

**Ad hoc analysis of the European Commission's draft
concept for the seventh Framework Programme
(Snapshot, Status April 11, 2005)**

Concept, perspectives and requirements

Executive Summary of a Study for
The Greens / European Free Alliance
in the European Parliament

- Status April 11, 2005 -



Proneos GmbH
Limburger Straße 33
D-65520 Bad Camberg
Germany

Table of Contents

0. Executive summary..... 1

Important Notice:

- This study is a “snapshot”, summarising the current status (as of April 11, 2005) of the European Commission’s concept for the Seventh Framework Program (FP7) and of the public debate of this proposal. It is based on public information available until April 8, 2005. Because of the short time scale which did not permit extensive verification, information and sources were used on an ‘as is’ base.
- Currently the FP 7 concept is “work in progress”. Further political and public debate, revisions and further detailing are expected between now and 2006, the planned launch date. Due to this situation, significant changes of objectives, structure, thematic priorities, instruments, etc. relative to the current status described in this document may occur.
- The analysis is based on publicly available information, except where stated differently in the text. Therefore certain assumptions had to be made and inconsistencies between different sources may occur. We have done our best to identify and use all important sources of information, but we can not guarantee the quality of all data used.
- In addition, this study focuses on those aspects of FP 7 which are of special relevance for policy discussion and for the political goals of The Greens /European Free alliance (EFA), who have commissioned the study. Therefore it is by no means intended to serve as a comprehensive description of FP7 and all of its elements and framework conditions.

0. Executive summary

In its draft of the 7th Framework Programme the European Commission proposes to boost investment in research

April 6, 2005, the European Commission presented its proposal for the 7th Framework Programme of the European Community for research, technological development and demonstration activities (FP7) with the following key elements:

- A substantial **increase of the European research budget** is proposed, raising the level of research funding from approx. 17 Billion Euro under the current sixth Framework Programme (FP6) to 73,215 Billion Euro for the period 2007-2013¹.
- To enhance **continuity** of research, a duration of 7 years is proposed for FP7 (with the possibility of a midterm review). The proposed FP7 builds to a large extent on a continuous development of research themes and instruments already proven under its predecessor Framework Programmes in pursuit of the European Research Area (ERA) and develops them further. Collaborative projects, undertaken by consortia of European partners, will remain at the core of the programme. This will be accompanied by a portfolio of other measures to build the European research area of knowledge for growth. It is proposed to use funds to develop and increase those elements of previous programmes that worked well, e.g. Marie Curie, SME actions, collaborative projects, Networks of Excellence.
- The proposed programme structure regroups activities in **four specific programmes**²:
 1. **Cooperation** (44,735 Billion. Euro = 61,1% of FP7 budget)
Support will be provided for research activities carried out in trans-national cooperation, from collaborative projects and networks to the coordination of national research programmes, to gain European leadership in key areas through co-operation of industry and research institutions. The Cooperation programme is organised into sub-programmes which will be operationally autonomous and at the same time demonstrate coherence and consistency, and allow for joint, cross-thematic approaches to research subjects of common interest.
The restructured and extended portfolio of **thematic research areas** covers now nine research areas: Health, food, agriculture and biotechnology, Information and communication technologies, nanosciences and nanotechnologies, materials and new production technologies, energy, environment (including climate change), transport (including aeronautics), socio-economic sciences and the humanities, security and space. In addition, two themes are covered by the Euratom Framework Programme: Fusion energy research and nuclear fission and radiation protection.
 2. **Ideas** (11,942 Billion Euro = 16,3% of FP7 budget)
To strengthen the excellence of our science base by fostering competition at European level, an autonomous European Research Council shall be created. This ERC will support investigator-driven "frontier research" carried out by research teams, either individually or in partnership, competing at European level, in all scientific and technological fields, including natural sciences, engineering, socio-economic sciences and the humanities, etc..
 3. **People** (7,178 Billion Euro = 9,8% of FP7 budget)
To strengthen career prospects and mobility for researchers' activities, the support for individual researchers, referred to as "Marie Curie" actions, shall be reinforced with the aim of strengthening the human potential of European research through training, mobility and the development of European research careers.

