended 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. The activities under this heading are **policy-related** science and society initiatives, while the research activities under the thematic priorities, in particular thematic priority 7, cover **research** in a broader manner as it relates to citizens and governance.

The activities carried out in this area in the entire field of science and technology will address the following themes, in particular:

Bringing research closer to society

- science and governance;
- scientific advice;
- involvement of society in research; and
- foresight.

Responsible use of scientific and technological progress, in harmony with fundamental ethical values

- assessment, management and communication of uncertainty and risk;
- expertise;
- analysis and support to best practice in the application of the precautionary principle in different areas of policy-making;
- European reference system; and
- research on ethics in relation to science, technology developments and their applications.

Stepping up the science/society dialogue

- new forms of dialogue with the participation of relevant stakeholders;
- citizens' knowledge of science;
- stimulation of awareness;
- promoting young people's interest in scientific careers; and
- initiatives aimed at promoting the role and place of women in science and research at all levels.

They will take the form of activities in support of:

- networking and establishment of structural links between the institutions and activities concerned at national, regional and European level, in particular using information society technologies;
- exchange of experience and good practice;
- carrying out specific research;
- high-profile awareness-raising initiatives such as prizes and competitions; and
- establishing data and information bases and carrying out studies, in particular statistical and methodological studies, on the different themes.



STRENGTHENING THE FOUNDATIONS OF THE ERA

The EU actions under the first part of 'Strengthening the foundations of the European Research Area aim to contribute to the creation of the European Research Area by stimulating and supporting programme coordination and joint activities conducted at national or regional level, as well as among European organisations – thus helping to develop the common knowledge base necessary for coherent policy development. These activities may be in any scientific and technological area, including in the thematic priority domains.

In this context, the EU will encourage and support initiatives undertaken by several countries – in areas of common strategic interest – and develop synergy between their existing activities through coordination of their implementation, 'mutual opening' of and 'mutual access' to research results, as well as define and implement joint activities.

Types of actions

Two types of actions are foreseen in order to achieve the above objectives:

Enhancing co-operation and coordination of national activities, including:

- support for actions selected following their submission in response to an open call for proposals (the ERA-NET scheme);
- support to activities undertaken through European co-operation frameworks, in particular the EUROCORES collaborative scheme of the European Science Foundation; and
- development of an integrated information system – easily accessible, user-friendly and updated regularly – to provide relevant information on national and regional research programmes and instruments to the research community, programme managers and policy-makers.

Enhancing 'complementarity' and synergies of European-level activities, including:

- direct support for scientific and technological co-operation activities carried out in COST;
- strengthened coordination with EUREKA; and
- support for collaboration and joint initiatives between specialised European scientific co-operation organisations such as CERN, ESA, ESO, ENO, EMBL, ESRF, ILL).

Coordination activities

Coordination activities, using a bottom-up approach, will be carried out in the entire field of science and technology areas, such as:

Health

- health of key population groups;
- major diseases and disorders (e.g. cancer, diabetes and diabetes-related diseases, degenerative diseases of the nervous system, psychiatric diseases, cardiovascular diseases, hepatitis, allergies, visual impairment), rare diseases, alternative or non-conventional medicine, and major diseases linked to poverty in developing countries; and
- activities involved will be implemented, for instance, through coordination of research and comparative studies, development of European databases and interdisciplinary networks, exchange of clinical practice and coordination of clinical trials.

Biotechnology

- non-health and non-food applications.

Energy

- new generation power plants ('near-zero-emission'); and
- energy storage, transport and distribution.

Environment

- urban environment (including sustainable urban development and cultural heritage);
- marine environment and land/soil management; and
- seismic risk.

These activities will take the form of stepping up the coordination of research activities carried out in Europe, at both national and European level, with financial support for:

- the mutual opening up of national and regional programmes;
- networking of research activities conducted at national and regional level;
- the administration and coordination activities of European co-operation in the field of scientific and technological research COST;
- scientific and technological coordination activities carried out in other European co-operation frameworks, in particular the European Science Foundation; and
- collaboration and joint initiatives of specialised European scientific co-operation organisations, such as CERN, EMBL, ESO, ENO and the ESA.

These actions will be implemented in the general context of efforts undertaken to optimise the overall performance of European scientific and technological co-operation and to ensure that its different components, including COST and Eureka, are complementary.

