Amendment 73

Annex III, paragraph 5, bullet 2

— The eligibility of large European RTD actions. By default, the development of research infrastructures funded by the Community under this Specific Programme shall be automatically eligible. Other research infrastructures could also be considered. In accordance with the regulation adopted pursuant to Article 167 of the Treaty, the grant agreement will also establish procedural modalities and will guarantee to the Community the possibility to veto under certain circumstances the use of the grant for provisioning a loan proposed by the EIB.

— The eligibility of European RTD actions. By default, the development of research infrastructures funded by the Community under this Specific Programme shall be automatically eligible. Other research infrastructures could also be considered. Irrespective of their size, applicants (including SMEs) may benefit from this instrument to finance their activities. In accordance with the regulation adopted pursuant to Article 167 of the Treaty, the grant agreement will also establish procedural modalities and will guarantee to the Community the possibility of vetoing under certain circumstances the use of the grant for provisioning a loan proposed by the EIB.

P6_TA(2006)0521

Specific Programme ‘Cooperation’ (Seventh RTDD Framework Programme, 2007-2013) *


(Consultation procedure)

The European Parliament,

— having regard to the Commission proposal to the Council (COM(2005)0440) (1) and the amended proposal (COM(2005)0440/2) (1),

— having regard to Article 166 of the EC Treaty, pursuant to which the Council consulted Parliament (C6-0381/2005),

— having regard to Rule 51 of its Rules of Procedure,

— having regard to the report of the Committee on Industry, Research and Energy and the opinions of the Committee on Budgets, the Committee on Transport and Tourism, the Committee on Agriculture and Rural Development and the Committee on Culture and Education (A6-0379/2006),

1. Approves the Commission proposal as amended;

2. Considers that the indicative financial reference amount indicated in the legislative proposal must be compatible with the ceiling of heading 1a of the financial framework for 2007-2013 and points out that the annual amount will be decided within the annual budgetary procedure in accordance with the provisions of point 38 of the Interinstitutional Agreement between the European Parliament, the Council and the Commission on budgetary discipline and sound financial management of 17 May 2006 (2);

(1) Not yet published in OJ.
3. Calls on the Commission to alter its proposal accordingly, pursuant to Article 250(2) of the EC Treaty;

4. Calls on the Council to notify Parliament if it intends to depart from the text approved by Parliament;

5. Asks the Council to consult Parliament again if it intends to amend the Commission proposal substantially;

6. Instructs its President to forward its position to the Council and Commission.

TEXT PROPOSED
BY THE COMMISSION

AMENDMENTS
BY PARLIAMENT

Amendment 1
Recital 4

(4) The Framework Programme should complement the activities carried out in the Member States as well as other Community actions that are necessary for the overall strategic effort for the implementation of the Lisbon objectives, alongside in particular those on structural funds, agriculture, education, training, competitiveness and innovation, industry, health, consumer protection, employment, energy, transport and environment.

Amendment 2
Recital 4a (new)

(4a) Under this Specific Programme, special consideration should be given to multidisciplinarity and interdisciplinarity, in accordance with the recommendations of the European Union Research Advisory Group (EURAB 04 009 of April 2004) and the European Parliament resolution of 10 March 2005 on science and technology — Guidelines for future European Union policy to support research (1).


Amendment 3
Recital 4b (new)

(4b) This Specific Programme should focus in particular on the transfer of knowledge, results and technologies from the public research sector to businesses, particularly SMEs, and on mechanisms to ensure that business needs are passed on to research teams in an effective and coordinated manner.
<table>
<thead>
<tr>
<th>Amendment 4</th>
<th>Recital 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(5) <strong>Innovation</strong> and SME-related activities supported under this Framework Programme should be complementary to those undertaken under the Framework Programme for Competitiveness and Innovation.</td>
<td></td>
</tr>
<tr>
<td>(5) <strong>This Specific Programme should focus in particular on ensuring appropriate involvement by SMEs in all programme actions and projects. Maximum synergy and complementarity should be sought between innovation and SME-related activities supported under this Specific Programme and those undertaken under the Framework Programme for Competitiveness and Innovation and other Community programmes and actions.</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Amendment 5</th>
<th>Recital 5a (new)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(5a) This Specific Programme should take due account of the important role played by regions in implementing the European Research Area, as is acknowledged by the Commission in its communication on the regional dimension of the European Research Area (COM(2001)0549).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Amendment 6</th>
<th>Recital 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>(7) This Specific Programme should contribute to the grant to the European Investment Bank for the constitution of a 'Risk-Sharing Finance Facility' in order to improve access to EIB loans.</td>
<td></td>
</tr>
<tr>
<td>(7) This Specific Programme should contribute to the grant to the European Investment Bank for the constitution of a 'Risk-Sharing Finance Facility' in order to improve access to EIB loans. <strong>Similarly, the Specific Programme should provide an equal amount of financial support with a view to covering the risks arising from SME involvement in projects, sparing them the need to provide bank guarantees.</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Amendment 7</th>
<th>Recital 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>(8) As provided for under Article 170 of the Treaty, the Community has concluded a number of international agreements in the field of research and efforts should be made to strengthen international research cooperation with a view to further integrating the Community into the world-wide research community. Therefore, this Specific Programme should be open to the participation of countries having concluded agreements to this effect and should be also open on the project level, and on the basis of mutual benefit, to the participation of entities from third countries and of international organisations for scientific cooperation.</td>
<td></td>
</tr>
<tr>
<td>(8) As provided for under Article 170 of the Treaty, the Community has concluded a number of international agreements in the field of research and efforts should be made to strengthen international research cooperation with a view to further integrating the Community into the world-wide research community. Therefore, this Specific Programme should be open to the participation of countries having concluded agreements to this effect, should also strengthen cooperation with countries which have not concluded agreements to this effect, and should also be open on the project level, and on the basis of the common good and mutual benefit, to the participation of entities from third countries and of international organisations for scientific cooperation.</td>
<td></td>
</tr>
</tbody>
</table>
Amendment 8

Recital 9

(9) Research activities carried out within this programme should respect fundamental ethical principles, including those which are reflected in the Charter of Fundamental Rights of the European Union.

(9) Research activities carried out within this programme should respect fundamental ethical principles, including those which are reflected in the Charter of Fundamental Rights of the European Union and confirm the civic and humanistic value of research, with due regard for ethical and cultural diversity.

Amendment 9

Recital 9a (new)

(9a) This Specific Programme should take due account of the important role of universities in ensuring true excellence in scientific and technological research, in the establishment of the European Research Area, as is acknowledged in the Commission communication on the role of universities in the Europe of knowledge (COM(2003)0058) and in contributing to the development of a knowledge society.

Amendment 10

Recital 10

(10) The Framework Programme should contribute towards promoting sustainable development.

(10) This Specific Programme and the Seventh Framework Programme as a whole should contribute towards promoting sustainable development.

Amendment 11

Recital 10a (new)

(10a) This Specific Programme should contribute to scientific and technological dissemination, with a view to bringing science and technology closer to society.

Amendment 12

Recital 11


(11) The Commission should undertake to ensure sound financial management of the Seventh Framework Programme and this Specific Programme and the implementation of both should be ensured in the simplest and most effective manner possible, as well as transparency, clarity and ease of access for all participants, in compliance with Council Regulation (EC, Euratom) No 1605/2002 of 25 June 2002 on the Financial Regulation applicable to the general budget of the European Communities, Commission Regulation (EC, Euratom) No 2342/2002 of 23 December 2002 laying down detailed rules for implementation of the Financial Regulation and any future amendments.
Amendment 13

The Specific Programme shall support the activities for ‘Cooperation’ supporting the whole range of research actions carried out in trans-national cooperation in the following thematic areas:

(a) Health;
(b) Food, Agriculture and Biotechnology;
(c) Information and Communication Technologies;
(d) Nanosciences, Nanotechnologies, Materials and new Production Technologies;
(e) Energy;
(f) Environment (including Climate Change);
(g) Transport (including Aeronautics);
(h) Socio-economic Sciences and Humanities;
(i) Security and Space.

Amendment 14

Article 3a, paragraph 1 (new)

Article 3a

1. The Commission shall take all necessary steps to verify that the actions financed are carried out effectively and in compliance with the provisions of Regulation (EC/Euratom) No 1605/2002.

Amendment 15

Article 3a, paragraph 2 (new)

2. The overall administrative expenditure of the Specific Programme, including internal and management expenditure for the executive agency which it is proposed to set up, should be proportional to the activities undertaken under the Specific Programme and is subject to the decision of the budgetary and legislative authorities.

Amendment 16

Article 3a, paragraph 3 (new)

3. Budget appropriations shall be used in accordance with the principle of sound financial management, namely in accordance with the principles of economy, efficiency and effectiveness, as well as the principle of proportionality.
Amendment 17
Article 4, paragraph 1

1. All research activities carried out under the Specific Programme shall be carried out in compliance with fundamental ethical principles.

Amendment 18
Article 5a (new)

Article 5a

The Commission shall provide prior information to the budgetary authority whenever it intends to depart from the breakdown of expenditure stated in the remarks in and annex to the annual budget.

Amendment 19
Article 6, paragraph 3

3. The work programme will specify the criteria on which proposals for indirect actions under the funding schemes shall be evaluated and projects selected. The criteria will be those of excellence, impact and implementation and within this framework additional requirements, weightings and thresholds may be further specified or complemented in the work programme.

Amendment 20
Article 7, paragraph 2

2. The procedure laid down in Article 8(2) shall apply for the adoption of:

Amendment 21
Article 8

1. The Commission shall be assisted by a Committee.

2. Where reference is made to this paragraph, the management procedure laid down in Article 4 of Decision 1999/468/EC shall apply, in compliance with Article 7(3) thereof.

3. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply.

2. The regulatory procedure with scrutiny laid down in Article 8(3) shall apply for the adoption of:

3. Where reference is made to this paragraph, Articles 5a (1)-(4) and Article 7 of Decision 1999/468/EC shall apply having regard to the provisions of Article 8 thereof.
4. The period provided for in Articles 4(3) and 5(6) of Decision 1999/468/EC shall be two months.

5. The Commission shall regularly inform the Committee of the overall progress of the implementation of the Specific Programme, and shall provide it with information about all RTD actions funded under this programme.

Amendment 22
Annex I, Introduction, paragraph 2

The overarching aim is to contribute to sustainable development within the context of promoting research at the highest level of excellence.

Amendment 23
Annex I, Introduction, paragraph 2a (new)

In the case of university-industry partnerships, the Commission will undertake to disseminate the results of basic and applied research, where these are of public interest and directed to the common good.

Amendment 24
Annex I, Introduction, paragraph 3, point (9)

(9) Security and space.

Amendment 25
Annex I, Introduction, paragraph 5

The principle of sustainable development and gender equality will be duly taken into account. Furthermore, considerations of the ethical, social, legal and wider cultural aspects of the research to be undertaken and its potential applications, as well as socio-economic impacts of scientific and technological development and foresight, will where relevant form a part of the activities under this Specific Programme.

The principle of scientific and technological excellence must underlie the entire Seventh Framework Programme. Furthermore, considerations of the ethical, social, legal and wider cultural aspects of the research to be undertaken and its potential applications, as well as socio-economic impacts of scientific and technological development and foresight, will where relevant form a part of the activities under this Specific Programme.
Amendment 26
Annex I, paragraph 5a (new)

Special attention will be paid to enhancing cohesion between EU Member State and regions in the sphere of science and technology, with particular reference to measures to reduce the technology gap between various areas by selective boosting of the technological capacities of undertakings at all levels. To this end, Framework Programme activities will be coordinated with the action lines of other Community policies, particularly regional policy and competitiveness and innovation policy.

Amendment 27
Annex I, heading ‘Pluridisciplinary and cross-thematic research, including joint calls’, paragraph 1

Special attention will be paid to priority scientific areas which cut across themes, such as marine sciences and technologies. Pluridisciplinarity will be encouraged by joint cross-thematic approaches to research and technology subjects relevant to more than one theme. Such cross thematic approaches will be implemented, among others, through:

- The use of joint calls between themes where a research topic is clearly relevant to the activities under each of the respective themes;
- The special emphasis within the ‘emerging needs’ activity for cross-disciplinary research;
- The use of external advice from a broad range of disciplines and backgrounds for establishing the work programme;
- For policy relevant research, through ensuring coherence with EU polices;
- The use of joint calls between themes where a research topic is clearly relevant to the activities under any of the other respective themes;
- The special emphasis within the ‘emerging needs’ activity for cross-disciplinary research;
- The use of advice from researchers of recognised prestige from a broad range of disciplines and backgrounds, for establishing the work programme;
- For policy relevant research, through ensuring coherence with EU polices;

Amendment 28
Annex I, heading ‘Pluridisciplinary and cross-thematic research, including joint calls’, paragraph 2

Coordination between the themes in this Specific Programme and the actions under other specific programmes of the Seventh Framework Programme, such as those on research infrastructures in the ‘Capacities’ Specific Programme, will be ensured by the European Commission.
The continued industrial relevance of the themes will be ensured by relying, among other sources, on the work of the various ‘European Technology Platforms’. This Specific Programme will thereby contribute to the implementation of the Strategic Research Agendas established and developed by the European Technology Platforms where these present genuine European added value. The broad research needs identified in available Strategic Research Agendas are already well reflected across the nine themes identified below. The more detailed incorporation of their technical content will be reflected subsequently when formulating the detailed work programme for specific calls for proposals.

