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COMMUNICATION FROM THE COMMISSION

Building the ERA of knowledge for growth

1. EUROPEAN RESEARCH AREA (ERA) OF KNOWLEDGE FOR GROWTH: THE EU'S ASSET AND CHANCE

1.1. Delivering on the Lisbon objectives

Investing in knowledge is the best way for Europe to foster sustainable growth in a globalised economy...

The European Commission set as priority goals for the EU to foster sustainable prosperity and solidarity, to reconnect the EU with the citizens, and to make the Union a strong global partner. The EU's research policy, and the proposal for the new Framework Programme that will help implement it, reflect the commitment to deliver on these goals.

As the driver for the production and exploitation of knowledge, research is above all a linchpin in the implementation of the Lisbon strategy to make Europe the most dynamic and competitive, knowledge-based economy in the world, capable of sustaining economic growth, employment and social cohesion.

The Lisbon strategy is, in effect, the EU's programme to solve the equation between economic growth, competitiveness and employment on the one hand, and social and environmental sustainability on the other hand. Lisbon is about sustaining the European model of society for present and future generations, in the face of growing global competition and ageing populations.

Knowledge underpins all components of the Lisbon strategy. Today's economy and the well-being of citizens rely on the progress of knowledge and its transformation in new products, processes and services. This is particularly the case for Europe, which cannot compete on the basis of natural resources, and does not intend to compete on the basis of cheap labour or at the expense of the environment. Europe must respond through raising productivity and the added value of products and services.

At the same time, knowledge is a major component of the European way of life. It supports sustainable development: the improvement of living standards, quality of life, health and the environment all depend greatly on the advancement of knowledge and its applications to address the challenges faced by society.

Investing in knowledge is certainly the best, and maybe the only, way for the EU to foster economic growth and create more and better jobs, while at the same time ensuring social progress and environmental sustainability. In other words, it is Europe's chance to strengthen its model of society.

The central role of knowledge was recognised by the High Level Group on Lisbon chaired by Wim Kok¹, which recommended the realisation of the knowledge society as the top priority for the EU. In its proposals for the mid-term review of the Lisbon strategy, the Commission highlighted

¹ "Facing the Challenge: The Lisbon strategy for Growth and Employment", November 2004.

knowledge and innovation as the beating heart of European growth and proposed measures to step up efforts for leveraging knowledge for growth. The European Parliament strongly endorsed this same message in its resolution of March 2005 on Guidelines for Future EU Policy to Support Research on the basis of the report of Mrs. Locatelli².

The EU has just re-confirmed its Lisbon objective at the highest level. At the March 2005 European Council, European heads of state and government declared their aim of increasing the potential for economic growth and of strengthening European competitiveness by investing above all in knowledge, innovation and human capital.

1.2. Putting the knowledge triangle of research, education and innovation to work

...yet, the EU invests considerably less in R&D than its trading partners

To be a genuinely competitive, knowledge-based economy, Europe must become better at producing knowledge through research, at diffusing it through education and at applying it through innovation.

This “knowledge triangle” of research, education and innovation functions best when the accompanying framework conditions reward the knowledge that is put to work to the benefit of the economy and society.

Today the EU devotes only 1.96 % of its GDP to research and development, compared to 2.59% for United States, 3.12 % for Japan and 2.9% for Korea. The gap between US and EU is currently about € 130 billion a year, 80 % of which can be attributed to the difference in private sector spending in research and development.

In March 2002 the Barcelona European Council set the target of raising the European research effort to 3 % of EU GDP, two thirds of which should come from private investment. The March 2005 European Council has just reconfirmed this target. Achieving it requires renewed efforts of the Member States and the EU, to strengthen public research funding and improve the “framework conditions” for private investment in R&D and the swift exploitation of discoveries and inventions.