¹ plus 3,103 Billion Euro for nuclear research under the Euratom FP7 (raised from 1,230 Billion Euro under Euratom FP6)

² plus non nuclear activities of the Joint Research Centre, accounting for 1,824 Billion Euro (2,5% of FP7 budget)

4. Capacities (7,536 Billion. Euro = 10,3% of FP7 budget)

With the objective that the European science community has the best possible capacities at its service, activities shall be supported to enhance research and innovation capacity throughout Europe. Support will be provided for research infrastructures, regional research driven clusters; the stimulation of the research potential in the EU's "convergence" regions; clustering of regional actors in research to develop "regions of knowledge"; research for and by SMEs; "science in society" issues and horizontal activities of international co-operation.

- According to the Commission, FP7 will have more focus than in the past on developing **research that responds to the needs of European industry** for example through the work of Technology Platforms and the new "Joint Technology Initiatives". These will be projects in fields of major **European public interest** on subjects identified through dialogue with industry, in particular in the European Technology Platforms. By **focussing more on themes and less on instruments**, the programme will be more flexible and adaptable to the needs of industry, as well as more straightforward for its participants.
- To implement FP7, the Commission announces significant **simplifications of the administrative and financial rules and procedures** of FP7 through a series of measures, including the rationalisation of funding schemes (new approach based on a simpler set of funding instruments), simpler, less bureaucratic languages (free of jargon and user friendly), reduction of the number and size of documents, reduction of the number of request to participants, instituting a light submission procedure, reduction of a priori controls (i.e. controls before the project is approved), increased autonomy of consortia, streamlining of the selection process and exploration of new modes of funding and simplifying the cost-based funding system.

The FP7 proposal to boost European research investment is a step in the right direction

A recently published Five Year Assessment of the EU's Research Framework Programmes 1999-2003 points out that "...Europe is, increasingly, falling behind its main competitors. Europe's performance, in terms of growth, productivity and job creation is not sufficient to maintain prosperity in the future...". The same source concludes: "In order to reverse the trends, Europe – the EU and the Member States together – must take coordinated actions to meet four key challenges: To attract and reward the best talent, create a high-potential environment for business and industrial RTD, mobilise resources for innovation and sustainable growth, build trust in science and technology." In view of this challenge the European Commission has announced its proposal to boost research funding at the European Level through FP 7 in order to reach the targeted increase of the European research effort to 3% of the EU's GDP by 2010 (defined at the Barcelona European Council of March 2002). Two-thirds of this investment should come from private investment and one-third from the public sector.

Today, at a current investment of 1,96% of the European Union's GDP in research and development, the European research effort lags behind the efforts of the United States (2,59%), Japan (3,12%) and Korea (2,9%). 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. With the proposed FP7 budget, public sector funding will move towards its 1% goal and it is hoped that this will stimulate the necessary significant additional private sector R&D investment.

Will FP7 meet the expectations?

Several recent reports indicate that Europe has not made the desired progress towards the Lisbon targets. The 'Kok Report' confirms the disappointing delivery of the strategy and concludes that while all three pillars of the Lisbon strategy – economic, social and environmental – remain valid, the priority for Europe now is to boost its economic growth rate and to increase employment. Other reports point out that European innovation performance is overall

stagnating and that the private sector investment in research and development is far from reaching the '2% target'.

Despite this disappointing situation President Barroso has confirmed recently the dedication to reach the Lisbon objectives through rigorous focussing on economic growth and employment and commitment to invest in Europe's research base and innovation capability.

FP7 is at the heart of this effort and its success is a 'must'. However this raises questions:

- Will the increased public sector research investment under FP7 realize its target to stimulate the necessary sustainable private sector research investment? The current FP7 proposal is based on this implicit assumption, drawing on typical 'crowding in' effects, documented in literature, etc. But as a location for industrial research, Europe competes today increasingly with other regions with equal competencies and partially lower cost structures. Therefore in its further detailing FP7 should become more explicit about how leveraging of public sector investment through private sector R&D spending will be achieved. Closing the research investment gap is crucial for the success of FP7 and of the Lisbon strategy.
- Does FP7 focus on those research areas where the highest leverage can be achieved? Some of the proposed research areas address obvious 'hot spots', but others still need to prove their potential to contribute to the Lisbon objectives and other EU policy targets, for example because they are still too young and their concept not sufficiently elaborated (as is the case for example for security research) or because their expected 'payback' will only be realised significantly later than 2010, the date of the 'Lisbon objectives' (as is the case for example for Nuclear Fusion).
- FP7 focuses on research areas which are perceived as the most demanding in terms of their dynamics, technology intensity and innovation requirements. However other sectors, for example manufacturing industries with less 'high tech' character or the service sector, also rely on sustained research efforts, even if innovation takes place in a more 'quiet' way. And many of those sectors are important contributors to European GDP and employment.
- Will the described focussing have an effect on the richness and diversity of the European research landscape and/or create an imbalance between the three pillars of the Lisbon strategy – economic, social and environmental? Does Europe have to sacrifice social or environmental research objectives? Can we afford to pursue them all?
- Existing imbalances in research intensity and potential across the EC have been further sharpened through the extension to 25 members. If the defined criterion of 'excellence' would be applied consequently, FP7 would have to ignore these aspects, thus maybe contributing to a 'research divide', where the strong will be further strengthened and the weak can not receive the necessary help to catch up. To deal with this, FP7 contains some elements with a cohesion policy character. However it is feared that these efforts will not have a critical mass to induce lasting change while at the same time preventing a clear interface with cohesion and regional policy measures whose primary responsibility this is.

Size and structure of the FP7 budget: More transparency necessary

Even if the need to boost investment in European research through FP7 is undoubted, it is not fully transparent from the outside how the FP7 budget and its allocation to priorities in the Commission's proposal have been reached. Apparently the overall budget brings public sector research investment significantly closer to the '1% objective'. But all already existing research areas grow at approximately the same rate; major shifts in priority are not visible.

Therefore a qualified evaluation of the proposed overall budget size and allocation to programmes will only be possible once more details are known in the course of further detailing and of the ongoing policy debate.

FP7 is addressing the right issues – but must be consequent in setting priorities

Based on available information, a first ad hoc analysis of the FP7 programmes shows:

- Allocation of >60% of FP7 budget to **cooperative research** addresses the priority objective of gaining leadership in key scientific and technology areas through a range of research activities performed in trans-national cooperation between universities, industry, research centres and public authorities across the European Union as well as with the rest of the world. This form of collaborative research has proven to be efficient and should remain the main pillar of European research.
- The allocation of approx. 16% of the FP7 budget to investigation driven research, funded by the ERC, is newly introduced to the Framework Programme concept under the **Ideas** programme. Its efficiency and effects are difficult to evaluate in advance, because the ERC concept is still under discussion. There are valid arguments for establishing an instrument to stimulate investigation-driven research on a European level. But several conditions should be observed:
 - It should clearly focus on research themes where the European dimension adds significant value, ERC funding should not compete with national programmes in the same area.
 - The ERC should establish transparent and efficient instruments to secure (1) the 'excellence' criterion in funding decisions for projects, (2) the efficient management of projects funded and of the ERC's portfolio of projects, and (3) a consequent documentation, evaluation and dissemination of results achieved.
 - Detailed proposals for governance of the ERC, project selection criteria, etc. will only be available later this year. These should be discussed with all stakeholders in European research to ensure that investigation driven research does not take place in an 'ivory tower'³.
 - Based on the available information it is also impossible to make a credible statement whether the proposed amount of funds for the Ideas programme (11.942 Mio. Euro) is appropriate. Are there currently unmet funding needs of the scientific community in this order? Are there enough potential projects fulfilling the 'excellence' and other relevant criteria? Can undesired structural effects happen (e.g. diversion of excellent research capacities, redundancies with national priorities and programmes)?
- Continuous development and further enhancement of the Marie Curie actions under FP6 in the new **People** programme of FP7 apparently addresses one of the key levers for securing the future science base in Europe and should therefore receive a high priority.
- For the **Capacities** programme, a differentiated view is necessary⁴:
 - The further development of and access to **research infrastructures** on a European scale is an apparent priority for the further realisation of the ERA.
 - The term 'infrastructure' should be extended beyond physical infrastructure. ICT-enabled virtual collaboration in networks and a secured and affordable access to scientific and technical information and literature merit growing attention and should be addressed by FP7.
 - **Research for the Benefit of SMEs** can be a powerful instrument to create leverage from FP7 for SMEs which play a key role for European competitiveness, innovation performance and employment. But this requires a specific approach to meet their particular needs, time horizon and limited resource base to perform own research.