The continued relevance of the themes to the formulation, implementation and assessment of EU policies and regulations will also be ensured. This concerns policy areas such as those of health, safety, consumer protection, energy, the environment, development aid, fisheries, maritime affairs, agriculture, animal health and welfare, transport, education and training, information society and media, employment, social affairs, cohesion, and justice and home affairs, along with pre-normative and co-normative research relevant to improving the quality of standards and their implementation. In this context, platforms that bring together stakeholders with the research community to consider strategic research agendas relevant to social, environmental or other policy areas may play a role.

Emerging needs: through specific support for research proposals aiming at identifying or further exploring, in a given field and/or at the intersection of several disciplines, new scientific and technological opportunities, in particular linked with a potential for significant breakthroughs. This will be implemented through:
Amendment 32  
Annex I, heading ‘Adaptation to evolving needs and opportunities’, bullet 1, indent 1

— Open, ‘bottom up’ research on topics identified by researchers themselves to develop new scientific and technological opportunities (‘Adventure actions’) or to assess new discoveries or newly-observed phenomena which could indicate risks or problems to society (‘Insight’ (actions));

— Open, ‘bottom up’ research on topics identified by researchers themselves to develop new scientific and technological opportunities (‘Adventure actions’), or to identify at an early stage developments and trends with significant prospective applications (‘Foresight actions’), or to assess new discoveries or newly-observed phenomena which could indicate risks or problems to society (‘Insight actions’);

Amendment 33  
Annex I, heading ‘Dissemination, knowledge transfer and broader engagement’, paragraph 1, introduction

In order to strengthen the diffusion and use of the output of EU research, the dissemination of knowledge and transfer of results, including to policy makers, will be supported in all thematic areas, including through the funding of networking/brokerage initiatives, seminars and events, assistance by external experts and electronic information services. This will be implemented in each thematic area by means of:

In order to strengthen the diffusion, use and impact of the output of EU research, the dissemination and transfer of knowledge and the use of results, including diffusion to policy makers, will be supported in all thematic areas, including through the funding of networking/brokerage initiatives, seminars and events, assistance by external experts and information and consultancy services. This will be implemented in each thematic area by means of:

Amendment 34  
Annex I, heading ‘Dissemination, knowledge transfer and broader engagement’, paragraph 1, indent 2

— Offering targeted assistance to projects and consortia to provide them with access to the necessary skills to optimise the use of results;

— Offering targeted assistance to projects and consortia to provide them with access to the necessary skills and resources, particularly financial resources, to optimise the use of results;

Amendment 35  
Annex I, heading ‘Dissemination, knowledge transfer and broader engagement’, paragraph 1, indent 3

— Specific dissemination actions which take a proactive approach to disseminating results from across a range of projects, including those from previous Framework Programmes and other research programmes, and which target specific sectors or sets of stakeholders as potential users;

— Specific dissemination actions which take a proactive approach to disseminating results from across a range of projects, including those from previous Framework Programmes and other research programmes, and which target specific sectors or sets of stakeholders, with special emphasis on potential users and pre-university teachers;

Amendment 36  
Annex I, heading ‘Dissemination, knowledge transfer and broader engagement’, paragraph 1, indent 5

— Cordis services to foster the dissemination of knowledge and the exploitation of research results;

— Cordis services to foster the dissemination of knowledge in user-friendly form and the exploitation of research results;
Amendment 37

Annex I, heading 'Dissemination, knowledge transfer and broader engagement', paragraph 1, indent 6

- Initiatives to foster dialogue and debate on scientific issues and research results with a broader public beyond the research community.

- Initiatives to foster dialogue and debate on scientific issues and research results with a broader public beyond the research community, including through the use of research for the benefit of Civil Society Organisations (CSOs).

Amendment 38

Annex I, heading 'Joint Technology Initiatives', paragraph 1

In a limited number of cases, the scope of a RTD objective and the scale of the resources involved justify setting up long-term public-private partnerships in the form of Joint Technology Initiatives. These initiatives, mainly resulting from the work of European Technology Platforms and covering one or a small number of selected aspects of research in their field, will combine private sector investment and national and European public funding, including grant funding from the Research Framework Programme and loan finance from the European Investment Bank. Joint Technology Initiatives will be decided on the basis of separate proposals (e.g. on the basis of Article 171 of the Treaty).

In a limited number of cases, the scope of a RTD objective and the scale of the resources involved justify setting up long-term public-private partnerships in the form of Joint Technology Initiatives. These initiatives, mainly resulting from the work of European Technology Platforms and covering one or a small number of selected aspects of research in their field, will combine private sector investment and national and European public funding, including grant funding from the Research Framework Programme and loan finance from the European Investment Bank. Joint Technology Initiatives will be decided individually on the basis of separate proposals (e.g. on the basis of Article 171 of the Treaty).

Amendment 39

Annex I, heading 'Coordination of non-Community research programmes', paragraph 1

The action undertaken in this field will make use of two main tools: the ERA-NET scheme and the participation of the Community in jointly implemented national research programmes (Treaty Article 169). The action will also be used to enhance the complementarity and synergy between the Framework Programme and activities carried out in the framework of intergovernmental structures such as Eureka, EIROforum and COST. Financial support for the administration and coordination activities of COST will be provided so that COST can continue to contribute to coordination and exchanges between nationally funded research teams.

The action undertaken in this field will make use of two main tools: the ERA-NET scheme and the participation of the Community in jointly implemented national research programmes (Article 169 of the Treaty). The action will also be used to enhance the complementarity and synergy between the Framework Programme and activities carried out in the framework of intergovernmental structures such as Eureka, EIROforum and COST. Given the importance to EU competitiveness of SME development, particular attention will be paid to helping high-tech SMEs to get access to research, in accordance with Article 169 of the Treaty (the Eureka and 'EUROSTARS' programmes). Financial support for the administration and coordination activities of COST will be provided so that COST can continue to contribute to coordination and exchanges between nationally funded research teams.

Amendment 40

Annex I, heading 'International cooperation', paragraph 1, introductory part and indent -1 (new)

International cooperation actions will support an international Science and Technology policy that has two interdependent objectives:

- to create the basis for research activities and capacities in the developing countries and to consolidate and strengthen the bodies responsible: universities and public and private centres for the training of researchers;
Amendment 41
Annex I, heading 'International cooperation', paragraph 1, indent 1

— To support and promote **European competitiveness** through strategic research partnerships with third countries including highly industrialised and emerging economies in **science and technology** by **engaging** the best third country scientists to work in and with Europe.

Amendment 42
Annex I, heading 'International cooperation', paragraph 1, indent 2

— To address specific problems that third countries face or that have a global character, **on the basis of mutual interest and mutual benefit**.

Amendment 43
Annex I, heading 'International cooperation', paragraph 2

The international scientific cooperation policy of the EU will stress and develop cooperation to generate, share and use knowledge through equitable research partnerships taking into account the country, regional and socio-economic context and knowledge base of partner countries. The strategic approach is to enhance EU competitiveness and global sustainable development through such partnerships between the EU and third countries at bilateral, regional and global levels based on **mutual interest and benefit**. To this end the EU's role as a global player should be also promoted through multilateral international research programmes. The international cooperation actions supported will be connected to mainstream policy issues in order to support fulfilling international commitments of the EU and contribute to sharing **European values**, competitiveness, socio-economic progress, environmental protection and welfare under the umbrella of global sustainable development.

Amendment 44
Annex I, heading 'International cooperation', paragraph 3, bullet 2

Specific cooperation actions in each thematic area dedicated to third countries in the case of mutual interest in cooperating on particular topics. The identification of specific needs and priorities will be closely associated with relevant bilateral cooperation agreements and with ongoing multilateral and bi-regional dialogues between the EU and these countries or groups of countries. Priorities will be identified based on the particular needs, potential and level of economic development in the region or
country. To this end, an international cooperation strategy and implementation plan will be developed with specific targeted actions within or across the themes, e.g. in health, agriculture, sanitation, water, food security, social cohesion, energy, environment, fisheries, aquaculture and natural resources, sustainable economic policy and information and communication technologies. These actions will serve as privileged tools for implementing the cooperation between the EU and these countries. Such actions are, in particular, actions aiming at reinforcing the research capacities and cooperative capacities of candidate, neighbourhood, and developing and emerging countries. The actions will be the subject of targeted calls and particular attention will be paid to facilitating access of the relevant third countries, notably developing countries, to the actions.

As well as serving fields of mutual interest, such actions also include: actions aiming at reinforcing the research capacities and cooperative capacities of candidate, neighbourhood, and developing and emerging countries. The actions will be the subject of targeted calls and particular attention will be paid to facilitating access of the relevant third countries, notably developing countries, to the actions.

Gender aspects in research will be considered and integrated in the projects whenever appropriate. Special attention will be given to communicating research outcomes and engaging in dialogue with civil society, in particular with patient groups, at the earliest possible stage, of new developments arising from biomedical and genetics research. A wide dissemination and use of the results will also be assured.

Gender aspects will be taken into account and incorporated into projects where appropriate. The risk factors, biological processes, clinical manifestations, consequences, and treatment involved in diseases are often not the same for men and women. Furthermore, there are diseases which affect only, or are more prevalent in, women or men (one such example is fibromyalgia/chronic fatigue syndrome, which affects far greater numbers of women than men). All the activities to be financed in connection with this theme should therefore allow for the possibility of differentiation in the related research protocols, methodologies, and analyses of results. Special attention will be given to communicating research outcomes and engaging in dialogue with civil society, in particular with patient groups, at the earliest possible stage, of new developments arising from biomedical and genetics research. A wide dissemination and use of the results will also be assured.

— High-throughput research: to develop new research tools for modern biology that will enhance significantly data generation and improve data and specimen (biobanks) stan-
standardisation, acquisition and analysis. The focus will be on new technologies for: sequencing; gene expression, genotyping and phenotyping; structural genomics; bioinformatics and systems biology; other ‘omics’.

**Amendment 172**

*Annex I, part ‘Themes’, section 1 (‘Health’), subsection ‘Activities’, heading 1 (‘Biotechnology, generic tools and technologies for human health’), indent 2*

— Detection, diagnosis and monitoring: to develop visualisation, imaging, detection and analytical tools and technologies for biomedical research, for prediction, diagnosis, monitoring and prognosis of diseases, and for support and guidance of therapeutic interventions. The focus will be on a multidisciplinary approach integrating areas such as: molecular and cellular biology, physiology, genetics, physics, chemistry, nanotechnologies, microsystems, devices and information technologies. Non- or minimally-invasive and quantitative methods and quality assurance aspects will be emphasised.

**Amendment 48**

*Annex I, part ‘Themes’, section 1 (‘Health’), subsection ‘Activities’, heading 1 (‘Biotechnology, generic tools and technologies for human health’), indent 4*

— Predicting suitability, safety and efficacy of therapies: to develop and validate the parameters, tools, methods and standards needed for bringing to the patient safe and effective new biomedicines [for conventional medicines, these issues will be addressed through the proposed Joint Technology Initiative on Innovative Medicines]. The focus will be on approaches such as pharmacogenomics, in silico, in vitro (including alternatives to animal testing) and in vivo methods and models.

— Predicting suitability, safety and efficacy of therapies: to develop and validate the parameters, tools, methods and standards needed for bringing to the patient safe and effective new biomedicines [for conventional medicines, these issues will be addressed through the proposed Joint Technology Initiative on Innovative Medicines]. The focus will be on approaches such as pharmacogenomics, in silico, in vitro (including alternatives to animal testing) and in vivo methods and models and immune monitoring.
Amendment 49

Annex I, part ‘Themes’, section 1 (‘Health’), subsection ‘Activities’, heading 2 (‘Translating research for human health’), subheading 1, bullet 1

Large scale data gathering: to use high-throughput technologies to generate data for elucidating the function of genes and gene products and their interactions in complex networks. The focus will be on: genomics; proteomics; population genetics; comparative and functional genomics.