In the context of its proposals for the mid-term review of the Lisbon strategy, the European Commission has announced its intentions to present proposals for such measures, such as introducing fiscal incentives for research and innovation, revisiting state aid rules to foster research and innovation, improving and adapting intellectual property rights regimes, facilitating risk capital operations at European level and strengthening links between universities and industry.

At the same time, the European Commission is putting the knowledge

² P6_TA-PROV(2005)0077.

economy centre-stage in many EU financial programmes.

1.3. Mobilising EU financial instruments at the service of knowledge for growth

Many EU programmes will contribute to leveraging knowledge for growth but the research programme is the corner stone of its knowledge policy.

Largely shaped on the basis of the Lisbon agenda, the new EU financial perspectives for the period 2007-2013 proposed by the European Commission increase the role of knowledge and innovation in the future EU budget. A broad range of funding tools should be mobilised to help realise, in a coherent way, the knowledge economy.

The most relevant are:

- **The Structural and Cohesion Funds**, to strengthen the knowledge capacities throughout the European Union by extending research and development capacities in the less advanced regions and by ensuring, through innovation, education and a modern infrastructure, that the fruits of research spread to all regions. Research and development, innovation and the transition to a knowledge economy rank among the top priorities within the three new objectives of EU regional policies (Convergence, Regional Competitiveness, and European Territorial Co-operation);
- **The Competitiveness and Innovation Framework Programme**, to enhance European innovation capacity, through support to innovating SME's, innovation networks, the dissemination of results, technology transfer and the funding of technology innovation through risk capital;
- **The new generation of Education and Training Programmes**, to raise the capacity to produce, master and exploit knowledge in Europe, through an integrated action on life-long education and training covering in particular university education and the training of researchers.
- **Trans European Networks**, to deploy on a pan-European scale advanced infrastructures and systems derived from and supporting further R&D and innovation (such as Galileo).
- **The new European Agricultural Fund for Rural Development**, having as priorities the increased competitiveness of the agricultural and forestry sector, sustainable land management, the diversification of the rural economy and quality of life in rural areas.

On the research side of the “knowledge triangle”, the central action to support the development of the knowledge economy and to make the EU competitive at the global level is the new seventh Research Framework Programme, which will implement the research and development heading of the EU's budget from 2007 to 2013.

2. THE SEVENTH RESEARCH FRAMEWORK PROGRAMME: 4 OBJECTIVES

Four main objectives for EU research result from a wide public consultation:

The June 2004 Communication from the Commission on the future of European research policy³ marked a move towards a fully-fledged research policy at European level, covering a wide range of research needs and categories of research.

The Commission proposed an approach based on a number of orientations: consolidation of support to collaborative trans-national projects on topics linked with major public policies; launching longer term public private partnerships to support industry-oriented technological development; reinforcement of EU support to basic research; and undertaking new actions in fields which provide high EU added value, such as the design of new research infrastructures that go beyond the reach of single Member States.

This approach has been discussed extensively in the Council, the European Parliament, the Committee of Regions and the Economic and Social Committee. It has also been subject of a broad consultation of the scientific community, industry and other stakeholders. On this basis, the Commission is proposing a new Research Framework Programme with four objectives, each supported by its own programme.

These four programmes are.

2.1. Cooperation

gain leadership in key scientific and technology areas by working together;

To gain leadership in key scientific and technology areas by supporting cooperation between universities, industry, research centres and public authorities across the European Union as well as with the rest of the world.

With more than half of the total 7th Framework Programme budget, this programme will cover the whole range of research activities performed in trans-national cooperation, from collaborative projects and networks to the coordination of national research programmes. Within each thematic area, flexible use will be made of all actions and funding schemes in a way that best serves to achieve the theme's objectives. The organisation of all themes in one programme will facilitate joint approaches across themes to answer challenges of common interest, thus also encouraging multidisciplinary. The catalytic effect of Community funding on other public research spending will be reinforced through scaled up ERANET actions that will boost research in given areas through joined up national programmes.