³ For example through research programme review involving different stakeholders from the public and private sector, a partially problem oriented structure of the ERC funding, calls for proposals addressing actual challenges, etc.

⁴ The question of 'excellence' vs 'cohesion' criteria for the **Research Potential** and **Regions of Knowledge** priorities has already been discussed and it not repeated here.

- Beyond the creation of a favourable societal climate, **Science in Society** should stimulate a 'two way communication' which enhances the understanding and acceptance of scientific work and its results in European Societies. Issues, where research and its results may be conflicting with what society desires and is willing to accept, should be identified and a consensus oriented dialogue should be initiated⁵.
- As an important gateway between Europe and its partners the Activities of **international Co-operation** should be further pursued in the described way.
- In close coordination with other policy measures the future FP 7 structure must ensure **integrated approaches and seamless innovation chains** through a balance between a dedicated investment in the further development of the ERA and the decisive enablers of a world class European research landscape and creation of the necessary momentum to build European leadership through breakthrough innovations in key sectors as a basis for future growth and economic performance and for achieving the Lisbon objectives.
- The **Socio-Economic Dimension** in main FP 7 research themes should be expanded beyond its current limited exploitation to a full integration of socio-economic research components in the work programmes and 'calls for proposals'. Aspects of science and society interactions and perspectives (introduced as a separate component in FP6) should become a 'horizontal issue' applicable across all FP7 RTD programmes, and hence become embedded in EU project coverage in a similar way to those parts addressing gender and ethical issues.
- There should be room for **interdisciplinary approaches** involving more than one of the defined research areas. The driving force behind such approaches should be a 'problem solving', mission oriented approach, complementing the technology and application oriented structure of the Framework programme.
- The current focus on young research fields with high innovation dynamics and technology intensity should not prevent appropriate **support for research for the benefit of more mature sectors** to maintain European competitiveness and employment in these sectors. Despite slower overall growth rates, in such sectors often 'silent revolutions' with high innovation content take place which enable improved product features, cost efficiency. etc. Sustainable competitiveness in these sectors as a basis to maintain their economic and employment contribution, merits appropriate attention also from the research side.
- During FP7 the dynamics of global research and economy may lead to shifting priorities or to the evolution of new priority research areas. The FP7 design should provide for the necessary **flexibility** to react to such changes.

In detail: Ad hoc observations and recommendations for the nine FP7 research areas⁶

1. Health (Budget = 8.373 Mio Euro; 18,7% of collaborative research; 11,4% of total FP7)

- The shift of emphasis from a technological focus towards more integrated approaches, incorporating translational research, development and validation of new therapies, methods for health promotion and prevention, diagnostic tools/technologies, and sustainable and efficient healthcare systems, has the potential to create increased leverage both for facing major challenges of European societies and for creating economic and employment benefits in the industries of the health sector.
- From a purely scientific and technological perspective, the FP7 approach, in line with the ECLS recommendations forms a good basis for shaping the EU's future research strat-

⁵ Examples like stem cell research, nuclear energy, etc. demonstrate how otherwise in some countries research and policy get stalled by the polarisation created and unresolved conflicts.

⁶ Due to the short time between the publication of the Commission's proposal (April 6) and the publication of this study (April 11), selected priority areas have been analysed in depth. Therefore they are discussed in more depth in this section

egy in the health area. In order to contribute to the development of new therapeutic approaches, especially in areas where today no efficient pharmaceutical therapies exist, FP7 should focus in particular on the bottlenecks of current drug development.

- But the resolution of ethical questions is a 'must' for moving forward – especially in the field of biotechnology! A reasonable degree of consensus in European societies is a necessary prerequisite for leadership in this area.
- Already under FP 6 a part of the research effort in Life Sciences was devoted to actions going beyond purely economic motivation⁷. These objectives should be pursued and intensified under FP 7, for example by research on therapies for poverty related and/or rare diseases.

2. Food, Agriculture and Biotechnology (*Budget = 2.472 Mio Euro; 5,5% of collaborative research; 3,4% of total FP7*)

- The extension of the FP6 priority 'Food quality and safety' to food, agriculture and biotechnology provides significantly more potential for meeting the growing challenges in these areas. Research can make important contributions to meet the demand for safer, healthier and higher quality food, for sustainable use and production of renewable bioresources, for fighting food related disorders and infectious diseases and for maintaining European competitiveness in these sectors, taking into account also animal welfare and rural contexts.
- Research in this area should focus on innovations and advancement of knowledge in the sustainable management, production and use of biological resources as basis for sustainable, eco-efficient and competitive products from agriculture, fisheries, food, health, forest based and related industries. This will require an interdisciplinary approach, combining the strengths of all relevant scientific disciplines.