Amendment 50

Annex I, part ‘Themes’, section 1 (‘Health’), subsection ‘Activities’, heading 2 (‘Translating research for human health’), subheading 2, bullet 1

Brain and brain-related diseases: to better understand the integrated structure and dynamics of the brain, and to study brain diseases and search for new therapies. The focus will be to explore brain functions, from molecules to cognition, and to address neurological and psychiatric diseases and disorders, including regenerative and restorative therapeutic approaches.

Amendment 51

Annex I, part ‘Themes’, section 1 (‘Health’), subsection ‘Activities’, heading 2 (‘Translating research for human health’), subheading 2, bullet 2

Human development and ageing: to better understand the process of life-long development and healthy ageing. The focus will be on the study of human and model systems, including interactions with factors such as environment, behaviour and gender.
Amendment 52

Cancer: the focus will be on disease aetiology; identifying and validating drug targets and biological markers that aid in the prevention, early diagnosis and treatment; and assessing the effectiveness of prognostic, diagnostic and therapeutic interventions.

Cancer: the focus will be on disease aetiology, epidemiological research, new medicines/therapies and risk factors; identifying and validating environmental determinants, drug targets and biological markers that aid in the prevention, early diagnosis and treatment; assessing the effectiveness of prognostic, diagnostic and therapeutic interventions.

Age-related degenerative disorders.

Amendment 53

Diabetes and obesity: for the former, the focus will be on aetiologies of the different types of diabetes, and their related prevention and treatment. For the latter, the focus will be on multidisciplinary approaches including genetics, life style and epidemiology.

Diabetes and obesity: for the former, the focus will be on aetiologies of the different types of diabetes, and their related prevention and treatment, including cell replacement therapy. For the latter, the focus will be on multidisciplinary approaches including genetics, biochemistry and physiology (evaluated using non invasive approaches such as molecular and functional imaging), life style and epidemiology. For both diabetes and obesity emphasis will be placed on juvenile diseases and factors operating in childhood.

Amendment 54

Rheumatic diseases: the focus will be on aetiology, early diagnosis and biological markers for rheumatic diseases and treatment, with particular emphasis on inflammatory rheumatic diseases.

Amendment 55

Other chronic diseases: the focus will be on non-lethal diseases with a high impact on the quality of life at old age such as functional and sensory impairment and other chronic diseases (e.g. rheumatoid diseases).

Other chronic diseases: the focus will be on non-lethal diseases with a high impact on the quality of life at old age such as functional and sensory impairment and other chronic diseases, in particular, inflammatory diseases (e.g. rheumatoid diseases, such as rheumatoid arthritis, osteoporosis, dementia and neurodegenerative diseases).
Amendment 56
Annex I, part 'Themes', section 1 ('Health'), subsection 'Activities', heading 2 ('Translating research for human health'), subheading 4, bullet 5a (new)

Other diseases: the focus will be on respiratory diseases, neglected diseases and population-based studies to investigate emerging risk factors.

Amendment 57
Annex I, part 'Themes', section 1 ('Health'), subsection 'Activities', heading 2 ('Translating research for human health'), subheading 4, bullet 5b (new)

Research on tissue regeneration: the focus will be on research into tissue regeneration, such as skin and heart tissue regeneration, with the aim of understanding the mechanisms underlying regenerative processes and identifying innovative approaches to gene and cell therapies.

Amendment 58
Annex I, part 'Themes', section 1 ('Health'), subsection 'Activities', heading 3 ('Optimising the delivery of health care to European citizens'), indent 1

— Enhanced health promotion and disease prevention: to provide evidence for the best public health measures in terms of lifestyle and interventions at different levels and in different contexts. Focus will be on the wider determinants of health and how they interact at both the individual and community level (e.g. diet, stress, tobacco and other substances, physical activity, cultural context, socio-economic and environmental factors). In particular, mental health will be addressed in a life-course perspective.

Amendment 59
Annex I, part 'Themes', section 1 ('Health'), subsection 'Activities', heading 3 ('Optimising the delivery of health care to European citizens'), indent 2

— Translating clinical research into clinical practice including better use of medicines, and appropriate use of behavioural and organisational interventions and health therapies and technologies. Special attention will be given to patient safety: to identify the best clinical practice; to understand decision making in clinical settings in primary and specialist care; and to foster applications of evidence-based medicine and patient empowerment. Focus will be on the benchmarking of strategies; investigating outcomes of different interventions including medicines, taking into consideration pharmacovigilance evidence, specificities of the patient (e.g. genetic susceptibility, age, gender and adherence) and cost benefits.

— Translating the results of clinical research into clinical practice including better use of medicines (e.g. with a view to avoiding the development of antibiotic resistance), and appropriate use of behavioural, organisational and public health system interventions and health therapies and technologies. Special attention will be given to patient safety, including the side-effects of medicines: to identify the best clinical practice; to understand decision making in clinical settings in primary and specialist care; and to foster applications of evidence-based medicine and patient empowerment with a view to enhancing patients' personal and social autonomy. Focus will be on the benchmark-
ing of strategies; investigating outcomes of different interventions including medicines and new health technologies, taking into consideration pharmacovigilance evidence, specificities of the patient (e.g. genetic susceptibility, age, gender and adherence) and cost benefits in terms of health, quality of life and good practice.

Amendment 60

Annex I, part ‘Themes’, section 1 (‘Health’), subsection ‘Activities’, heading 3 (‘Optimising the delivery of health care to European citizens’), indent 3

— Quality, solidarity and sustainability of health systems; to provide a basis for countries to adapt their health systems in the light of experience of others, taking into account the importance of national contexts and population characteristics (ageing, mobility, migration, education, socioeconomic status and the changing world of work etc). Focus will be on organisational, financial and regulatory aspects of health systems, their implementation and their outcomes in terms of effectiveness, efficiency and equity. Special attention will be paid to investment issues and human resources.

Amendment 61

Annex I, part ‘Themes’, section 1 (‘Health’), subsection ‘Activities’, third heading (‘Optimising the delivery of health care to European citizens’), indent 3a (new)

— Appropriate use of new technologies and therapies. Long-term safety and monitoring of the large-scale use of new medical technologies (including equipment), and advanced therapies that ensure, in particular, a high level of public health protection.

Amendment 62

Annex I, part ‘Themes’, section 2 (‘Food, Agriculture and Biotechnology’), subsection ‘Approach’, paragraph 2

Agro-food industries, of which 90 % are SMEs, will particularly benefit from many research activities, including targeted dissemination and technology transfer activities, in particular as regards the integration and uptake of advanced eco-efficient technologies, methodologies and processes and the development of standards. High-tech start-ups from the bio-, nano- and ICT are expected to provide important contributions to the areas of plant breeding, improved crops and plant protection, advanced detection and monitoring technologies for ensuring food safety and quality, and new industrial bioprocesses.

Observable first and foremost in small-sized industries, agro-food industries, of which 90 % are SMEs, will particularly benefit from many research activities, including targeted dissemination and technology transfer activities, in particular as regards the integration and uptake of advanced eco-efficient technologies, methodologies and processes and the development of standards. High-tech start-ups from the bio-, nano- and ICT are expected to provide important contributions to the areas of plant breeding, improved crops and plant protection, advanced detection and monitoring technologies for ensuring food safety and quality, and new industrial bioprocesses.
### Amendment 63

Annex I, part 'Themes', section 2 ('Food, Agriculture and Biotechnology'), subsection 'Activities', heading 1 ('Sustainable production and management of …'), indent 1a (new)

- Investigating biodiversity and its molecular characterisation is aimed at its protection, not only at identifying new ways for its exploitation. Environmental protection and preservation is a key element of the sustainable management of biological resources. Integration with the 'Environment' theme should be sought.

### Amendment 64

Annex I, part 'Themes', section 2 ('Food, Agriculture and Biotechnology'), subsection 'Activities', heading 1 ('Sustainable production and management of …'), indent 2

- Increased sustainability and competitiveness, while safeguarding consumer health and decreasing environmental impacts, in agriculture, forestry, fisheries and aquaculture through the development of new technologies, equipment, monitoring systems, novel plants and production systems, the improvement of the scientific and technical basis of fisheries management, and a better understanding of the interaction between different systems (agriculture and forestry; fisheries and aquaculture) across a whole ecosystem approach. The preservation of native ecosystems, the development of biocontrol agents and the microbiological dimension of biodiversity and metagenomics will be promoted. For land based biological resources, special emphasis will be placed on low input and organic production systems, improved management of resources and novel feeds, and novel plants (crops and trees) with improved composition, resistance to stress, nutrient use efficiency, and architecture. This will be supported through research into biosafety, co-existence and traceability of novel plants systems and products. Plant health will be improved through better understanding of ecology, biology of pests, diseases and other threats and support to controlling disease outbreaks and enhancing sustainable pest management tools and techniques. For biological resources from aquatic environments, emphasis will be placed on essential biological functions, safe and environmentally friendly production systems and feeds of cultured species and on fisheries biology, dynamics of mixed fisheries, interactions between fisheries activities and the marine ecosystem and on fleet-based, regional and multiannual management systems.

- Increased sustainability and competitiveness, while safeguarding consumer health and decreasing environmental impacts, in agriculture, forestry, fisheries and aquaculture through the development of new technologies, equipment, monitoring systems, novel plants and production systems, the improvement of the scientific and technical basis of fisheries and crop management, the latter through selected plant breeding, plant health and optimised production systems, and a better understanding of the interaction between different systems (agriculture and forestry; fisheries and aquaculture) across a whole ecosystem approach. Improved management of resources and novel feeds, and novel plants (crops and trees) with improved composition, resistance to stress, nutrient use efficiency, and architecture will also be promoted. This will be supported through research into biosafety, co-existence and traceability of novel plants systems and products. Plant health and crop protection will be improved through better understanding of ecology, biology of pests, diseases, weeds and other threats and support to controlling disease outbreaks and enhancing sustainable pest and weed management tools and techniques. Improved methods will be developed for the monitoring, preservation and enhancement of soil fertility. For biological resources from aquatic environments, emphasis will be placed on essential biological functions, safe and environmentally friendly production
systems and feeds of cultured species and on fisheries biology, dynamics of mixed fisheries, interactions between fisheries activities and the marine ecosystem and on fleet-based, regional and multi-annual management systems

Amendment 65

Annex I, part ‘Themes’, section 2 (‘Food, Agriculture and Biotechnology’), subsection ‘Activities’, heading 1 (‘Sustainable production and management of …’), indent 3

— Optimised animal production and welfare, across agriculture, fisheries and aquaculture, *inter alia* through the exploitation of genetic knowledge, new breeding methods, improved understanding of animal physiology and behaviour and the better understanding and control of infectious animal diseases, including zoonoses. The latter will also be addressed by developing tools for monitoring, prevention and control, by underpinning and applied research on vaccines and diagnostics, studying the ecology of known or emerging infectious agents and other threats, including malicious acts, and impacts of different farming systems and climate. New knowledge for the safe disposal of animal waste and improved management of by-products will also be developed.

— Optimised animal production, *health* and welfare, across agriculture, fisheries and aquaculture, *inter alia* through the exploitation of genetic knowledge, new breeding methods, improved understanding of animal physiology and behaviour and the better understanding and control of infectious animal diseases, including zoonoses, *and their pathogenic mechanisms and diseases linked to animal feed*. The latter will also be addressed by developing tools for monitoring, prevention and control, by underpinning and applied research on vaccines and diagnostics, studying the ecology of known or emerging infectious agents and other threats, including malicious acts, and impacts of different farming systems and climate. **In this context the aim should be to investigate adapting agriculture to the shift in climate zones.** New knowledge for the safe disposal of animal waste and improved management of by-products will also be developed. **Account will be taken of other threats to the sustainability and safety of food production, such as the possible effects of climate change on production processes.**

Amendment 66

Annex I, part ‘Themes’, section 2 (‘Food, agriculture and biotechnology’), subsection ‘Activities’, heading 1 (‘Sustainable production and management of …’), indent 4

— Providing the tools needed by policy makers and other actors to support the implementation of relevant strategies, policies and legislation and in particular to support the building of the European Knowledge Based Bio-Economy (KBBE) and the needs of rural and coastal development. The Common Fisheries Policy will be supported through the development of adaptive approaches supportive to a whole ecosystem approach for the harvesting of marine resources. Research for all policies will include socio-economic studies, comparative investigations of different farming systems, cost-effective fisheries management systems, the rearing of non-food animals, interactions with forestry and studies to improve rural and coastal livelihoods.