International cooperation between the EU and third countries is an important dimension of this action: depending on the themes addressed, specific actions will be undertaken with countries or groups of countries

³ COM(2004) 353, 16.6.2004

outside the EU, where there is mutual interest in doing so.

2.2. Ideas

reinforce the excellence of Europe's knowledge base by fostering competition between researchers at EU level;

To stimulate the creativity and excellence of European research through the funding of “frontier research” carried out by individual teams competing at European level.

In order to introduce a new dynamic in research by putting a premium on excellence through competition and attracting the best brains, a European Research Council will be created to fund investigator-driven projects in all scientific and technological fields, including engineering, socio-economic sciences and the humanities. Projects will be selected through peer review on the sole basis of scientific excellence. The European Research Council will act in full autonomy, under the governance of an assembly of eminent scientists working across disciplines appointed by the Commission on the advice of the scientific community. Setting up the European Research Council within the European Community Framework provides the best guarantee for its autonomy.

2.3. People

strengthen the career prospects and mobility of our researchers;

To develop and strengthen the human potential of European research through support to training, mobility and the development of European research careers.

This programme will reinforce the existing “Marie Curie” actions of support to researchers, better focusing on key aspects of skills and career development, increasing mobility between university and industry, and strengthening links with national systems.

2.4. Capacities

and develop and fully exploit the EU's research capacities through large-scale infrastructures, regional cooperation and innovating SMEs.

To enhance research and innovation capacity throughout Europe.

Ensuring optimal use and development of research infrastructures; supporting regional research-driven clusters; unleashing the full research potential existing in the EU's convergence regions and outermost regions; supporting research for the benefit of SMEs; bringing science and society closer together; and developing and coordinating an international science and technology co-operation policy. Through their combined impact, these programmes will allow for the emergence and reinforcement of European poles of excellence in various fields

3. CONTINUITY, WITH A NEW IMPETUS FOR LISBON

The new programme will build on past successes in realising a European Research Area,

While maintaining the necessary continuity with its predecessor and further building on best practice, the new 7th Framework Programme will not be “just another Framework Programme”. In its content, organisation, implementation modes and management tools, it is designed as a key contribution to the re-launched Lisbon strategy

3.1. Placing the emphasis on research themes rather than on “instruments”

adding space and security to the current research fields.

The 6th Framework Programme was designed to help realise the European Research Area. It placed strong emphasis on new instruments to structure research efforts and overcome fragmentation. In order to raise critical masses of resources and to avoid dispersion, the 6th Framework Programme concentrated firmly on a selected number of themes and topics.

The 7th Framework Programme will continue to support the realisation of the European Research Area, which is at the heart of the EU’s research policy. But it resolutely puts emphasis on research themes in areas where the EU should reinforce and better exploit its knowledge base, develop technology leadership and raise the visibility of its research action.

The themes identified largely build on those of the 6th Framework Programme and correspond to major fields of advancement of knowledge, promising scientific and technological avenues which are currently opening up, and challenging social, economic and industrial issues faced by the EU. The overarching aim is to contribute to sustainable development, both within the EU as on the global level.

To themes which are already addressed in the 6th Framework Programme, such as health, biotechnology, information technology, nanotechnology, transport, energy and environment, one new one is added: security research and space, to reflect the growing importance the EU has attached to these areas in the last period⁴.

Within each theme, sufficient flexibility will be left to accommodate for new emerging topics of scientific, industrial or policy interest. For priority scientific areas which cut across themes the Commission will ensure a coordinated, horizontal integration, including by ways of appropriate internal coordination structures. One such priority area is marine sciences and technology.

⁴ Specific rules for implementation may be needed in these areas.

3.2. Meeting industry's needs

And strengthening the links to competitiveness,

by drawing on research agendas from technology platforms,

and by joining forces with a new programme on Competitiveness and Innovation.

Boosting research investment and increasing the technology content of industry are essential to ensure the competitiveness of European enterprises. At the European level, the Research Framework Programme contributes to these goals by funding R&D projects of industrial relevance and by stimulating the best talent from universities and companies to work together.