Coherent development of research and innovation policies in Europe

- carrying out analyses and studies, and work relating to scientific and technological foresight, statistics and indicators;
- setting up and support for the operation of specialised working groups and forums for 'concertation' and political debate;
- support for work on the benchmarking of research and innovation policies at national, regional and European level;
- support for carrying out work on the mapping of scientific and technological excellence in Europe; and
- support for carrying out the work needed to improve the regulatory and administrative environment for research and innovation in Europe.

The Innovation Scoreboard – an indication of success

The Innovation Scoreboard was requested by the Lisbon European Council of March 2000 as part of its strategy for creating in the EU 'the most competitive and dynamic knowledge-based economy in the world within the next decade'. The Council called for the benchmarking of national performance in the fields of employment, innovation, enterprise and research – the regular collection of data on specific indicators, the development of guidelines for national policies, and mutual learning or 'open coordination' effected through peer reviews.

Compiled and published by the Commission's Enterprise DG, the 2001 Innovation Scoreboard summarises data on 17 indicators of innovation performance in each Member State.

These include:

1. the quantity and quality of human resources devoted to innovation;
2. public and private sector investment in knowledge creation, and the resulting output of new patents;
3. activities other than research leading to the transmission and application of new knowledge; and
4. the supply of innovation finance, the value of outputs associated with innovation, and commercial and domestic investment in information and communication technologies (ICT).

Regularly updated information on the Innovation Scoreboard is available at:
<http://trendchart.cordis.lu/Scoreboard/scoreboard.htm>

EURATOM PRIORITIES

Priority thematic areas of research

To fulfil the objectives concerning nuclear research and training activities, as set out in the Euratom Treaty, and to contribute to the establishment of the ERA, the Euratom Framework Programme will be structured as outlined below.

Participation in the Framework Programme as a whole shall be open to all countries having concluded association agreements with the European Union to this effect. Other third countries may participate via bilateral co-operation agreements, while researchers and organisations from third countries may also participate in projects on a case-by-case basis.

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 base-load electricity.

For reasons tied to the complexity of fundamental knowledge in physics and the technological problems to be resolved, the developments required for the possible application of fusion for energy production will be processed in several steps, each of which has an impact on the next. However, in a more immediate time frame, research into fusion technologies could give rise to useful technological spin-offs.

The efforts deployed in the context of the integrated European research activities on controlled thermonuclear fusion have enabled Europe to become a world leader in the field of research into fusion by magnetic confinement.

The progress made on the research and the results obtained, in particular with the European JET Tokamak, now make it possible to consider moving on to the 'Next Step' which would produce a machine capable of generating fusion reactions in conditions comparable to that of an energy production reactor.

The completion of the preparatory work on the detailed design of the 'Next Step', in the context of the ITER international co-operation project, makes it possible to take a decision about launching this project and the construction of the machine.

The objective of this will be to demonstrate the scientific and technological feasibility of fusion energy production, bearing in mind the socio-economic aspects. The precise arrangements for implementing the project will depend on the outcome of the negotiations at present under way in the framework of international co-operation and subsequent developments, more particularly the decisions taken concerning Europe's contribution to the ITER project and the site where the machine is to be installed. An appropriate legal framework must be established.

Participation in the ITER initiative requires the implementation of an accompanying programme including the following elements:

- operation of the JET machine in such a way as to derive benefit from the improvements currently being made. Possible participation in the research activities needed for the decommissioning of fusion facilities; and



- the continuation of research into fusion physics and technology, including the study and evaluation of magnetic confinement formulas with, in particular, the continuation of the construction of the Wendelstein 7-X 'stellarator' and operation of the existing installations in the Euratom Associations; and coordinated activities regarding technological research, in particular research into materials for fusion.

Management of radioactive waste

Actions will cover both the problem of waste management and the question of reducing its impact. As such, they will address the following aspects:

- research into processes for long-term storage in deep geological strata, with the networking of the activities carried out on various sites in the three main types of geological formations envisaged; and
- research aimed at reducing the impact of waste, in particular through the development of new technologies to reduce the hazards associated with waste by means of partitioning and transmutation techniques, as well as exploring the potential of concepts to produce less waste in nuclear energy generation.