— Providing the tools needed by policy makers and other actors to support the implementation of relevant strategies, policies and legislation and in particular to support the building of the European Knowledge Based Bio-Economy (KBBE) and the needs of rural and coastal development, as well as the development of innovatory forest management mechanisms, techniques to prevent and fight forest fires and measures to combat agricultural erosion and drought. The Common Agricultural Policy, the Community’s Animal Health Policy, the EU Forestry Strategy and the Common Fisheries Policy will be supported. The Common Fisheries Policy will be supported through the development of adaptive approaches supportive to a whole ecosystem approach for the harvesting of marine resources. Research for all policies will include socio-economic studies, rural-social research, comparative investigations of different farming systems, cost-effective fisheries management systems, the rearing of non-food animals, interactions with forestry and studies to improve rural and coastal livelihoods.
Amendment 68

Annex I, part ‘Themes’, section 2 (‘Food, Agriculture and Biotechnology’), subsection ‘Activities’, heading 2 (‘Fork to farm: Food, health and well being’), indent 2

— Understanding dietary factors and habits as a major controllable factor in the development and reduction of occurrence of diet-related diseases and disorders. This will involve the development and application of nutrigenomics and systems biology, and the study of the interactions between nutrition, physiological and psychological functions. It could lead to reformulation of processed foods, and development of novel foods, dietetic foods and foods with nutritional and health claims. The investigation of traditional, local, and seasonal foods and diets will also be important to highlight the impact of certain foods and diets on health, and to develop integrated food guidance.

Amendment 69

Annex I, part ‘Themes’, section 2 (‘Food, Agriculture and Biotechnology’), subsection ‘Activities’, heading 2 (‘Fork to farm: Food, health and well being’), indent 3

— Optimising innovation in the European food industry through the integration of advanced technologies into traditional food production, key process technologies to enhance the functionality of food, the development and demonstration of high-tech, eco-efficient processing and packaging, smart control applications and more efficient management of by-products, wastes and energy. New research will also develop sustainable and novel technologies for animal feed, including safe feed processing formulations and for feed quality control.

Amendment 70

Annex I, part ‘Themes’, section 2 (‘Food, Agriculture and Biotechnology’), subsection ‘Activities’, heading 2 (‘Fork to farm: Food, health and well being’), indent 5

— Protecting both human health and the environment through a better understanding of the environmental impacts on and of food/feed chains. This will involve study of food contaminants and health outcomes, developing enhanced tools and methods for the assessment of impacts of food and feed chains on the environment. Assuring quality and the integrity of the food chain requires...
new models for commodity chain analysis and total food chain management concepts, including consumer aspects.

The development of new methods of ensuring the traceability of both GM and non-GM organisms and the consequences of animal feeds and veterinary medication for human health will be researched.

Amendment 71

Annex I, part ‘Themes’, section 2 (‘Food, Agriculture and Biotechnology’), subsection ‘International cooperation’, paragraph 1

International cooperation is a priority aspect for Food, Agriculture and Biotechnology research and will be strongly encouraged throughout the entire area. Research of specific interest for developing countries will be supported, taking into account Millennium development goals and already ongoing activities. Specific actions will be undertaken to foster cooperation with priority partner regions and countries — particularly those involved in bi-regional dialogues and bilateral S&T agreements as well as neighbourhood countries and emerging economies and developing countries.

Amendment 72

Annex I, part ‘Themes’, section 2 (‘Food, Agriculture and Biotechnology’), subsection ‘International cooperation’, paragraph 2

Furthermore, multilateral cooperation will be carried out to address either challenges requiring broad international efforts, such as the dimension and complexity of systems biology in plants and micro-organisms, or to address global challenges and EU international commitments (security and safety of food and drinking water, global spread of animal diseases, equitable use of biodiversity, the restoration of world fisheries to Maximum Sustainable Yield by 2015 and the influence of/on climate change).

Amendment 73

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection ‘Objective’

Improve the competitiveness of European industry and enable Europe to master and shape the future developments of Information and Communication Technologies (ICT) so that the demands of its society and economy are met. Activities will
strengthen Europe’s scientific and technology base and ensure its global leadership in ICT, help drive and stimulate innovation through ICT use and ensure that ICT progress is rapidly transformed into benefits for Europe’s citizens, businesses, industry and governments.

Information and communication technologies (ICT) play a unique, proven role in fostering innovation, creativity and competitiveness of all industry and service sectors. They are essential for addressing key societal challenges and modernising public services and they underpin progress in all science and technology fields. Europe must therefore master and shape the future developments of ICT and ensure that ICT-based services and products are taken up and used to deliver the maximum possible benefits for citizens and businesses.

The ICT theme prioritises strategic research around key technology pillars, ensures end-to-end integration of technologies and provides the knowledge and the means to develop a wide range of innovative ICT applications. The activities will leverage industrial and technological advance in the ICT sector and improve the competitive edge of important ICT-intensive sectors — both through innovative high-value ICT-based products and services and from improvements of organisational processes in businesses and administrations alike. The theme will also support other policies of the European Union, by mobilising ICT to meet public and societal demands.
Activities will cover collaboration and networking actions, support to Joint Technology Initiatives — including selected aspects of research in the areas of Nanoelectronics Technologies and Embedded Computing Systems — and national programme coordination initiatives — including in the area of Ambient Assisted Living. The priorities of the activities will include topics relying, among other sources, on the work of European Technology Platforms. Thematic synergies will also be developed with related activities in other Specific Programmes. Maximum synergy and complementarity will also be sought with other Community programmes and initiatives, in particular with the Structural Funds, the Competitiveness and Innovation Programme, the i-2010 initiative and the Member States’ national and regional ICT-related programmes.

Amendment 76

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection ‘Activities’, heading 1

Amendment 77

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection ‘Activities’, indent 1

Amendment 78

Amendment 79

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection ‘Activities’, heading 1 (‘ICT Technology Pillars’), indent 3

Embedded systems, computing and control: more powerful, secure, distributed, reliable and efficient hardware/software systems that can perceive, control and adapt to their environment while optimising the use of resources; methods and tools for system modelling, design and engineering to master complexity; open composable architectures and scale-free platforms, middleware and distributed operating systems to enable truly seamless collaborative and ambient intelligent environments for sensing, actuation, computing, communication, storage, and service delivery; computing architectures incorporating heterogeneous, networked and reconfigurable components including compilation, programming and run-time support; control of large-scale, distributed, uncertain systems.

Amendment 80

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection ‘Activities’, heading 1 (‘ICT Technology Pillars’), indent 4

Software, Grids, security and dependability: technologies, tools and methods for dynamic and trusted software, architectures and middleware systems that underpin knowledge-intensive services, including their provision as utilities; service-oriented, interoperable and scale-free infrastructures, grid-like virtualisation of resources, network-centric operating systems; open platforms and collaborative approaches for development of software, services and systems; composition tools; mastering emergent behaviours of complex systems; improving dependability and resilience of large-scale, distributed and intermittently connected systems and services; secure and trusted systems and services, including privacy-aware access control and authentication, dynamic security and trust policies, dependability and trust metamodels.

Amendment 81


Knowledge, cognitive and learning systems: methods and techniques to acquire and interpret, represent and personalise, navigate and retrieve, share and deliver knowledge.
recognizing the semantic relationships in content for use by humans and machines; artificial systems that perceive, interpret and evaluate information and that can cooperate, act autonomously and learn; theories and experiments that move beyond incremental advances benefiting from insights into natural cognition, in particular learning and memory, also for the purpose of advancing systems for human learning.

Amendment 82

Annex I, part Themes, section 3 ('Information and Communication Technologies'), subsection 'Activities', heading 1 ('ICT Technology Pillars'), indent 6

— Simulation, visualisation, interaction and mixed realities: tools for modelling, simulation, visualisation, interaction, virtual, augmented and mixed reality and their integration in end-to-end environments; tools for innovative design and for creativity in products, services and digital audiovisual media; more natural, intuitive and easy-to-use interfaces and new ways to interact with technology, machines, devices and other artefacts; multilingual and automatic machine translation systems.

Amendment 83

Annex I, Part Themes, section 3 ('Information and Communication Technologies'), subsection 'Activities', heading 1 ('ICT Technology Pillars'), indent 6a (new)

— Mobile systems: the transition towards fourth generation mobile systems and beyond, and related breakthrough technologies in digital transmissions and antennas.

Amendment 84

Annex I, part Themes, section 3 ('Information and Communication Technologies'), subsection 'Activities', heading 2 ('Integration of Technologies'), indent 2

— Home environments: communication, monitoring, control and assistance of the home, buildings and public spaces; seamless interoperability and use of all devices taking account of cost efficiency, affordability and usability; new services and new forms of interactive digital content and services; access to information and management of knowledge.
Amendment 85

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection ‘Activities’, heading 3
(‘Applications Research’), indent 1, sub-indent 1

— for health: personal non-obtrusive systems that enable citizens to manage their well-being such as wearable or implantable monitoring devices and autonomous systems for supporting a healthy state; emerging techniques such as molecular imaging for improved prevention and individualised medicine; health knowledge discovery and application in clinical practice; modelling and simulation of organ functions; micro- and nano-robotic devices for minimally invasive surgical and therapeutic applications;

— for health: personal non-obtrusive systems that enable citizens to manage their well-being such as wearable or implantable monitoring devices with communication capabilities and autonomous systems for supporting a healthy state; emerging techniques such as molecular imaging for improved prevention and individualised medicine; health knowledge discovery and application in clinical practice; modelling and simulation of organ functions; micro- and nano-robotic devices for minimally invasive surgical and therapeutic applications; remote assistance and remote monitoring technologies for the chronically ill and for elderly people; computer aided detection and clinical decision support systems that lead to more reliable diagnosis and an improved workflow, eventually leading to disease specific expert systems taking an integral carecycle approach, and exploiting accumulated patient data, and model based disease knowledge through data mining, bioinformatics, and systems biology; enterprise IT systems leading to increased efficiency and reduced medical error in the hospital and in secondary care facilities;

Amendment 86

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection ‘Activities’, heading 3
(‘Applications Research’), indent 1, sub-indent 2

— for governments: use of ICT in an interdisciplinary approach in public administrations combined with organisational change and new skills in order to deliver innovative, citizen-centric services for all; advanced ICT based research and solutions to improve democratic and participatory processes and the performance and quality of public sector services, interaction with and between administrations and governments, and support legislative and policy development processes in all stages of democracy;

— for governments: use of ICT in an interdisciplinary approach in public administrations combined with organisational change, re-engineering processes and new skills in order to deliver innovative, citizen-centric services for all; advanced ICT based research and solutions to improve democratic and participatory processes (including e-democracy) and the performance and quality of public sector services, interaction with and between administrations and governments, and support legislative and policy development processes in all stages of democracy;

Amendment 87

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection ‘Activities’, heading 3
(‘Applications Research’), indent 1, sub-indent 3

— for inclusion: to empower individuals and their communities and improve equal participation of all citizens in the information society, while preventing digital divides due to disability, low skills, poverty, geographic isolation, culture,

— for inclusion: to empower individuals and their communities and improve equal participation of all citizens in the information society, while preventing digital divides due to disability, low skills, poverty, geographic isolation, culture,
gender or age, inter alia through support to assistive technology, promoting independent living, increasing e-skills, and developing products and services designed-for-all;

Amendment 88

Annex I, part 'Themes', section 3 ('Information and Communication Technologies'), subsection 'Activities', heading 3 ('Applications Research'), indent 1, subindent 4

— for mobility: integrated ICT-based safety systems for vehicles based on open, secure and dependable architectures and interfaces; interoperable cooperative systems for transport efficiency and safety, based on communication between vehicles and with the transport infrastructure and integrating accurate and robust location technologies; personalised, location-aware info-mobility and multi-modal services, including intelligent service solutions for tourism;

Amendment 89

Annex I, part 'Themes', section 3 ('Information and Communication Technologies'), subsection 'Activities', heading 3 ('Applications Research'), indent 1, sub indent 5a (new)

— for culture: transfer of ICT solutions to deploy the economic potential in the cultural field (including cultural heritage, regional development, tourism) and promote employment in these areas; partnerships between public organisations (at local, regional and national level) and private organisations (in particular, SMEs) will be considered.