The 7th Framework Programme is tailored to better meet industry's needs. Where industrially relevant, the definition of work programmes will draw on the strategic research agendas developed by industry-led technology platforms. These strategic research agendas, presenting the European dimension of research challenges, also influence national research programmes. Furthermore, by always looking at the market potential of new inventions, they help to overcome Europe's weakness in commercialising the results of research.

Actions to support research for SMEs carried out by universities and research centres will be scaled up significantly.

The Research Framework Programme and the Competitiveness and Innovation Framework Programme (CIP) will operate side by side, and with considerable cross-over, in support of the Lisbon goals. The CIP programme will, for example, support networks that help SMEs to participate in the Research Framework Programme, and fund a Business Innovation Support Scheme as well as a new High Growth and Innovative SME facility aiming at reducing the equity market gap which prevents SMEs from exploiting research results.

Large initiatives of industrial and technological research at European scale will be launched in a selected number of areas of particular relevance for the EU (see below).

In addition, industry participation in all funding schemes will be encouraged and special attention will also be made to encourage industry to more actively contribute to the Networks of Excellence.

3.3. Reinforcing links with national and private efforts

It will support public-private Technology Initiatives in fields of major interest such as innovative medicines or air traffic management,

Strengthening the links and coherence between EU and national policies and activities is central to the Lisbon agenda. This will be achieved in the 7th Framework Programme in particular through the introduction of types of multi-financed large-scale initiatives:

- **“Joint Technology Initiatives”** in fields of major European public interest on subjects identified through dialogue with industry, in particular in the European Technology Platforms. Such technology initiatives will be firmly anchored in the thematic areas of the

and pool national efforts for instance on metrology and biotechnology,

all to be selected on the basis of clear criteria such as added value, leverage effect and top level private commitment.

Cooperation programme. At this stage, Joint Technology Initiatives, which may take the form of joint undertakings, are envisaged in the fields of innovative medicine, nanoelectronics, embedded systems, aeronautics and air traffic management, hydrogen and fuel cells, and global monitoring for environment and security. In the context of the Euratom Programme, Joint Undertakings may be considered, for instance for nuclear waste. Other possible themes will be identified subsequently through the work of technology platforms, for example in the field of energy.

- **Joint implementation of national research programmes** on the basis of Article 169 of the Treaty. This possibility has so far been exploited once, through a joint programme on clinical research to develop vaccines and therapies for HIV, malaria and tuberculosis. A number of initiatives on themes such as, for example, metrology, biotechnology, social sciences or water research, are currently under examination. Such large scale coordination initiatives will also correspond to the strategies of the themes under the Cooperation programme.
- **New infrastructures of European Interest**, ensuring a service to the scientific community and industry at European level. A mechanism similar to the one used for the Trans-European Networks will be put in place, drawing on the work of the European Strategy Forum for Research Infrastructures. Strong synergy will be sought with the Structural Funds.

These initiatives have three common characteristics:

- They will be decided directly by Council and Parliament (or the Council in consultation with the Parliament), based on a proposal from the European Commission in accordance with Articles 166 (3)⁵, 169⁶ or 171⁷ of the Treaty;
- Suitability in particular for “variable geometry” initiatives associating those countries which are most interested;
- Implementation through financial plans which will combine, in variable proportions, several sources and kinds of funding: private funding; national funding; support from the Framework Programme; contributions from other EU sources, such as the Structural Funds and the European Investment Bank (EIB).

⁵ “The Framework Programme shall be implemented through specific programmes developed within each activity. (...)”

⁶ “In implementing the framework programme, the Community may make provision, in agreement with the Member States concerned, for participation in research and development programmes undertaken by several Member States, including participation in the structures created for the execution of those programmes.”

⁷ “The Community may set up joint undertakings or any other structure necessary for the efficient execution of Community research, technological development and demonstration programmes.”