3. Information and Communication Technologies (*Budget = 12.756 Mio Euro; 28,5% of collaborative research; 17,4 % of total FP7*)

- Information and Communication Technologies (ICT) play a double role: On one side they represent an important industrial sector with significant importance for European economy and employment. At the same time– in a cross cutting technology role - ICT is also an enabler for innovation in other sectors using ICT for their products and/or as a source of efficiency improvements, for example in manufacturing, supply chain, etc.
- For both reasons investment in ICT research is important for Europe. But FP7 should account for the described duality and provide stimulation of research in areas where (1) European market and technology leadership is realistically achievable and (2) where ICT plays a decisive role as enabling technology for other sectors with high importance for European economy.

4. Nanosciences, Nanotechnologies, Materials and new Production Technologies (*Budget = 4.865 Mio. Euro; 10,9 % of collaborative research; 6,6% of total FP7*)

Nanosciences, Nanotechnologies, Materials

- As one of the most important cross cutting technology areas with a high potential impact on many industrial and technology sectors, nanotechnology and materials should receive a high priority in FP 7. This initiative should balance nanotechnology and 'conventional' new materials research and ensure integration in the global nanotechnology/materials research community.

⁷ For example the FP 6 'Research strategy to poverty-related diseases: HIV, Malaria and Tuberculosis' or the European & developing countries clinical trials partnership – EDCTP'

- This requires an integrated research strategy, involving basic research, developers/producers of advanced materials and users. Research strategy must balance two major objectives: (1) Strengthening the European research base for the further development of knowledge and the exploration of new effects, principles, materials, etc.; (2) Acceleration of the transformation of knowledge and results generated in research into successful technologies and products, especially in sectors where advance in materials research enables innovation in research and application fields using innovative materials. A sound balance between a materials orientation (focussing on scientific breakthroughs in materials/ nano research) and an application orientation (translating the potential of nanosciences and materials into added value for sectors applying new materials, etc.) should therefore be sought.
- These scientifically and technologically oriented research strategies should be complemented by research in the field of possible health and environmental effects to address existing concerns and by technology foresight work, addressing the high complexity and unpredictability of technologies, global competition, markets and technologies in the nanoscience sector.

New production technologies

- Innovative production technologies have a growing importance as a cross-cutting enabling technology for maintaining competitiveness in sectors of the manufacturing industries and of SMEs with a high importance for European economy. In the light of growing global competition and of the current trend towards relocation of manufacturing to low cost countries, the EC should take the initiative to develop a leading role in driving the necessary industrial transformation. Dedicated research in new production technologies can make an important contribution to avoid further loss of economic growth and employment potential in the manufacturing sectors.
- To account for this importance, new production technologies should not be positioned as an 'additional item' in the materials/nanoscience research area, but a positioning as an own research programme with a dedicated structure and budget should be considered.
- Research into innovative manufacturing solutions with the potential to reduce pollution, hazards, waste and resource consumption could also make contributions to progress on the other pillars of the Lisbon strategy, especially environmental.

5. Energy (Budget = 2.951 Mio Euro; 6,6% of collaborative research; 4,0% of total FP7)

- To meet the challenges of alarming trends in global energy demand, of emissions with devastating consequences for climate change and of the damaging volatility of oil prices, the necessary transformation of the current fossil-fuel based energy system into a more sustainable one, based on a diverse portfolio of energy sources and carriers combined with enhanced energy efficiency, should be supported by FP7 research appropriately.
- The current FP7/Euratom FP7 proposals suggest to fund both nuclear research and non nuclear energy research. Both approaches have different potential and time horizons:
 - Many of the technologies in the renewable energies and sustainable energy systems sector are at the border of large scale commercialization with rapidly growing markets and reduced dependency on subsidies. This creates rapidly growing, competitive markets and employment potential and at the same time a critical mass for commercialisation of new, innovative technologies with a high potential to reduce greenhouse emissions, use of natural resources, etc.
 - Nuclear fusion is a much more longer term option with the expectation of providing reliable energy supply only in several decades, presumably not before the second half of the century, but without short term impact, neither on energy supply nor on job creation, economic growth and fulfilment of ecological/emission targets.

