OPINION

of the Committee on the Environment, Public Health and Food Safety

for the Committee on Industry, Research and Energy


Rapporteur: Cristian Silviu Buşoi
SHORT JUSTIFICATION

Horizon 2020, as mentioned in the Commission Communication accompanying the programme, aims at implementing the Innovation Union flagship objectives, focusing on current societal challenges and strengthening the link between bottom-up, top-down research and commercialisation. Further simplification and increasing SMEs’ participation are also targeted. Many societal challenges are ENVI committee related such as climate, resource efficiency, clean energy and transport, health and food safety. The rapporteur warmly welcomes the proposals of the Commission, but wishes to put more emphasis on some of the aspects addressed.

In the current opinion, the Rapporteur considered a holistic approach as the best way to further strengthen ENVI committee priorities. This first report should also be seen as opening the debate on this complex programme which is of key importance for increasing sustainable and green economic growth in the European Union while promoting a healthy society.

The opinion mainly focuses on societal challenges and proposes to strengthen some aspects related to health, food safety, climate and environment.

Health

Given its high added value for innovative treatments, for instance in regenerative medicine, stem cell research, through exploring existing alternatives to embryonic stem cells, should continue to be supported while acknowledging ethical concerns. A special focus should also be paid to research and innovation on disease treatment. Public support for R&D on infections and rare diseases should be increased and knowledge sharing should be promoted. Patients’ needs should be a driver for health innovation and R&D funding. Moreover, environmental health R&D and innovation should be properly financed.

Food safety

The Societal Challenges related to food security is proposed to be broadened by opening it to all aspects of food safety.

Climate and Environment

The balance between economic, social and environmental aspects of research and innovation should be regularly and effectively monitored. Support for renewable energy should be strengthened. Increasing the efficiency of renewable energy can make it more economically attractive, while fighting climate change, decreasing our dependency on fossil fuels and promoting a low carbon economy.

Horizon 2020 is a key programme which could help the EU in further decreasing harmful gas and particles emissions for the environment and health, without any burden on industries or Members States.

Horizontal Aspects

Further linking the objectives of Innovation Union and Research Efficiency flagship initiatives to Horizon 2020 is needed and therefore is incorporated in the opinion. In order to have a maximum benefit of R&D and Innovation projects across EU, complementarity of Horizon 2020 with other EU and National Funds should be strictly monitored. Moreover, it is also proposed to further increase the SMEs participation, which can be the driver for a green
and sustainable economic growth. One important aspect of performance indications, which monitor the implementation of Horizon 2020 objectives, is also touched on in the report.

Further amendments between the split of research budgets and objectives in the innovation chain as well as simplification are left until after the future ENVI committee debate on Horizon 2020.
AMENDMENTS

The Committee on the Environment, Public Health and Food Safety calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following amendments in its report:

Amendment 1

Proposal for a regulation
Recital 1

Text proposed by the Commission

(1) The Union has the objective of strengthening its scientific and technological bases by achieving a European Research Area (‘ERA’) in which researchers, scientific knowledge and technology circulate freely, and encouraging the Union to become more competitive, including in its industry. To pursue those objectives the Union should carry out activities to implement research, technological development and demonstration, promote international cooperation, disseminate and optimise results and stimulate training and mobility.

Amendment

(1) The Union has the objective of strengthening its scientific and technological bases by achieving a European Research Area (‘ERA’) in which researchers, scientific knowledge and technology circulate freely, and encouraging the Union to become more sustainable, competitive, and resilient, including in its industry. To pursue those objectives the Union should carry out activities to implement research, technological development and demonstration, promote international cooperation, disseminate and optimise results and stimulate training and mobility.

Amendment 2

Proposal for a regulation
Recital 11

Text proposed by the Commission

(11) Horizon 2020 - the Framework Programme for Research and Innovation in the European Union (hereinafter ‘Horizon 2020’), focuses on three priorities, namely generating excellent science in order to strengthen the Union's world-class excellence in science, fostering industrial leadership to support business, including small and medium-sized enterprises (SME) and innovation and tackling societal challenges, in order to respond directly to

Amendment

(11) Horizon 2020 - the Framework Programme for Research and Innovation in the European Union (hereinafter ‘Horizon 2020’), focuses on three priorities, namely increasing the level of scientific excellence in Europe in order to strengthen the Union's position as a world-class science base, fostering industrial leadership to support business, including small and medium-sized enterprises (SME) and innovation and tackling societal
the challenges identified in the Europe 2020 strategy by supporting activities covering the entire spectrum from research to market. Horizon 2020 should support all stages in the innovation chain, especially activities closer to the market including innovative financial instruments, as well as non-technological and social innovation, and aims to satisfy the research needs of a broad spectrum of Union policies by placing emphasis on the widest possible use and dissemination of knowledge generated by the supported activities up to its commercial exploitation. The priorities of Horizon 2020 should also be supported through a programme under the Euratom Treaty on nuclear research and training.