The fields suitable for these three categories of actions are currently being explored by the Commission in close relationship with industry, the scientific community and public authorities. Precise subjects will be identified on the basis of two types of criteria. General criteria will include the added value of carrying out an action on the European scale and the impossibility to achieve the objectives through “standard” 7th Framework Programme funding schemes. Specific criteria include the top-level industrial commitment and the capacity for leverage of national and private funding in the case of Joint Technology Initiatives.

The 7th Framework Programme will also comprise a “Risk-Sharing Finance Facility” aimed at fostering private investment in research by improving access to European Investment Bank (EIB) loans for large European research actions. This mechanism will enable broader EIB lending to RTD actions (Joint technology initiatives, large collaborative projects and new research infrastructures).

3.4. Exploiting EU Potential to the full

In order to use the full research potential of the enlarged Union,

The realisation of the knowledge-based economy and society relies on strengthening the excellence of European research, but also on better using hitherto “untapped” high research potential which exists all over the EU.

special support will be given to regions, to SMEs and to “science in society”.

In order to help unlock and develop the potential of research groups in the EU’s convergence regions and outermost regions and for them to compete at international level, dedicated actions will allow for the recruitment of researchers from other EU countries, the secondment of research and management staff, the organisation of evaluation facilities and the acquisition and development of research equipment. Such actions will help identify needs and opportunities for reinforcing the research capacities of existing and emerging centres of excellence in these regions, which can be met by structural funds.

To strengthen the research potential of European regions, support will be provided to the development, across Europe, of regional “research-driven clusters” associating universities, research centres, enterprises and regional authorities.

The synergies between the 7th Framework Programme, especially its “capacities” programme and EU regional policy should be reinforced. The Commission is to propose Community Strategic Guidelines on cohesion, which will set out how EU-level priorities should be taken into account by the national and regional authorities responsible for managing the Structural Fund programmes. Research and development (along with innovation and education) are priority themes under all the objectives of the Structural Funds, and so the guidelines will be an opportunity to strongly encourage managing authorities to pursue investments that are complementary to EU research policy.

A wide-ranging effort will be undertaken to stimulate the more harmonious integration of scientific and technological endeavour in the European social fabric and to help construct a democratic and thriving knowledge-based society. Building a knowledge economy is a project that requires broad public support. EU action will, among others, aim at developing coherent policies and public governance models for research and development, and improving and widening the dialogue on science and technology. Particular energy will be devoted to attracting younger generations and women to science and technology careers and integrating the gender dimension in research. By its scope and because of the future-oriented positive project it represents, the EU's research action is a privileged channel for reconnecting the citizen with the project of the Union as such.

3.5. Rationalising the funding instruments

Implementation will be:

The 6th Framework Programme introduced new funding “instruments” with a view to increasing the impact of EU research funding on research activities in Europe, and to help structure the European Research Area.

- more rational;

The positive results of this innovation, together with the need to avoid frequent changes in the way the EU funds research, plead in favour of maintaining a high level of continuity as regards forms of funding and consolidating their structuring impact.

- research-rather than instrument-oriented ;

At the same time, experience acquired through the 6th Framework Programme shows that measures could and should be taken to improve not only the practical implementation of these schemes, but also their presentation and design.

Building on the recommendations of the panel chaired by Mr. Ramon Marimon and the Five Year Assessment of the Framework Programme by the panel chaired by Mr. Erkki Ormala, a new approach has been defined which will allow the political objectives of EU research policy to be reached more easily, more efficiently and in a more flexible way.

A smaller set of simpler “funding schemes” will be used, alone or in combination, with more flexibility and freedom, to support the different categories of actions.

Instead of being encapsulated in the “instruments”, research goals and research policy objectives, including those aiming at structuring research efforts, will be clearly and explicitly set in the work programmes. For each topic on which proposals are invited, the scientific goals, the scope of activities and indications on the results expected will be defined. The work programmes may also specify the type of funding scheme to be used and an indication of the available budget.