Amendment 90

Annex I, part 'Themes', section 3 ('Information and Communication Technologies'), subsection 'Activities', heading 3 ('Applications Research'), indent 1a (new)

— new business models for ICT: conceiving and defining new business models for ICT by working jointly with those themes where ICT will play a fundamental role in changing the approach to production and services (e.g. transport, health, energy, environment). The projects originated through this joint research should be tested in specific situations. The joint efforts should be supported through the cross-thematic approach mentioned in Annex 1.
Amendment 91

Annex I, part 'Themes', section 3 ('Information and Communication Technologies'), subsection 'Activities', heading 3 ('Applications Research'), indent 2, subindent 1

— novel forms of interactive, non-linear and self-adaptive content; creativity and enriched user-experience; cross-media content customisation and delivery; combining all-digital content production and management with emerging semantic technologies; user-oriented use, access to and creation of content;

— novel forms of interactive, non-linear and self-adaptive content, including for entertainment and for design purposes; creativity and enriched user-experience; cross-media content customisation and delivery; combining all-digital content production and management with emerging semantic technologies; user-oriented use, access to and creation of content;

Amendment 92

Annex I, part 'Themes', section 3 ('Information and Communication Technologies'), subsection 'Activities', heading 3 ('Applications Research'), indent 2, subindent 2a (new)

— protection, conservation and enhancement of cultural heritage, including human habitat; technologies for the environmentally sound and sustainable management of the human environment, including the built environment, urban areas and landscape, as well as for the protection, conservation and optimal use and integration of the cultural heritage, including environmental impact assessment, models and tools for risk evaluation, advanced and non-destructive techniques for damage diagnosis, new products and methodologies for restoration, mitigation and adaptation strategies for the sustainable management of both movable and immovable cultural assets;

Amendment 93

Annex I, part 'Themes', section 3 ('Information and Communication Technologies'), subsection 'Activities', heading 3 ('Applications Research'), indent 2, subindent 3

— intelligent services for access to cultural heritage in digital form; tools for communities to create new cultural memory based on living heritage; methods and tools for preservation of digital content; making digital objects usable by future users whilst keeping authenticity and integrity of their original creation and context of use.

— intelligent services for accessing and promoting culture (including the cultural heritage, regional development and tourism); tools for communities to collect and preserve their cultural memories based on living heritage; methods and tools for preservation and diversification of digital content; making digital objects usable by future users whilst keeping authenticity and integrity of their original creation and context of use.

Amendment 94

Annex I, part 'Themes', section 3 ('Information and Communication Technologies'), subsection 'Activities', heading 3 ('Applications Research'), indent 3, subindent 1

— dynamic, network-oriented business systems for product and service creation and delivery; decentralised control and management of intelligent items; digital business ecosystems, in particular software solutions adaptable to the needs of small- and medium-sized organisations; collaboration services for distributed workspaces; augmented group presence, group management and sharing support;

— dynamic, network-oriented business systems for product and service creation and delivery; decentralised control and management of intelligent items; digital business ecosystems, in particular software solutions adaptable to the needs of small- and medium-sized organisations; collaboration services for distributed context-aware workspaces; augmented group presence, group management and sharing support; knowledge sharing and interactive services;
Amendment 95

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection ‘Activities’, heading 3

‘Applications Research’, indent 3, subindent 2

— manufacturing: networked intelligent controls for high-precision manufacturing and low-resource utilisation; wireless automation and logistics for rapid plant reconfiguration; integrated environments for modelling, simulation, presentation and virtual production; manufacturing technologies for miniaturised ICT systems and for systems interwoven with all kinds of materials and objects.

Amendment 96


‘Applications Research’, indent 2a (new)

— Real-time monitoring of business management and performance: effective and productive support for managerial decisions, monitoring, collection and processing of data;

Amendment 97

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection ‘Activities’, heading 3

‘Applications Research’, indent 4, subindent 1

— tools supporting the trust and confidence of ICT and its applications; multiple and federated identity management systems; authentication and authorization techniques; systems meeting privacy needs deriving from new technological developments; rights and asset management; tools to protect against cyber threats.

Amendment 98

Annex I, part ‘Themes’, section 3 (‘Information and Communication Technologies’), subsection (‘Responding to emerging needs and unforeseen policy needs’), paragraph 1

A Future and Emerging Technologies activity will attract and foster trans-disciplinary research excellence in emerging ICT-related research domains. Foci include: exploring the new miniaturisation and computing frontiers including for example the exploitation of quantum effects; harnessing the complexity of networked computing and communication systems; exploring new concepts of and experimenting with intelligent systems for new personalised products and services.

A Future and Emerging Technologies activity will attract and foster trans-disciplinary research excellence in emerging ICT-related research domains. Foci include: exploring the new miniaturisation and computing frontiers including for example the exploitation of quantum effects; harnessing the complexity of networked computing and communication systems, including software; exploring new concepts of and experimenting with intelligent systems for new personalised products and services.
Amendment 99


To enhance its competitiveness, European industry needs radical innovations. It must concentrate its capabilities on high-added-value products and technologies to meet customer requirements, as well as environmental, health and other societal expectations. Research is integral to meeting these competing challenges.

Amendment 100


A key element of this theme is the effective integration of nanotechnology, materials sciences and new production methods so as to achieve and maximise the impacts for industrial transformation and, at the same time, supporting sustainable production and consumption. The theme will support all industrial activities operating in synergy with other themes. Applications in all sectors and areas will be supported and this includes materials sciences, high performance manufacturing and process technologies, nanobiotechnology or nanoelectronics.

Amendment 101

Annex I, part ‘Themes’, section 4 (‘Nanosciences, Nanotechnologies, Materials and new Production Technologies’), subsection ‘Activities’, heading 2 (‘Materials’), paragraph 1

New advanced materials with higher knowledge content, new functionalities and improved performance are increasingly critical for industrial competitiveness and sustainable development. According to the new models of manufacturing industry, it is the materials themselves which are becoming the first step in increasing the value of products and their performance, rather than the processing steps.

Amendment 102


Research will focus on developing new knowledge-based materials with tailored properties. This requires an intelligent control of intrinsic properties, processing and production, and taking into account potential impacts on health and the environment throughout their entire life-cycle. Emphasis will be placed on new advanced materials obtained using the potential of nanotechnologies and biotechnologies and/or ‘learning from nature’, in particular higher performance nano-materials, bio-materials and hybrid materials...
A new approach to manufacturing is required for the transformation of EU industry from a resource intensive to a knowledge-based industrial environment and will depend on the adoption of totally new attitudes towards the continued acquisition, deployment, protection and funding of new knowledge and its use, including towards sustainable production and consumption patterns. This entails creating the right conditions for continuous innovation (in industrial activities and production systems, including construction, devices, and services) and for developing generic production ‘assets’ (technologies, organisation and production facilities) while also meeting safety and environmental requirements.

The research will focus on new applications and novel, step-change solutions responding to major challenges, as well as to the RTD needs identified by the different European Technology Platforms. The integration of new knowledge and nano-, materials-, and production-technologies will be supported in sectoral and cross-sectoral applications such as health, construction, space industry, transport, energy, chemistry, environment, textiles and clothing, pulp and paper, and mechanical engineering, as well as in the generic subject of industrial safety.
Strengthening the competitiveness of the European energy sector, in the face of severe global competition, is an important objective of this Theme, providing the capability for European industry to attain or maintain world leadership in key energy technologies. In particular, SMEs are the lifeblood of the energy sector, play a vital role in the energy chain and will be key to promoting innovation. Their strong participation in research and demonstration activities is essential and will be actively promoted.

In order to strengthen the diffusion and use of the output of research, the dissemination of knowledge and transfer of results, including to policy makers, will be supported in all areas. This will complement actions in the Intelligent Energy — Europe Programme component of the Competitiveness and Innovation Programme to support innovation and remove non-technological barriers to the widespread market deployment of demonstrated energy technologies.

The allocation of funding in the energy sector must be based on criteria that enable technologies to be judged on their ability to assist the EU in meeting its objective of creating an energy sector that is competitive, environmentally sustainable and safe. The relatively limited EU research and development funds under this theme must be focused on technologies that can rapidly deliver reductions in CO₂ emissions.

Research into, and development and demonstration of, integrated technologies for electricity production from renewables, suited to different regional conditions, in order to provide the means to raise substantially the share of renewable electricity production in the EU. Research should increase overall conversion efficiency, significantly drive down the cost of electricity, enhance process reliability and further reduce the environmental impact. Emphasis will be on photovoltaics, wind and biomass (including biodegradable fraction of waste). Furthermore, research will aim at realising the full potential of other renewable energy sources: geothermal, thermal solar, ocean and small hydropower.
Amendment 110

Development and demonstration of improved conversion technologies for the sustainable production and supply chains of solid, liquid and gaseous fuels from biomass (incl. biodegradable fraction of waste), in particular biofuels for transport. Emphasis should be on new types of biofuels as well as on new production and distribution routes for existing biofuels, including the integrated production of energy and other added-value products through biorefineries. Aiming to deliver ‘source to user’ carbon benefits, research will focus on improving energy efficiency, enhancing technology integration and use of feedstock. Issues such as feedstock logistics, pre-normative research and standardisation for safe and reliable use in transport and stationary applications will be included. To exploit the potential for renewable hydrogen production, biomass, renewable electricity and solar energy driven processes will be supported.

Research into, and development and demonstration of, improved conversion technologies for the sustainable production and supply chains of solid, liquid and gaseous fuels from biomass and plantations for energy production (incl. biodegradable fraction of waste), in particular biofuels for transport. Emphasis should be on new types of biofuels as well as on new production and distribution routes for existing biofuels, including the integrated production of energy and other added-value products through biorefineries. Aiming to deliver ‘source to user’ carbon benefits, research will focus on improving energy efficiency, enhancing technology integration and use of feedstock. Issues such as energy crops, feedstock logistics, pre-normative research and standardisation for safe and reliable use in transport and stationary applications will be included. To exploit the potential for renewable hydrogen production, biomass, renewable electricity and solar energy driven processes will be supported.

Amendment 111
Annex I, part ‘Themes’, section 5 (‘Energy’), subsection ‘Activities’, heading 4 (‘Renewables for heating and cooling’)

Development and demonstration of a portfolio of technologies to increase the potential of heating and cooling from renewable energy sources to contribute to sustainable energy. The aim is to achieve substantial cost reductions, increase efficiencies, further reduce environmental impacts and optimise the use of technologies in different regional conditions. Research and demonstration should include new systems and components for industrial applications (incl. thermal seawater desalination), district and/or dedicated space heating and cooling, building integration and energy storage.

Research into, and development and demonstration of, a portfolio of technologies to increase the potential of active heating and cooling from renewable energy sources and improvements to systems which harness passive or naturally generated heating to contribute to sustainable energy. The aim is to achieve substantial cost reductions, increase efficiencies, further reduce environmental impacts and optimise the use of technologies in different regional conditions. Research and demonstration should include new systems and components for industrial applications (incl. thermal seawater desalination), district and/or dedicated space heating and cooling, building integration and energy storage.

Amendment 112

Coal fuelled power plants remain the workhouse of electricity generation worldwide, but have considerable potential for further efficiency gains and emissions reductions, particularly concerning CO₂. To maintain competitiveness and contribute to the management of CO₂ emissions, the development and

Coal fuelled power plant remain the workhouse of electricity generation worldwide, but have considerable potential for further efficiency gain and emission reduction, particularly concerning CO₂. To maintain competitiveness and contribute to the
demonstration of clean coal conversion technologies will be supported to significantly increase plant efficiency and reliability, minimise pollutant emissions and reduce overall costs, under various operating conditions. Looking towards future zero emission power generation, these activities should prepare for, complement and be linked with developments on CO₂ capture and storage technologies.

To facilitate the transition to a more sustainable energy system, a wide-ranging R&D effort is required to increase the efficiency, flexibility, safety and reliability of the European electricity and gas systems and networks. For electricity networks, the goals of transforming the current electricity grids into a resilient and interactive (customers/operators) service network and removing the obstacles to the large-scale deployment and effective integration of renewable energy sources and distributed generation (e.g. fuel cells, microturbines, reciprocating engines), will also necessitate the development and demonstration of key enabling technologies (e.g. innovative ICT solutions, storage technologies for RES, electronic metering and Automated Meter Management systems, power electronics and HTS devices). For gas networks, the objective is to demonstrate more intelligent and efficient processes and systems for gas transport and distribution, including the effective integration of renewable energy sources.

The vast potential for energy savings and improvements in energy efficiency need to be harnessed through the optimisation, validation and demonstration of new concepts and tech-
To promote sustainable management of the natural and human environment and its resources by advancing our knowledge on the interactions between the biosphere, ecosystems and human activities, and developing new technologies, tools and services, in order to address in an integrated way global environmental issues. Emphasis will be put on prediction of climate, ecological, earth and ocean systems changes, on tools and on technologies, for monitoring, prevention and mitigation of environmental pressures and risks including on health and for the sustainability of the natural and man-made environment.