Radiation protection

Vigilance is still required to ensure a continuation of the European Union's outstanding safety record. The enlargement of the Union also introduces new challenges. The improvement of radiation protection continues to be a priority area and in FP6 such activities will be carried out mainly in the following areas:

- the quantification of the risks associated with low levels of exposure;
- medical exposure and exposure to natural sources;
- radio-ecology;
- risk and emergency management; and
- protection of the workplace and the environment.

Other activities in the field of nuclear technologies and safety

The activities carried out under this heading are intended to:

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

These activities will be carried out mainly in the following areas:

- innovative concepts: evaluation of the potential of innovative concepts that offer advantages in terms of safety, environmental impact, resource utilisation, proliferation resistance; development of improved and safer processes in the field of nuclear energy;
- education and training concerning nuclear safety and radiation protection aimed at integration and consolidation of national efforts to achieve economy of scale and, in addition, covering such areas as mobility and human resources, transnational access to infrastructure, and coordination activities; and
- measures for the safety of existing nuclear installations.



Key mission for the JRC

Nuclear safety and safeguards is one of three main priority areas for the Commission’s Joint Research Centre (JRC), which is supported by three horizontal competences – technical foresight, reference materials and measurements, and public security and anti-fraud.

1. The Institute for Reference Materials and Measurements (IRMM) in Geel, Belgium, contributes to the establishment of industrial and commercial codes of practice and to the improvement of safety standards. To assess levels of radioactive contamination of food, drink and the environment, and to provide primary radioactivity standards for nuclear medical diagnosis and therapy, IRMM performs ultra-sensitive measurements in a special underground laboratory.
2. The Institute for Transuranium Elements (ITU) in Karlsruhe, Germany, provides reliable, neutral scientific expertise in the field of nuclear safety and safeguards. It works closely with industry and with national and international licensing and regulatory authorities worldwide on areas such as nuclear waste management and treatment, safety of nuclear energy production, measurement of radioactivity in the environment, and cancer therapy.
3. The Institute for Energy (IE) in Petten, The Netherlands, carries out research in clean and sustainable energy covering both nuclear and non-nuclear domains. Activities include nuclear safety in the enlarged EU, new nuclear energy systems, waste incineration, and clean energy sources – including the harmonisation and validation of the safety of new nuclear energy systems. IE also operates the European High Flux reactor which is used to enhance the safety of nuclear installations by materials and fuel irradiation testing, and to produce medical radio-isotopes for cancer diagnosis and treatment, as well as for developing new therapies.

For more information on JRC in the context of FP6, see earlier in this chapter.



CHAPTER 6

WHERE TO FIND USEFUL SOURCES OF INFORMATION AND ASSISTANCE

Commission Help Desk contacts for the thematic priorities and SMEs

Useful website addresses for more information about FP6 and EU research activities

EU information and assistance networks

National information services

Project and partner search resources

Other useful sources of EU information



Chapter 6

Commission Help Desk contacts for the thematic priorities and SMEs

Help Desk for the priority area 'Genomics and Biotechnology for Health'

rtd-genomics-biotec@cec.eu.int

Help Desk for the priority area 'Information Society Technologies'

ist@cec.eu.int

Help Desk for the priority area 'Nanotechnologies and Nanosciences, Knowledge-Based Multifunctional Materials and New Production Processes and Devices'

rtd-nmp@cec.eu.int

Help Desk for the priority area 'Aeronautics and Space'

rtd-aeronautics@cec.eu.int

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rtd-sustainable@cec.eu.int

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rtd-citizens@cec.eu.int

Help Desk for the priority areas 'Management of Radioactive Waste' and 'Radiation Protection'

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Help Desk for SMEs

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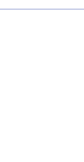
For a full list of Commission infodesks

<http://www.cordis.lu/fp6/infodesks.htm>

Useful website addresses for more information about FP6 and EU research activities

FP6 on the Europa server

- Answers to the FAQs about FP6
<http://europa.eu.int/comm/research/faq.html>
- Official documents relating to FP6
http://europa.eu.int/comm/research/fp6/documents_en.html
- European Research Area
http://europa.eu.int/comm/research/era/index_en.html