3.6. “Cutting red tape”: simplifying the operation of programmes and providing better value for money

- and drastically SIMPLIFIED to be at the service of researchers and innovators.

The need for simplification was the single most recurrent message in the consultation on the future of EU research policy. The expansion of the scope, span and volume of EU action in research requires, as a *condition sine qua non*, a substantial simplification and rationalisation of the way the Framework Programme works.

It will be achieved by:

- reducing the burden of the administrative and financial rules and procedures, lowering the number of requests to participants, and decreasing the volume of paperwork and the time needed to launch the projects. The general approach will be one of trust towards the researchers. Specific measures will include providing more autonomy to the consortia, simplifying the Commission’s controls and concentrating them on verification of results *ex post* rather than on *ex ante* controls, reducing requests for information and reporting. They will also include: electronic registration in order to prevent participants being requested to submit the same information more than once; the extended use of the two stage proposal submission procedure; and a rationalisation and shortening of the consultation process through concentrating the work of the committees of national representatives on the examination and approval of all work programmes;
- improving the financial scheme and modalities of funding with a simpler system for calculating and paying the financial contribution and controlling the use of money; rationalising and simplifying forms of Community financial contributions; simplifying the definition of eligible costs and the support rate by activities. To this end it is proposed, amongst other measures, to extend where possible the use of lump sum financing and to remove cost reporting models;
- simplifying the presentation and the language used in all documents related to the Framework Programme (legal decisions, technical annexes, work programmes, calls for proposals, contracts, etc) and improving the communication at each and every level.

In order to ensure that the measures respond to the needs of participants and achieve the desired effect, the Commission will consistently test simplification measures on a sounding board of small research entities, such as small companies and university teams. These stand to gain most from simplification, as well as those groups that have not been very present up to now, such as researchers from young universities, from less advanced regions and from new Member States.

Simplifying the implementation of the Framework Programme for the benefit of researchers implies the willingness to give them a higher degree of autonomy and flexibility based on trust, assumed responsibility and accountability. The more this willingness is shared by all EU institutions,

the bigger the steps towards simplification can be. Simplification measures will be in line with the provisions of the Financial Regulation applicable to the general EU budget. The Commission will shortly come forward with proposals for a revision of the Financial Regulation.

3.7. Optimising the management of the Framework Programme

A doubled budget will be managed by the same number of Commission staff

The start of a new and ambitious Framework Programme, which introduces new actions and reinforces existing ones, provides an opportunity to revisit the ways in which the Framework Programme is managed.

The management of the Framework Programme has to be based on three principles:

supported by externalised management

- Efficiency in operation (value for money);
- Concentration of Commission services on core policy tasks;
- Clear lines and divisions of responsibility.

ensuring efficient management and maximum value of research money by keeping administrative expenditure below 6% of the research budget.

The European Commission services have always been able to execute fully and efficiently substantial budget increases in preceding Framework Programmes. There are strong reasons to keep the Commission involved in the management of research programmes, including its unique experience and overall knowledge of the European research scene, the very useful feedback it provides for EU research policy-making as well as the trust Member States have in this formula which ensures absence of fair return considerations.

However, changes can and should be made within the 7th Framework Programme.

The Commission will manage a doubled R&D budget without an increase in its staff numbers. It proposes to have all logistical and administrative tasks, i.e. not related to policy, undertaken outside its services. As a consequence, part of the activities it currently carries out will be externalised under the Commission's responsibility, in particular those tasks which generate a large number of small operations, without providing significant feedback for the definition of programmes and policies.