Protecting the environment is essential for the quality of life of current and future generations as well as for economic growth. Given that the Earth's natural resources and the man-made environment are under pressure from growing population, urbanisation, continuous expansion of the agriculture, transport and energy sectors, as well as climate variability and warming at local, regional and global scales, the challenge facing the EU is to ensure continuous and sustainable growth while at the same time reducing negative environmental impacts. EU-wide cooperation is motivated by the facts that countries, regions and cities face common environmental problems and that critical mass is needed given the scale, scope and high level of complexity of environmental research. Such cooperation also facilitates common planning, use of connected and inter-operable databases, and the development of common indicators, of assessment methodologies and of coherent and large scale observation and forecasting systems. Furthermore international cooperation is necessary for the completion of knowledge and the promotion of better management at a global level.

Amendment 115

Annex I, part 'Themes', section 6 ('Environment (including Climate Change)'), subsection 'Objective'

Amendment 116

Annex I, part 'Themes', section 6 ('Environment (including Climate Change)'), subsection 'Approach', paragraph 1
Amendment 117
Annex I, part ‘Themes’, section 6 (‘Environment (including climate change)’), subsection ‘Approach’, paragraph 4

Coordination of national programmes will be reinforced by broadening and deepening the scope of existing ERA-NETs in environmental research, including a joint implementation of programmes in Baltic Sea research and new ERA-NETs.

Amendment 118
Annex I, part ‘Themes’, section 6 (‘Environment (including climate change)’), subsection ‘Approach’, paragraph 5

Specific attention will be paid to strengthening the dissemination of EU research outcomes — also through the exploitation of synergies with complementary funding mechanisms at EU and Member State levels — and to stimulating their uptake by relevant end-users, targeting in particular policy makers.

Maximum synergy and complementarity will be sought with complementary funding mechanisms at EU and Member State levels, such as the Sixth Environmental Action Programme, the URBAN programme and the LIFE+ Funds.

Amendment 119
Annex I, part ‘Themes’, section 6 (‘Environment (including climate change)’), subsection ‘Activities’, heading 1 (‘Climate change, pollution and risks’), indent 1

Integrated research on the functioning of climate and the earth system is needed in order to observe and analyse how these systems evolve and predict future evolution. This will enable the development of effective adaptation and mitigation measures to climate change and its impacts. Advanced climate change models from the global to sub-regional scales will be developed and applied to assess changes, potential impacts and critical thresholds. Changes in atmospheric composition and in the water cycle will be studied and risk based approaches will be developed taking into account changes in droughts, storms and floods patterns. Pressures on environmental quality and on climate from pollution of the air, water and soil will be investigated as well as the interactions between the atmosphere, the stratospheric ozone layer, land surface, ice and oceans. Consideration will be given to feedback mechanisms and abrupt changes (e.g. ocean circulation), and to impacts on biodiversity and ecosystems.

Integrated research on the functioning of climate and the earth and ocean systems (including the polar regions) is needed in order to observe and analyse how these systems have changed in the past and how they evolve and predict future evolution. This will enable the development of effective adaptation and mitigation measures to climate change and its impacts. Advanced climate change models from the global to sub-regional scales will be developed and applied to assess changes, potential impacts and critical thresholds. Changes in atmospheric composition and in the water cycle will be studied and risk based approaches will be developed taking into account changes in droughts, storms and floods patterns. Pressures on environmental quality and on climate from pollution of the air, water (both surface and underground) and soil will be investigated as well as the interactions between the atmosphere, the stratospheric ozone layer, land surface, ice and oceans, including the effects which changes in sea levels have in coastal areas. Consideration will be given to feedback mechanisms and abrupt changes (e.g. ocean circulation), and to impacts on biodiversity and ecosystems, including impacts on particularly sensitive areas such as coastal and mountain regions.
Multidisciplinary research on interactions of environmental risk factors and human health is needed to support the Environment and Health action plan and the integration of public health concerns and disease characterisation related to emerging environmental risks. Research will focus on multiple exposures via different exposure routes, identification of pollution sources and new or emerging environmental stressors (e.g. indoor and outdoor air, electromagnetic fields, noise, and exposure to toxic substances) and their potential health effects. Research will also aim at integrating research activities on human biomonitoring regarding scientific aspects, methodologies and tools to develop a coordinated and coherent approach. It will include European cohort studies, with attention to vulnerable population groups, and methods and tools for improved risk characterisation, assessment and comparisons of risks and health impacts. Research will develop biomarkers and modelling tools taking into account combined exposures, variations in vulnerability and uncertainty. It will also deliver methods and decision support tools (indicators, cost-benefit and multi-criteria analyses, health impact assessment, burden of disease and sustainability analysis) for risk analysis, management and communication, and for policy development and analysis.

Multidisciplinary research on interactions of environmental and global change risk factors and human health is needed to support the Environment and Health action plan and the integration of public health concerns and disease characterisation related to emerging environmental risks, especially in the urban environment (including post-industrial areas). Research will focus on the impact of global change (climate change, land use, globalisation), multiple exposures via different exposure routes, speciation and toxicology, identification of pollution sources and new or emerging environmental stressors and the interactions thereof with natural agents and components (e.g. harmful gases, fine and ultrafine particles of an animate and inanimate nature, indoor and outdoor air, electromagnetic fields, noise, exposure to toxic substances, gases and car emissions and exposure to solar radiation) and their potential health effects, analyses of syndromes and chronic exposure, interactions of toxic substances and mixtures of such substances, analyses of genetic polymorphisms and immunology tests, including tests for lymphocyte transformation and activation. Investigation will be encouraged into new or existing chemicals, as provided for in Regulation (EC) No …/… of the European Parliament and of the Council of … [concerning the Registration, Evaluation, Authorisation and Restrictions of Chemicals (REACH), establishing a European Chemicals Agency] (1), and also into alternatives to animal testing. Research will also aim at developing novel and improved methods of identifying pollution sources and the effect of their combined influence, integrating epidemiological research activities on human biomonitoring regarding scientific aspects, methodologies and tools to develop a coordinated and coherent approach. It will include European cohort studies, with attention to vulnerable population groups, and methods and tools for improved risk characterisation and monitoring, assessment and comparisons of risks and health impacts. Research will develop biomarkers and modelling and monitoring tools taking into account combined exposures, variations in vulnerability and uncertainty. It will also deliver methods and decision support tools (indicators, cost-benefit and multi-criteria analyses, health impact assessment, burden of disease and sustainability analysis) for risk analysis, management and communication, and for policy development and analysis.

(1) OJ L ...
Managing natural disasters requires a multi risk approach. There is a need for improved knowledge, methods and integrated framework for the assessment of hazards, vulnerability and risks. Furthermore, mapping, prevention and mitigation strategies including consideration of economic and social factors need to be developed. Disasters related to climate (such as storms, droughts, forest fires, landslides and floods), and geological hazards (such as earthquakes, volcanoes and tsunamis) will be studied. This research will allow the underlying processes to be better understood, and prediction and forecasting methods to be improved on the basis of a probabilistic approach. It will also underpin the development of early warning and information systems. Societal repercussions of major natural hazards will be quantified.

Research activities will be targeted to improve the knowledge basis and develop advanced models and tools needed for the sustainable management of resources and the creation of sustainable consumption patterns. This will enable the prediction of the behaviour of ecosystems and their restoration, and the mitigation of degradation and loss of important structural and functional elements of ecosystems (for biodiversity, water, soil and marine resources). Research on ecosystem modelling will take account of protection and conservation practices. Innovative approaches to develop economic activities from ecosystem services will be promoted. Approaches will be developed to prevent desertification, land degradation and erosion, and to stop biodiversity loss. Research will also address sustainable management of forests and the urban environment including planning, and waste management. The research will benefit from and contribute to the development of open, distributed, inter-operable data management and information systems and will underpin assessments, foresight, and services related to natural resources and their use.

Research activities will be targeted to improve the knowledge basis and develop advanced models and tools needed for the sustainable management of resources and the creation of sustainable consumption patterns. This will enable the prediction of the behaviour of ecosystems and their restoration, and the mitigation of degradation and loss of important structural and functional elements of ecosystems (for biodiversity, water, soil and marine resources). Research on ecosystem modelling will take account of protection and conservation practices and protection from erosion, particularly in mountainous areas. Innovative approaches to develop economic activities from ecosystem services will be promoted. Approaches will be developed to prevent desertification, land degradation and erosion, and to stop biodiversity loss. Research will also address the overall strategy for sustainable management and conservation of rural areas, including forests, forestry ecosystems and other ecosystems close to nature that experience changing environmental conditions, including frequent or intense disasters, and the urban environment taking account of the cultural heritage, planning and waste management. The research will benefit from and contribute to the development of open, distributed, inter-operable data management and information systems and will underpin assessments, foresight, and services related to natural resources and their use.
New or improved environmental technologies are needed to reduce the environmental impact of human activities, protect the environment and manage resources more efficiently and to develop new products, processes and services more beneficial for the environment than existing alternatives. Research will target in particular: technologies preventing or reducing environmental risks, mitigating hazards and disasters, mitigating climate change and the loss of biodiversity; technologies promoting sustainable production and consumption; technologies for managing resources or treating pollution more efficiently, in relation to water, soil, air, sea and other natural resources, or waste; technologies for the environmentally sound and sustainable management of the human environment including the built environment, urban areas, landscape, as well as for the conservation and restoration of cultural heritage.

Research will focus on the risk and performance assessment of technologies, including processes and products, and the further development of related methods such as the life cycle analysis. Moreover, focus will be given to: long-term opportunities, market potential and socio-economic aspects of environmental technologies; chemicals risk assessment, intelligent testing strategies and methods for minimising animal testing, risk quantification techniques; and research support to the development of the European Environmental Technologies Verification and Testing system.

Scientific and technological partnerships with developing countries will contribute to the Millennium Development Goals in several fields (e.g. reverse the loss of environmental resources, improvement of water management, supply and sanitation, and facing the environmental challenges of urbanisation), areas where SMEs could also play a key role. Particular attention will be given to the relation between global environmental issues and the regional and local development problems relating to natural resources, biodiversity, land use, natural and man-made hazards and risks, climate change, environmental technologies, and to develop new products, processes and services more beneficial for the environment than existing alternatives. Research will target in particular: technologies preventing or reducing environmental risks, mitigating hazards and disasters, mitigating climate change and the loss of biodiversity; technologies promoting sustainable production and consumption; technologies for managing resources or treating pollution more efficiently, in relation to water, soil, air, sea and other natural resources, or waste, including waste recycling; technologies for treatment and/or valuable reuse of residues or waste materials from energy production; technologies for the environmentally sound and sustainable management of the human environment including the built environment, urban areas, landscape, as well as for the conservation and restoration of cultural heritage.

Research will focus on the risk and performance assessment of technologies, including processes, products and services, and the further development of related methods such as the life cycle analysis. Moreover, focus will be given to: long-term opportunities, market potential and socio-economic aspects of environmental technologies; chemicals risk assessment, intelligent testing strategies and methods for minimising animal testing, risk quantification techniques; and research support to the development of the European Environmental Technologies Verification and Testing system.
environment and health as well as on policy analysis tools. Cooperation with industrialised countries will enhance access to global research excellence.

Amendment 126

Annex I, part 'Themes', section 6 ('Environment (including Climate Change)'), subsection 'International Cooperation', paragraph 3

The establishment of the GEOSS for Earth observation will promote international cooperation for understanding Earth systems and sustainability issues, and coordinated data collection for scientific and policy purposes.

Amendment 127

Annex I, part 'Themes', section 6 ('Environment (including Climate Change)'), subsection 'Responding to emerging needs and unforeseen policy needs', paragraph 2

Support to respond to unforeseen environmental policy needs could, for example, relate to sustainability impact assessments of new EU policies such as in environment, maritime policy, standards and regulations.

Amendment 128

Annex I, part 'Themes', section 7 ('Transport (including Aeronautics)'), subsection 'Objective'

Based on technological advances, develop integrated, 'greener', 'smarter' and safer pan-European transport systems for the benefit of the citizen and society, respecting the environment and natural resources; and securing and further developing the competitiveness and the leading role attained by the European industries in the global market.

Amendment 129

Annex I, part 'Themes', Section 7 ('Transport (including Aeronautics)'), subsection 'Approach', paragraph 3

The various Technology Platforms set up in this field (ACARE for aeronautics and air transport, ERRAC for rail transport, ERTRAC for road transport, WATERBORNE for waterborne transport, Hydrogen and Fuel cells) have elaborated long-term visions and Strategic Research Agendas (SRA) which constitute useful inputs to the definition of this theme and complement the needs of policy makers and expectations of society. Selected aspects of the SRAs may justify setting up Joint Technology
Initiatives. ERA-NET activities present opportunities to facilitate further trans-national coordination for specific topics within the Transport sector and will be pursued wherever appropriate.