- As the current generation of nuclear power plants will reach the end of its lifetime, research into new, safer nuclear fission concepts is proposed by the Commission. But already in the short term, solutions are needed for current issues like final disposal of radioactive waste, etc.
- Research strategies
 - The further development of renewable energies and of sustainable energy systems requires a portfolio of specific research strategies to enhance (1) research on fundamental elements and (2) transfer to commercially viable technologies and products. Further research needs are manifold, but mostly with sizeable needs for individual research and innovation targets.
 - Nuclear fusion development will continue to require a highly concentrated, long term multi billion Euro "heavy weight" research program to work towards an expected technological breakthrough in an international co-operation. To get leverage from this investment, the commitment of a significant budget over an extended period will be required, far beyond the currently planned FP7 research investment.
 - Research in nuclear fission has several aspects: Current issues concerning existing nuclear power plants, etc. require short term solutions for final disposal of radioactive waste, nuclear safety, etc. Research investment in the future ability of European industry to build new generations of nuclear power plants to develop the necessary technologies is only useful if the EC's and the member states' energy policies support the construction and use of new nuclear power plants⁸ The decommissioning of nuclear power plants after having reached the end of their lifetime is becoming an issue of growing importance. Experience so far shows that there is a high need to invest further in the development of technologies for certain tasks in this area and for an efficient diffusion of know how generated.
- In view of the potential of renewable energies to create economic value and employment and to contribute at the same time to the fulfilment of ecological and energy policy targets, the position of renewable energy related research should be further strengthened. A leading position of European research and industry in the dynamic technological environment of renewables and in the rapidly growing commercial markets with should be secured against fierce global competition.

For this purpose research efforts at European level should be increased to create a critical mass of research capability and initiatives in key areas. Such key areas should be chosen as a function of their technological, economical and ecological potential in all relevant steps, including generation, transformation, storage, consumption, etc.

- To realise this, a dedicated own programme element with a significant budget, addressing the specific research needs of the renewables sector and integrating all necessary skills where necessary (ranging from materials, e.g. for Photovoltaics via manufacturing technologies to systems integration and supporting socio-economic research) should be established under FP7.

6. Environment (including Climate Change) (Budget = 2.552 Mio Euro; 5,7% of collaborative research; 3,5% of total FP7)

- Europe has a favourable position in environmental research, technologies and markets. Strengthening this position is essential for the implementation of its environmental objectives, for fulfilling its international commitments and for realising their economic and employment potential. In addition, Europe is facing important environmental challenges.

⁸ Decisions in this area involve a complex set of aspects of energy policy, nuclear safety, etc., going beyond the research policy scope of this study.

- Therefore sustainable management of the environment and of its resources and the development of technologies and integrated approaches for this purpose should be supported through the proposed FP7 programme. The focus should be on advancing knowledge on the interactions between the biosphere, ecosystems and human activities, and on developing new technologies, tools and services, in order to address in an integrated way global environmental issues.
- 7. Transport (including Aeronautics)** (*Budget = 5.981 Mio Euro; 13,4% of collaborative research; 8,2% of total FP7*)
- The transport sector is both an important contributor to European GDP and employment and a major source of emissions, responsible for 25% of all CO₂ emissions. Therefore innovative transport approaches and technologies with the potential to ensure safe and reliable transport in a converging Europe are of high importance.
 - Research in this area should focus on technological advances for integrated, “greener” and “smarter” pan-European transport systems for the benefit of the citizen and society, respecting the environment and natural resources; and securing and further developing the leading role attained by the European industries in the global market.
 - Research in this area should go beyond technological development and include also interdisciplinary approaches to integrated transportation systems, use of modern ICT-based communication, telematics, etc. and also address questions of growing importance for society (e.g. safety).
- 8. Socio-economic Sciences and the Humanities** (*Budget = 798 Mio Euro; 1,8% of collaborative research; 1,1% of total FP7*)
- An in-depth, shared understanding of the complex and interrelated socioeconomic challenges Europe is confronted with is a necessary prerequisite for efficient policy making. The positioning of Socio-economic Sciences and the Humanities as an own research priority with a dedicated budget is an important step in this direction.
 - Beyond this, research in this area can also contribute to research in other areas of FP7, working on some of Europe's major challenges. Research areas like health, energy, etc. move towards a more system drive problem solving approach, which requires in depth understanding of underlying socio-economic and other issues. Therefore the research potential in Socio-economic Sciences and the Humanities should be exploited in interdisciplinary projects and teams with a maximum of integration in such research areas addressing important challenges facing European societies⁹.
- 9. Security and Space** (*Budget = 3.987 Mio Euro; 8,9% of collaborative research; 5,4% of total FP7*)
- It is surprising to see both research areas united in one programme as there are very limited communalities and synergies between them.