- Open and future calls in FP6
http://europa.eu.int/comm/research/fp6/calls_en.cfm
- Model contract working group
http://europa.eu.int/comm/research/fp6/working-groups/model-contract/index_en.html
- Instruments for implementing FP6's thematic priorities
<http://europa.eu.int/comm/research/fp6/instruments.html>
- Research press centre 'news alerts'
http://europa.eu.int/comm/research/press_en.html

FP6 on the CORDIS server

- FP6 home page
<http://www.cordis.lu/fp6/home.cfm>
- Comprehensive FP6 glossary
<http://www.cordis.lu/fp6/glossary.cfm>
- Calls in FP6
<http://www.cordis.lu/fp6/calls.cfm>
(register for CORDIS email alerts to be notified of a call relevant to your area)
- SME TechWeb
information, events and news for technology-oriented European SMEs
<http://sme.cordis.lu/home/index.cfm>

EU information and assistance networks

The following networks have offices in Member States and in some cases Associated States and candidate countries:

- **Network of Innovation Relay Centres (IRC)**
promoting partnerships to develop and transfer innovation
Innovation Infodesk, Enterprise DG
200, rue de la Loi
B-1049 Brussels
innovation@cec.eu.int
<http://irc.cordis.lu/>
- **European Business and Innovation Centre Network (EBN)**
providing support for innovative enterprises
European BIC Network
168, Avenue de Tervuren
B-1150 Brussels
ebn@ebn.be
<http://www.ebn.be/>

- **European Information Centres (EIC) Network**

advising and assisting small and medium-sized (SMEs) enterprises especially on participating in EU programmes

<http://europa.eu.int/comm/enterprise/networks/eic/eic.html>

http://europa.eu.int/comm/enterprise/networks/eic/eic-geo_cover_en.html

(to find your nearest EIC)

National information services

National Contact Points (NCPs)

providing information, instructions and general assistance for applicants wishing to participate in Framework Programmes, and helping those interested to identify the national support available

- NCPs in FP6

<http://www.cordis.lu/fp6/ncp.htm>

- SME network of national contact points

regularly updated list of SME contacts for EU, acceding and candidate countries

<http://sme.cordis.lu/assistance/NCPs.cfm>

Project and partner search resources

Technology Marketplace

on-line access to a series of tools for identifying technology partners

<http://www.cordis.lu/marketplace/>

Find a partner (on CORDIS)

on-line submission of profiles and search for potential partners in FP6

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



Other useful sources of EU information

EUR-Lex

the portal to EU law

<http://europa.eu.int/eur-lex/en/index.html>

Joint Research Centre (JRC) of the European Commission

the European Union's scientific and technical research laboratory

<http://www.jrc.cec.eu.int/>

EUREKA

European network supporting industrial RTD projects offers a database of thousands of industrial RTD projects and their participants

<http://www.eureka.be/>

Various publications about EU research and activities

- *RTD info*
http://europa.eu.int/comm/research/rtdinfo/index_en.html
(read the special edition on FP6, Nov. 2002)

- *Innovation & Technology Transfer (ITT)*
<http://www.cordis.lu/itt/itt-en/home.html>
(read the FP6 feature article, Nov. 2002)

- *Euroabstracts*
<http://www.cordis.lu/euroabstracts/en/home.html>

- *CORDIS focus*
<http://www.cordis.lu/focus/en/home.html>

- *Research publications from the programme help desks*
http://europa.eu.int/comm/research/pub_rtd.html

- *EU Institutes document library*
http://europa.eu.int/documents/comm/index_en.htm

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Want to know more about the European Research Area?

FP6 is a fundamentally new and different scheme for driving European research further and faster than ever before. It provides much-needed direction for the European Research Area, shaping and structuring the face of European research in years to come. Alongside the new instruments created especially for FP6, such as networks of excellence and integrated projects, a number of past instruments have been included to ensure continuity from one Framework Programme to another.

The purpose of this guide is to provide prospective participants in EU research programmes – and anyone interested in the future of European research – with some useful background information, tips and a general overview of the Sixth Framework Programme.

This guide will also enable the readers to assess:

- the opportunities for their organisation, research centre, network of excellence, etc. under FP6
- whether their partnership has the resources needed for a successful application and, if not
- where they can get help in making a successful application for co-funding with the European Commission

For more information

For general queries about this guide or, indeed, about the Sixth Framework Programme, European Research Area or associated EU research activities, please contact the Directorate-General for Research's Information and Communications Unit:

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