Amendment 130
Annex I, part ‘Themes’, Section 7 (‘Transport (including Aeronautics)’), subsection ‘Approach’, paragraph 5

Existing policy needs as well as the development, assessment and implementation of new policies (for example Maritime Policy), will be addressed within and across the different activity lines. The work will include studies, models and tools that deal with strategic monitoring and forecasting and integrate knowledge relating to the main economic, social, safety and environmental issues for transport. Activities supporting cross-cutting thematic topics will focus on transport specificities, for example security aspects as an inherent requirement to the transport system; the use of alternative energy sources in transport applications; and monitoring of environmental effects of transport, including climate change.

Amendment 131
Annex I, part ‘Themes’, section 7 (‘Transport (including Aeronautics)’), subsection ‘Approach’, paragraph 5a (new)

Special attention shall be paid to improving the dissemination of the results of Community research. Encouragement shall be given to multidisciplinary and interdisciplinary approaches, and the maximum degree of synergy and complementarity shall be sought with complementary financial mechanisms at Community and Member State level, such as those referred to in the Marco Polo programme or for the trans-European transport networks.

Amendment 132
Annex I, part ‘Themes’, section 7 (‘Transport (including Aeronautics)’), subsection ‘Activities’, heading 1 (‘Aeronautics and air transport’), paragraph 2

The greening of air transport: Developing technologies to reduce the environmental impact of aviation with the aim to halve the emitted carbon dioxide (CO₂), cut specific emissions of nitrogen oxides (NOₓ) by 80% and halve the perceived noise. Research will focus on furthering green engine technologies including alternative fuels technology as well as improved vehicle efficiency of fixed-wing and rotary wing aircraft, new intelligent low-weight structures, and improved aerodynamics. Issues such as improved aircraft operations at the airport (airside and landside) and air traffic management, manufacturing, maintenance and recycling processes will be included.
Ensuring customer satisfaction and safety: Introducing a quantum leap in passenger choice and schedule flexibility, whilst achieving a five-fold reduction in accident rate. New technologies will enable a wider choice of aircraft/engine configurations ranging from wide body to small size vehicles, increased levels of automation in all the elements of the system, including the piloting. Focus will also be on improvements for passengers comfort, well being and new services and active and passive safety measures with special emphasis on the human element. Research will include the adaptation of airport and air traffic operations to different type of vehicles and 24-hour utilisation at acceptable community noise levels.

Improving cost efficiency: Fostering a competitive supply chain able to halve the time-to-market, and reduce product development and operational cost, resulting in more affordable transport for the citizen. Research will focus on improvements to the whole business process, from conceptual design to product development, manufacturing and in-service operations including the integration of the supply chain. It will include improved simulation capabilities and automation, technologies and methods for the realisation of the zero-maintenance aircraft, as well as lean aircraft, airport and air traffic management operations.

Protection of aircraft and passengers: Preventing hostile action of any kind to incur injury, loss, damage or disruption to travelers or citizens due to the effects of aircraft misuse. Research will focus on the relevant elements of the air transport system...
including security measures in cabin and cockpit designs, automatic control and landing in the case of unauthorised use of aircraft, protection against external attacks, as well as security aspects of airspace management and airport operations.

Amendment 136

Annex I, part ‘Themes’, section 7 (‘Transport (including Aeronautics)’), subsection ‘Activities’, heading 1 (‘Aeronautics and air transport’), paragraph 7

Pioneering the air transport of the future: Exploring more radical, environmentally efficient and innovative technologies that might facilitate the step change required for air transport in the second half of this century and beyond. Research will address aspects such as new propulsion and lifting concepts, new ideas for the interior space of airborne vehicles, new airport concepts, new methods of aircraft guidance and control, alternative concepts of air transport system operation and its integration with other transport modes.

Amendment 137

Annex I, part ‘Themes’, section 7 (‘Transport (including Aeronautics)’), subsection ‘Activities’, heading 2 (‘Surface transport (rail, road and waterborne)’), paragraph 1

The greening of surface transport: Developing technologies and knowledge for reduced pollution (air, water and soil) and environmental impact such as climate change, health, biodiversity and noise. Research will improve the cleanliness and energy-efficiency of power-trains and promote the use of alternative fuels, including hydrogen and fuel cells. Activities will cover infrastructure, vehicles, vessels and component technologies, including overall system optimisation. Research in developments specific to transport will include manufacturing, construction, operations, maintenance, repair, inspection, recycling, end of life strategies and interventions at sea in case of accident.

The greening of surface transport: Improving methodologies for the calculation of external social and environmental costs. Developing technologies and knowledge for reduced pollution (air, water and soil) and environmental impact such as climate change, health, biodiversity and noise. Research will improve the cleanliness, cost-effectiveness and energy-efficiency of power-trains (e.g. hybrid solutions) and promote the use of alternative fuels, including hydrogen and fuel cells, and of trains using alternative hybrid motors, with the goal of achieving carbon-free means of transport. Activities will cover infrastructure, vehicles, vessels and component technologies, including overall system optimisation. Research in developments specific to transport will include manufacturing, construction, operations, maintenance, diagnosis, repair, inspection, dismantling, disposal, recycling, end of life strategies and interventions at sea in case of accident.
Ensuring sustainable urban mobility: Focusing on the mobility of people and goods by research on the ‘next generation vehicle’ and its market take-up, bringing together all elements of a clean, energy efficient, safe and intelligent road transport. Research on new mobility concepts, innovative organisational and mobility management schemes and high quality public transport will aim at ensuring access for all and high levels of intermodal integration. Innovative strategies for clean urban transport will be developed and tested. Particular attention will be paid to non-polluting modes of transport, demand management, rationalisation of private transport, and information and communication strategies, services and infrastructures. Tools supporting policy development and implementation will include transport and land use planning.

Improving safety and security: Developing technologies and intelligent systems to protect vulnerable persons such as drivers, riders, passengers, crew, and pedestrians. Advanced engineering systems and risk analysis methodologies will be developed for the design of vehicles, vessels and infrastructures. Emphasis will be placed on integrative approaches linking human elements, structural integrity, preventive, passive and active safety, rescue and crisis management. Safety will be considered as an inherent component of the total transport system embracing infrastructures, goods and containers, transport users and operators, vehicles and vessels and measures at policy and legislative levels, including decision support and validation tools; security will be addressed wherever it is an inherent requirement to the transport system.

Ensuring sustainable urban mobility **for all citizens, including those with disabilities**: Focusing on the mobility of people and goods by research on the ‘next generation vehicle’ and its market take-up, bringing together all elements of a clean, energy efficient, safe and intelligent road transport. Research on new transport and mobility concepts, innovative organisational and mobility management schemes and high quality public transport will aim at ensuring access for all and high levels of intermodal integration. Innovative strategies for clean urban transport will be developed and tested. Particular attention will be paid to non-polluting modes of transport, demand management, rationalisation of private transport, and information and communication strategies, services and infrastructures. **Focus will also be on quality of mobility and user satisfaction, in particular for persons with reduced mobility and specific groups like older people and women** Tools and models supporting policy development and implementation will include transport and land use planning.

Improving safety and security: Developing technologies and intelligent systems to protect vulnerable persons such as drivers, riders, passengers, crew and pedestrians. Advanced engineering systems and risk analysis methodologies will be developed for the design of vehicles, vessels and infrastructures. Emphasis will be placed on integrative approaches linking human elements, structural integrity, preventive, passive and active safety, rescue and crisis management. Safety will be considered as an inherent component of the total transport system embracing **on or off-shore** infrastructures, goods **(including LNG)** and containers, transport users and operators, vehicles and vessels and measures at policy and legislative levels, including decision support and validation tools; security will be addressed wherever it is an inherent requirement to the transport system.

Strengthening competitiveness: Improving the competitiveness of transport industries, ensuring sustainable, efficient and affordable transport services and creating new skills and job

Strengthening competitiveness: Improving the competitiveness of transport industries, ensuring sustainable, efficient and affordable transport services and creating new skills and job
opportunities by research and developments. Technologies for advanced industrial processes will include design, manufacturing, assembly, construction and maintenance and will aim at decreasing life cycle costs and development lead-times. Emphasis will be placed on innovative product concepts and improved transport services ensuring higher customer satisfaction. New production organisation including the supply chain management and distribution systems will be developed.

Amendment 141

Annex I, part ‘Themes’, section 7 (‘Transport (including Aeronautics)’), subsection ‘Activities’, heading 3 (‘Support to the European global satellite navigation system (Galileo)’), paragraph 3

Providing the tools and creating the appropriate environment: ensuring safe use of services, mainly through certification in key application domains; preparing and confirming the adequacy of services to new policies and legislation, including their implementation; addressing public regulated services according to the approved policy of access; developing essential digital topology, cartography, geodesy data and systems for use in navigation applications; addressing safety and security needs and requirements.

Providing the tools and creating the appropriate environment: ensuring safe use of services, mainly through certification in key application domains; preparing and confirming the adequacy of services to new policies and legislation, including their implementation; addressing public regulated services according to the approved policy of access; developing essential digital topology, cartography, geodesy data and systems for use in navigation applications; addressing safety and security needs and requirements. In the security area, in order to reach maximum interaction with GMES-related systems, feasibility studies and demonstrations will be promoted in order to achieve compatibility and convergence at every possible stage between GMES and Galileo, as part of a GMES ‘system of systems’.

Amendment 142

Annex I, part ‘Themes’, section 8 (‘Socio-Economic Sciences and the Humanities’), subsection ‘Approach’, paragraph 1

The research priorities address key societal, economic and cultural challenges facing Europe and the world now and in the future. The proposed research agenda constitutes a coherent approach to addressing these challenges. The development of a socio-economic and humanities knowledge base on these key challenges will make a significant contribution to promoting shared understanding across Europe and to the resolution of wider international problems. The research priorities will help improve the formulation, implementation, impact and assessment of policy in virtually all Community policy areas at the European, national, regional and local levels, and a substantial international perspective is included in most of the research.

The research priorities address key societal, economic and cultural challenges facing Europe and the world now and in the future. The proposed research agenda constitutes a coherent approach to addressing these challenges. The development of a socio-economic, socio-cultural and humanities knowledge base on these key challenges will make a significant contribution to promoting shared understanding across Europe and to the resolution of wider international problems. The research priorities will help improve the formulation, implementation, impact and assessment of policy in virtually all Community policy areas at the European, national, regional and local levels, and a substantial international perspective is included in most of the research.
Amendment 143

Annex I, part ‘Themes’, section 8 (‘Socio-Economic Sciences and the Humanities’), subsection ‘Activities’, heading 1
(‘Growth, employment and competitiveness in a knowledge society’), paragraph 1, introductory part

This will aim to develop and integrate research on the issues affecting growth, employment and competitiveness in order to provide an improved and integrated understanding of these issues for the continued development of a knowledge society. It will benefit policy and support progress towards achieving these objectives. The research will integrate the following aspects of the question:

- The changing role of knowledge throughout the economy, including the role of different types of knowledge and competences, education and lifelong learning, and intangible investment.

Amendment 144

Annex I, part ‘Themes’, section 8 (‘Socio-Economic Sciences and the Humanities’), subsection ‘Activities’, heading 1
(‘Growth, employment and competitiveness in a knowledge society’), paragraph 1, indent 1

- The changing role of knowledge throughout the economy, including the role of different types of knowledge and competences, entrepreneurship and creativity, cultural factors, values, education, including non-formal education, and lifelong learning, and intangible investment; the role of knowledge and intangible goods in the production of economic, social and cultural wealth and their contribution to social and environmental well-being.

Amendment 145

(‘Growth, employment and competitiveness in a knowledge society’), paragraph 1, indent 2

- Economic structures, structural change and productivity issues, including the role of the services sector, of finance, demographics, demand and the processes of long-term change.

Amendment 146

Annex I, part ‘Themes’, section 8 (‘Socio-Economic Sciences and the Humanities’), subsection ‘Activities’, heading 1
(‘Growth, employment and competitiveness in a knowledge society’), paragraph 1, indent 3

- Institutional and policy questions, including macroeconomic policy, labour markets, institutional contexts, and policy coherence and coordination.

- Economic structures, structural change, intersectoral relations and productivity issues, including the role of the services sector, outsourcing of services, information and communications technology, finance, demographics, demand and the processes of long-term change.