Amendment 3

Proposal for a regulation
Recital 20

Text proposed by the Commission

(20) With the aim of deepening the relationship between science and society and reinforcing public confidence in science, Horizon 2020 should favour an informed engagement of citizens and civil society on research and innovation matters by promoting science education, by making scientific knowledge more accessible, by developing responsible research and innovation agendas that meet citizens' and civil society's concerns and expectations and by facilitating their participation in Horizon 2020 activities.

Amendment

(20) With the aim of deepening the relationship between science and society, Horizon 2020 should favour responsible research and innovation through the active participation of the societal actors (researchers, citizens and civil society, policy makers and industry) in the research and innovation process, notably by ensuring the uptake of the gender dimension; by promoting science education, by guaranteeing the respect of ethical legislation and promoting the emergence of an adherence to the highest ethical standards worldwide; by increasing the accessibility and re-use of the results of publicly funded research, in particular scientific publications and data; by making scientific knowledge more accessible, by developing a governance framework that meet citizens' and civil society's concerns and expectations and
facilitates their participation in Horizon 2020 activities.

Amendment 4
Proposal for a regulation
Recital 20 a (new)

Text proposed by the Commission

(20a) Accessibility of information and communication actions concerning Horizon 2020, including communication concerning supported projects and results, requires the provision of accessible formats for all. Accessible formats include, but are not limited to, large print, Braille, easy-to-read text, audio, video, and electronic format.

Amendment 5
Proposal for a regulation
Recital 21

Text proposed by the Commission

(21) The implementation of Horizon 2020 should respond to the evolving opportunities and needs from science and technology, industry, policies and society. As such, the agendas should be set in close liaison with stakeholders from all sectors concerned, and sufficient flexibility should be allowed for new developments. External advice should be sought on a continuous basis during Horizon 2020, also making use of relevant structures such as European Technology Platforms, Joint Programming Initiatives and the European Innovation Partnerships.

Amendment

(21) The implementation of Horizon 2020 must recognise the need for leadership by European Institutions to ensure global competitiveness particularly in the area of biotechnology. External advice should be sought on a continuous basis during Horizon 2020, also making use of relevant structures such as European Technology Platforms, Joint Programming Initiatives and the European Innovation Partnerships.
Partnerships.

Amendment 6
Proposal for a regulation
Recital 22

Text proposed by the Commission
(22) Horizon 2020 should contribute to the attractiveness of the research profession in the Union. Adequate attention should be paid to the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers, together with other relevant reference frameworks defined in the context of the European Research Area, while respecting their voluntary nature.

Amendment
(22) Horizon 2020 should contribute to the attractiveness of the research profession, particularly its industrial and biomedical branches, in the Union. Adequate attention should be paid to the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers, together with other relevant reference frameworks defined in the context of the European Research Area, while respecting their voluntary nature.

Amendment 7
Proposal for a regulation
Recital 22 a (new)

Text proposed by the Commission
(22a) Horizon 2020 should also help persuade European researchers to remain in Europe, attract researchers from the whole world to Europe and make Europe a more attractive destination for the best researchers. Consideration should therefore be given at European level to establishing attractive, coordinated tax arrangements for researchers.

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(22a) Horizon 2020 should also help persuade European researchers to remain in Europe, attract researchers from the whole world to Europe and make Europe a more attractive destination for the best researchers. Consideration should therefore be given at European level to establishing attractive, coordinated tax arrangements for researchers.

Amendment 8
Proposal for a regulation
Recital 23
Text proposed by the Commission

(23) The activities developed under Horizon 2020 should aim at promoting equality between men and women in research and innovation, by addressing in particular the underlying causes of gender imbalance, by exploiting the full potential of both female and male researchers, and by integrating the gender dimension into the content of projects in order to improve the quality of research and stimulate innovation. Activities should also aim at the implementation of the principles relating to the equality between women and men as laid down in Articles 2 and 3 of the Treaty on European Union and Article 8 TFEU.