Space research

- The European Space Policy and the framework agreement with ESA create an important binding commitment of the EC to Space research. Therefore space applications research will continue to be funded under the Framework Programme.
- FP7 funding should be focussed on research fields which are not covered by other programmes (e.g. ESA) and on fields of high application relevance. As an alternative, these could be funded via the respective application areas where appropriate.

⁹ If such a contribution is not possible on the basis of funds currently planned for this element, an extension should be considered. As an alternative, funding of socio-economic/humanities research in such areas could also be provided by the respective thematic programme elements.

- Beyond these general considerations it is not possible to make specific recommendations here, because publication of a detailed structure of future space research under FP 7 is still due. A comprehensive European Space Policy will only be endorsed in the course of 2005. Discussion should be taken up again after publication of more tangible proposals for this research area.

Security

- In view of current threats and recent events, making the potential of modern technology available for European security needs is an attractive approach. But the dividing line between defence and civil research, the absence of specific frameworks for security research at the EU level; the limited cooperation between Member States and the lack of coordination among national and European efforts hinder the development.
- Current considerations are mostly based on a technology driven use of the term 'security research', highlighting technologies for security of persons, infrastructure, etc. against terrorism and other threats. In a wider definition, 'security' might also include for example efficient measures against pandemic diseases or natural disasters like the recent surge catastrophe in Asia, etc. Experience with typical recent threats and events shows also that efficient security strategies often require complex, integrated approaches, combining the potential of advanced technologies for example with socio-economic approaches, political sciences, etc. Therefore the programme should emphasise interdisciplinary approaches.
- As a detailed security research strategy will only be available later this year, it is difficult to evaluate the proposed overall budget and strategy and its value at this point in time. But several questions need to be answered:
 - Will the research priority be on using technology as a 'force enabler' for a secure Europe, emphasizing Europe's security needs – or should priority be given to the Lisbon objectives, emphasizing the competitiveness of the European security and defence industry and its potential to create economic growth and employment in the world markets for security technologies?
 - How is the overall size of the budget for this research area justified and how will it be allocated to research priorities?
 - Is the proposed security research approach compatible with European values and ethical standards (for example in view of the close relationship between civilian and military technologies). Will it find the necessary public acceptance?

Instruments and implementation

Overall the European Commission's proposal for implementation of FP7 seems to meet most of the identified weaknesses and suggestions for improvement at this stage. For the success of FP7 it will be vital that these guidelines are now implemented consequently.

Particular attention should be paid to the following issues:

1. Instruments applied

The proposed priority of research themes over instruments is a step in the right direction. Flexibility in the application of instruments should make sure that excellent proposals for attractive research can be formulated on the basis of what support the specific project needs and of which support it needs while being carried out.

For this purpose the proposed simplification of instruments and funding schemes is essential. Reduced complexity should contribute to more efficient administrative processes as well as to increased attractiveness and accessibility for potential participants.

Financial instruments used in FP7 must be coherent and compatible with relevant other programmes (e.g. TEN, EAFRD, and the Education and Training programmes) and should be applied in a mutually supportive and not in a competing way.

For specific target groups with particular needs – in particular SMEs – instruments, type of projects funded, etc. must be adapted to enhance attractiveness and leverage for them.

2. Operative implementation

The measures proposed for streamlining administrative processes and for partial externalisation of programme management should be implemented consequently.

3. Accessibility

Special attention should be paid to easy and efficient access of potential participants. In the past potential participants often have refrained from participation because of (perceived) level of effort in the application phase and/or lack of knowledge about available funding.