- Institutional and policy questions, including macroeconomic policy, labour markets, social and welfare systems, national and regional institutional contexts, the changing role of scientific expertise in the policy-making process and policy coherence and coordination.
Amendment 147

Annex I, part ‘Themes’, section 8 (‘Socio-Economic Sciences and the Humanities’), subsection ‘Activities’, heading 3 (‘Major trends in society and their implications’), paragraph 1, indent 1a (new)

— Developing urban research to better understand thematic (environment, transport, social, economic, demographic) and spatial (urban, regional) interactions in the city and to develop, first, innovative planning mechanisms to address the issues in an integrated and sustainable manner and, second, urban governance, the development of innovative instruments and approaches to enhance citizens’ participation and cooperation between public and private actors, to understand better the roles of European cities in a global context (urban competitiveness), to support local authorities in improving social cohesion and fighting exclusion in cities where inequalities grow despite economic development.

Amendment 148

Annex I, part ‘Themes’, section 8 (‘Socio-Economic Sciences and the Humanities’), subsection ‘Activities’, heading 3 (‘Major trends in society and their implications’), paragraph 1, indents 3a and 3b (new)

— Urban competitiveness: the role of European cities in a global context, local policies to improve cohesion.

— Urban research: focusing on thematic (environment, transport, social, economic, demographic) and spatial interactions in the city to develop integrated and sustainable governance processes.

Amendment 149

Annex I, part ‘Themes’, section 8 (‘Socio-Economic Sciences and the Humanities’), subsection ‘Activities’, heading 3 (‘Major trends in society and their implications’), paragraph 1, indent 3c (new)

— Studies into the impact of culture, the cultural heritage and creative and culture-oriented industries on socio-economic development and the employment market.

Amendment 150

Annex I, part ‘Themes’, section 8 (‘Socio-Economic Sciences and the Humanities’), subsection ‘Activities’, heading 4 (‘Europe in the world’), first paragraph, indent 2

— Conflicts, their causes and resolution; the relation between security and destabilising factors such as poverty, crime, environmental degradation and resource scarcity; terrorism, its causes and consequences; security-related policies and perceptions of insecurity and civil-military relations.

— Conflicts, their causes and resolution; the relation between security and destabilising factors such as poverty, migration, crime, environmental degradation and resource scarcity; terrorism, its causes and consequences; security-related policies and perceptions of insecurity and civil-military relations.
Amendment 151

Annex I, part ‘Themes’, section 8 (‘Socio-Economic Sciences and the Humanities’), subsection ‘Activities’, heading 7 (‘Foresight activities’), paragraph 1, indent 1

— Wide socio-economic foresight on a limited number of key challenges and opportunities for the EU, exploring issues such as the future and implications of ageing, migration, globalisation of knowledge, changes in crime and major risks.

— Wide socio-economic foresight on a limited number of key challenges and opportunities for the EU, exploring issues such as the future and implications of ageing, migration, globalisation and the dissemination of knowledge, changes in crime and major risks.

Amendment 152

Annex I, part ‘Themes’, section 8 (‘Socio-Economic Sciences and the Humanities’), subsection ‘Activities’, heading 7 (‘Foresight activities’), paragraph 1, indent 4a (new)

— Humanities: Language, its structure and acquisition. History, art history, geography, earth sciences, territorial history. Philosophy, cultural and religious history.

The cultural heritage of visual arts, traditional arts and crafts, architecture and cities.

Amendment 153


9. Security

Supporting a European Space Programme focusing on applications such as GMES with benefits for citizens and for the competitiveness of the European space industry. This will contribute to the development of a European Space Policy, complementing efforts by Member States and by other key players, including the European Space Agency.

Amendment 154


9.1. Security deleted

Amendment 155


Activities at Community level will address four security mission areas which have been identified in response to specific challenges of high political relevance and European added value with regard to threats and potential security incidents, and three areas of cross-cutting interest. Each mission area covers six phases which vary in time and emphasis. These six phases are: identify (incident related), prevent (threat related), protect (target related), prepare (operation related), respond (crisis related) and recover (consequence related); they describe what efforts to undertake in the respective phases. The first four

Specific confidentiality requirements must be met, although without unnecessarily restricting the transparency of research results. To that end areas need to be identified which currently permit the transparency of research results. Each mission area covers six phases which vary in time and emphasis. These six phases are: identify (incident related), prevent (threat related), protect (target related),
phases refer to efforts of avoiding an incident and mitigating its potential negative impacts, the last two refer to efforts of coping with the incident situation and longer term consequences.

Amendment 156

The involvement of small and medium enterprises (SME) in the activities is as strongly encouraged as that of authorities and organisations responsible for the security of the citizens. The longer term research agenda elaborated by the European Security Research Advisory Board (ESRAB) will support the definition of the content and structure of the research in this theme.

Amendment 157

Protection against terrorism and crime: Activities will concentrate on threat aspects of potential incidents such as offenders, equipment and resources used by them or as mechanisms of attack. A series of capabilities are required to cope with this mission area, many of which primarily relate to the phases ‘identify’, ‘prevent’ and ‘prepare’ and ‘respond’. The ambition is both to avoid an incident and to mitigate its potential consequences. To build up the required capabilities, emphasis will be on issues such as: threat (e.g. Chemical, Biological, Radiological and Nuclear) awareness (e.g. intelligence gathering, collection, exploitation, sharing; alerting), detection (e.g. hazardous substances, individuals or groups, suspect behaviour), identification (e.g. of persons, type and amount of substances), prevention (e.g. control of access and movements, with respect to financial resources, control of financial structures), preparedness (e.g. risk assessment; control of intentionally released biological and chemical agents; assessment of levels for strategic reserves such as manpower, skills, equipment, consumables; with respect to large scale events etc.), neutralisation and containment of effects of terrorist attacks and crime, law enforcement data processing, peace studies and research into peaceful conflict prevention and resolution.
Amendment 158


Security of infrastructures and utilities: Activities will concentrate on targets of an incident, examples for infrastructures include large scale event sites, significant sites of political (e.g. parliament buildings) or symbolic (e.g. particular monuments) value and utilities being those for energy (including oil, electricity, gas), water, transport (including air, sea, land), communication (including broadcasting), financial, administrative, public health etc. A series of capabilities are required to cope with this mission area, many of which primarily relate to the phases ‘protect’ but also ‘prepare’. The ambition is both to avoid an incident and to mitigate its potential consequences. To build up the required capabilities, emphasis will be on issues such as: analysing and assessing vulnerabilities of physical infrastructure and its operations; securing existing and future public and private critical networked infrastructures, systems and services with respect to their physical and functional side; control and alert systems to allow for quick response in case of an incident; protection against cascading effects of an incident.

Amendment 159


Security Systems Integration and interoperability

Security Systems Integration, interconnection and interoperability

Amendment 160


Specific international cooperation actions will be considered where there is mutual benefit in line with the EU Security Policy, such as research relating to security activities of global applicability.

Specific international cooperation actions will be considered where there is mutual benefit in line with the EU Security Policy, such as research relating to activities of global applicability linked to security and disasters.

Amendment 161

Annex I, part ‘Themes’, section 9.1 (‘Security’), subsection ‘Responding to emerging needs and unforeseen policy needs’

The Security Research theme is by nature and design flexible. Activities will allow the accommodation of as yet unknown future security threats and related policy needs that may arise. This flexibility will complement the mission-oriented character of the research activities set out above.

The Security Research theme is by nature and design flexible. Activities will allow the accommodation of as yet unknown future disasters and security threats and related policy needs that may arise. This flexibility will complement the mission-oriented character of the research activities set out above.
Amendment 162

Annex I, part 'Themes', section 9.2 ('Space'), title and subsection 'Objective' (new)

9.2. Space

9a. Space

Objective

Supporting a European Space Programme focusing on applications such as GMES with benefits for citizens and for the competitiveness of the European space industry. This will contribute to the development of a European Space Policy, complementing efforts by Member States and by other key players, including the European Space Agency.

Amendment 163

Annex I, part 'Themes', section 9.2 ('Space'), subsection 'Activities', heading 1 ('Space-based applications at the service of the European Society'), indent 1, ('Global Monitoring for Environment and Security (GMES)')

The objective is to develop appropriate satellite based monitoring and early warning systems as unique and globally available data sources and to consolidate and stimulate evolution of their operational use. This programme will also provide support to the development of operational GMES services, which enable decision-makers to better anticipate or mitigate crisis situations and issues relating to the management of the environment and security. Research activities should mainly contribute to maximise the use of GMES data collected from space-borne sources and to integrating these with data from other observation systems in complex products designed to deliver information and customised services to end-users through an efficient data integration and information management. Research activities should also contribute to enhance monitoring techniques and associated instrument technologies, to develop where necessary new space-based systems or improve the interoperability of existing ones, and to enable their use in (pre)operational services responding to specific types of demand.

Amendment 164

Annex I, part 'Themes', section 9.2 'Space', subsection 'Activities', bullet 1, indent 3a (new)

Assessing and monitoring international commitments, involving Europe, undertaken beyond European borders.
Amendment 165

Annex I, part ‘Themes’, section 9.2 (‘Space’), subsection ‘Responding to emerging needs and unforeseen policy needs’

Research on emerging needs will enable innovative solutions to technological developments in the space research area, and possible adaptations and applications in other fields (e.g., resources management, biological processes, and new materials). Research to respond to unforeseen policy needs may address topics such as providing space based solutions in support of developing countries, developing new space-observation and communication tools and methods related to relevant Community policies and contributions to social inclusion.

Amendment 166

Annex II, table

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>6 134</td>
</tr>
<tr>
<td>Food, Agriculture and Biotechnology</td>
<td>1 935</td>
</tr>
<tr>
<td>Information and Communication Technologies</td>
<td>9 020</td>
</tr>
<tr>
<td>Nanosciences, Nanotechnologies, Materials and new Production Technologies</td>
<td>3 467</td>
</tr>
<tr>
<td>Energy</td>
<td>2 385</td>
</tr>
<tr>
<td>Environment (including Climate Change)</td>
<td>1 886</td>
</tr>
<tr>
<td>Transport (including Aeronautics)</td>
<td>4 150</td>
</tr>
<tr>
<td>Socio-economic Sciences and the Humanities</td>
<td>657</td>
</tr>
<tr>
<td>Security and Space</td>
<td>1 429</td>
</tr>
<tr>
<td>Space</td>
<td>1 429</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>32 492</td>
</tr>
</tbody>
</table>

Amendment 167

Annex III, heading ‘Joint Technology Initiatives’, bullet 5 (‘Aeronautics and Air Transport’), paragraph 1

Europe must remain at the forefront of key technologies if it is to have sustainable, innovative and competitive aeronautics and air transport industries in the future. As an RTD-intensive industry, the existing competitiveness of the European aeronautical and air transport companies in world markets has been built on significant private research investments (typically 13-15% of the turnover) over many decades. Given the specificities of the sector, new developments often depend on effective cooperation between the public and the private sector.
significant private research investments (typically 13-15% of the turnover) over many decades. Given the specificities of the sector, new developments often depend on effective cooperation between the public and the private sector.

Amendment 168
Annex III, heading 'Joint Technology Initiatives', bullet 5 ('Aeronautics and Air Transport'), paragraph 3

In the field of Aeronautics and Air Transport, different areas would be addressed, such as environmentally friendly and cost efficient aircraft ('The Green Aircraft'), and air traffic management in support of the Single European Sky policy and Sesame initiative.

Amendment 169
Annex III, heading 'Risk-Sharing Finance Facility', paragraph 2

The EIB will lend funds raised from international financial markets in accordance with its standard rules, regulations and procedures. It will then use this grant, together with its own funds, as provisions and capital allocation within the bank to cover part of the risks associated with these loans to eligible large European RTD actions.

Amendment 170
Annex III, heading 'Risk-Sharing Finance Facility', paragraph 4

This grant will be disbursed on a yearly basis. The annual amount will be established in the work programmes, taking into consideration the activity report and forecasts that the EIB will present to the Community.

Amendment 171
Annex III, heading 'Risk-Sharing Finance Facility', paragraph 5, bullet 2

The eligibility of large European RTD actions. By default, 'Joint Technology Initiatives' and large collaborative projects funded by the Community under the contributing themes and activities of this Specific Programme shall be automatically eligible. Other large European collaborative projects such as Eureka ones could also be considered. In accordance with the regulation adopted pursuant to Article 167 of the Treaty, the grant agreement will also establish procedural modalities and will guarantee to the Community the possibility to veto under certain circumstances the use of the grant for provisioning a loan proposed by the EIB.

The overall amount of the grant for the whole period will be proposed in advance, as will be projected annual amounts. This grant will be disbursed on a yearly basis and the annual amount thereof may be revised in the work programmes, taking into consideration the activity report and forecasts that the EIB will present to the Community.

The eligibility of SMEs should also be made very clear. In accordance with the regulation adopted pursuant to Article 167 of the Treaty, the grant agreement will also establish procedural modalities and will guarantee to the Community the possibility to veto under certain circumstances the use of the grant for provisioning a loan proposed by the EIB.