With this approach, an important part of the budget of the 7th Framework Programme, representing a high number of administrative transactions, will be managed by an Executive Agency⁸, in particular the Marie Curie Actions, the support to SMEs, as well as administrative tasks related to other RTD projects, including collaborative research projects. This

⁸ Executive agencies are management structures to which the Commission, under its own responsibility, may entrust tasks relating to the management of Community programmes. The statute of executive agencies is defined by Council Regulation (EC) No 58/2003 of 19 December 2003.

approach will also be taken for implementing the activities of the European Research Council (ERC), working under the governance of an assembly of eminent scientists. In such a way, it will ensure a smooth launch and help the ERC establish the degree of autonomy and visibility, accountability and transparency that will determine its credibility. As soon as the ERC has proven its worth and in light of opportunities to strengthen its impact, for example by mobilising national funding, the Commission will consider spinning off the ERC into a legally independent structure, for example based on Article 171 of the Treaty.

For large scale initiatives (based in particular on Articles 169 and 171 of the Treaty), as well as in the case of EU contributions to the coordination or opening up of national programmes, participants and stakeholders themselves will manage the allocated funds.

These measures, taken together with simplification, will allow the Commission to keep administrative spending below the rate of 6 % of the research budget which was set for the Sixth Framework Programme. They also provide the best guarantee for ensuring efficient implementation of the Framework Programme, with due regard to transparency and accountability. In light of experience acquired during the first years of the 7th Framework Programme, this approach may be progressively expanded or revisited.

4. A RESEARCH BUDGET THAT MEETS THE EU'S AMBITION

Doubling the EU research budget is not an option, it is a necessity:

Deciding on the budget of the 7th Framework Programme will be a credibility test that will show how serious the EU is about delivering on its Lisbon ambitions in line with the mid term review.

Recalling its two Communications on the new financial perspectives of February and July 2004⁹, the Commission proposes to double the EU research budget. It does so on the basis of the following carefully considered arguments:

4.1. The widely supported enlarged scope of FP actions requires a doubling of funding

- to respond to the enormous science potential and demand in Europe;

Launching essential new initiatives while reinforcing existing actions of recognised impact and added value, requires a significant increase in EU research funding. This should not be considered as a cost but as the best possible investment in Europe's future.

For some time, Framework Programmes have been oversubscribed, and an unnecessarily large number of projects of highest quality have had to be

⁹ COM(2004) 101, 26.2.2004 and COM(2004) 487, 14.7. 2004.

turned away owing purely to a lack of resources. They require a new scale of funding if this important loss of research potential is to be stopped.

At the same time, there are compelling arguments to widen the scope of the Framework Programme so as to better address areas of key or emerging importance.

4.2. A boost in FP funding will leverage national and private investments

- to help realise the 3% objective;

In parallel with increased EU Member State efforts, doubling the funding under FP7 will play a double role in the achievement of the Barcelona objective to spend 3% of GDP on research and development.

- to use its strong leverage effect on private investment;

It will send a strong message regarding the importance of seriously increasing public and private R&D investment all over Europe in accordance with the Lisbon and Barcelona objectives. Doubling the Framework Programme budget will bring total public R&D spending in the EU25 to 0,96% of GDP, close to the 1% target, and will exert a strong push on Member States to reinvigorate their efforts.

It will exert a powerful leverage effect on private investments in research and development. Each 1€ of public R&D leads to 93 eurocent of business R&D investment. This crowding-in effect is typically bigger for EU than for national funding because of higher economic multiplier effects stemming from the trans-national collaborative nature of EU supported projects, the reduction of commercial risk through involving key industrial players and by helping to ensure that results and solutions are applicable across the EU. The doubling will boost business confidence that Europe delivers on its commitments and offers an attractive future.

4.3. Doubling the R&D investment will enable the EU to meet new science and technology challenges

- to meet global challenges;

The costs of research are rising, due in particular to the increased use of expensive instruments and infrastructures. Therefore, a higher level of support is necessary in order to achieve impacts of the same size as under previous framework programmes.

New fields of science are emerging, and support should be provided to them under the FP. These are fields of science where long-term economic benefits are large, where there is a need for high-risk, high cost research and where it only makes sense to share such risks, and the rewards, at EU level. No Member State alone can realise the hydrogen economy or make nuclear fusion a reality.

4.4. EU intervention plays a vital role in making the EU research system more efficient and effective

- to reduce fragmentation of research efforts and investments;

Due to the fact that EU level intervention has a strong added value and respects subsidiarity, it can often be a more efficient and effective way of spending public money on research. European research funding allows for building a critical mass of resources, sharing knowledge and facilities across many countries, stimulating the EU-wide dissemination of results, providing a more efficient mechanism for carrying out research relating to pan-European policy challenges (such as climate change, or food safety). More EU research means less fragmentation of efforts through stronger coordination, more dissemination and more excellence through competition. In the EU around 94% of public R&D funding is allocated at the national level, whereas in the US the bulk of government R&D support is decided upon at Federal level.

4.5. A larger FP7 will reinvigorate the Lisbon strategy

- and to boost growth and jobs.

The impact of doubling EU research budgets on economic growth for the EU as a whole is decisively positive. Economic models used for assessing the impact of the proposed 7th Framework Programme¹⁰ show that doubling the budget will generate additional growth each year, leading to an expected increase in the level of GDP of between 0,5% and 1% in 2030 (over and above the business-as-usual scenario of moderate growth in FP funding). According to these models, almost 1 million additional jobs would be created in the same period and the EU's competitiveness would be raised: by the year 2030, extra-EU exports increase, by approximately 0.6%, while imports decrease, by up to 0.3% over and above a business-as-usual scenario for the Framework Programme.

In terms of social impacts, a strengthened framework programme will further enhance progress in fields such as health, safety, the valorisation of human capital and the creation of a European labour market for knowledge workers. In terms of environmental impacts, it will help improving natural resources management, identifying win-win technologies and progressing in understanding and predicting the environment.

¹⁰ SEC(2005) 430: Impact Assessment and ex-ante evaluation for the proposal for the Council and European Parliament decisions on the 7th Framework Programme.

5. LINING UP WITH THE “LISBON OBJECTIVES”

Achieving the Lisbon objective is difficult to envisage without a drastic increase of “investment/growth enhancing” spending at EU level. As such, it requires the development, within a fully deployed European Research Area, of a good European research, technology and innovation policy.

The 7th Framework Programme is conceived to become the backbone in the construction of a European knowledge economy. It spans, for the first time, a period of seven years, which gives a new perspective and strength, in particular due to its synchronisation and close links with all growth-supportive actions in the new financial perspectives. Based on an external assessment, the Commission may at mid term propose amendments to the Framework Programme and review its management arrangements. The combination of a longer duration with the possibility of mid term review provides for continuity and flexibility at the same time.

Given the appropriate level of resources, streamlined and made more researcher-friendly in its implementation, the 7th Framework Programme will be key to help build the ERA of knowledge for growth.

7th Framework Programme of the European Community (EC) (Maximum overall amount¹¹ (EUR million), respective shares and indicative breakdown, 2007-2013)											
COOPERATION	Themes	Health	Biotech, Food, Agriculture	Information Society	Nano, Materials, Production	Energy	Environment	Transport	Socio-economic Research	Security and Space	44 432
	• Using all funding schemes, including international co-operation	8 317	2 455	12 670	4 832	2 931	2 535	5 940	792	3 960	
IDEAS	European Research Council										11 862
PEOPLE	Marie Curie Actions										7 129
CAPACITIES	Research Infrastructures										3 961
	Research for the benefit of SMEs										1 901
	Regions of Knowledge										158
	Research Potential										554
	Science in Society										554
	International Co-operation										358
JRC	Joint Research Centre										1 817
TOTAL EC	Total										72 726
EURATOM (2007-2011)¹²											3.092

¹¹ All amounts at current prices calculated on the basis of fixed 2004 prices.

¹² The 7th framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011) comprising fusion energy research, nuclear fission and radiation protection and the Nuclear activities of the JRC. The total budget is EUR 3.092 million for the five years whereof the JRC EUR 539 million.