Amendment

(23) Horizon 2020 funded research activities should comply with the EU acquis communautaire with regard to equal opportunities between men and women. Horizon 2020 should pay attention to excellent science and to professional qualification of scientific and research personal of both sex involved in research and innovation. In order to assure the effective use of EU funding, the principal distinction for EU research funding should be the excellence of science project and the professional qualification of the research staff.

Amendment 9

Proposal for a regulation
Recital 24

Text proposed by the Commission

(24) Research and innovation activities supported by Horizon 2020 should respect fundamental ethical principles. The opinions of the European Group on Ethics in Science and New Technologies should be taken into account. Research activities should also take into account Article 13 TFEU and reduce the use of animals in research and testing, with a view ultimately to replacing animal use. All activities should be carried out ensuring a high level of human health protection in accordance with Article 168 TFEU.

Amendment

(24) Research and innovation activities supported by Horizon 2020 should respect fundamental ethical principles. The reasoned, regularly updated opinions of the European Group on Ethics in Science and New Technologies should be taken into account, which entails, as a prerequisite, a transparent method of selection underpinned by the independence and scientific expertise of the members of the European Group on Ethics in Science and New Technologies (EGE). Research activities should also take into account Article 13 TFEU and reduce the use of animals in research and testing, with a view ultimately to replacing animal use, including through strategic development, integration and use of innovative, non-animal tools and technologies. All activities should be
carried out ensuring a high level of human health protection in accordance with Article 168 TFEU.

**Justification**

_The political goal of reduction and ultimate replacement of animal use should be linked to the practical approach that will be needed to make this goal a reality._

**Amendment 10**

**Proposal for a regulation**

**Recital 25**

_*Text proposed by the Commission*_

(25) The European Commission does not explicitly solicit the use of human embryonic stem cells. The use of human stem cells, be they adult or embryonic, if any, depends on the judgement of the scientists in view of the objectives they want to achieve and is subject to stringent Ethics Review. _No project_ involving the use of human embryonic stem cells _should_ be funded that does not obtain the necessary approvals from the Member States. _No activity should be funded that is forbidden in all Member States._ _No activity should be funded in a Member State where such activity is forbidden._

_*Amendment*_

(25) _Stem cell therapies have shown their strong added value by leading to breakthroughs in disease treatment. Therefore, the Union should continue to support research in this area._ The European Commission does not explicitly solicit the use of human embryonic stem cells. The use of human stem cells, be they adult or embryonic if any, depends on the judgement of the scientists in view of the objectives they want to achieve and is subject to stringent Ethics Review. _Projects_ involving the use of human embryonic stem cells _may_ be funded _provided_ that they have been duly approved by the Member States concerned. _Where allowed by national legislation, the creation and maintenance of public human embryonic stem cell banks should be considered._

**Amendment 11**

**Proposal for a regulation**

25 a (new)
(25a) The Commission should actively support research aiming at developing alternatives to embryonic stem cells. The recent discovery of induced pluripotent stem cells (iPSCs) has opened up a new avenue for research, over and beyond the opportunities for research on adult and embryonic stem cells that have existed for several years, and has thus offered new hope to patients awaiting treatment. Nevertheless, the Commission should also take due account of the scientific community's interest in all types of stem cell research and, therefore, not favour any one over another, while considering the ethical problems raised by each category of stem cells.

Amendment 12
Proposal for a regulation
Recital 26

(26) To achieve maximum impact, Horizon 2020 should develop close synergies with other Union programmes in areas such as education, space, environment, competitiveness and SMEs, the internal security, culture and media and with the Cohesion Policy funds and Rural Development Policy, which can specifically help to strengthen national and regional research and innovation capabilities in the context of smart specialization strategies.

(26) To achieve maximum impact, Horizon 2020 should develop close synergies with other Union programmes in areas such as health, education, space, environment, competitiveness and SMEs, the internal security, culture and media and with the Cohesion Policy funds and Rural Development Policy, which can specifically help to strengthen national and regional research and innovation capabilities in the context of smart specialization strategies. In addition, complementarity between Horizon 2020 and programmes funded at national level should also be ensured. That complementarity should also be taken into account by the European Court of Auditors when assessing the
Amendment 13
Proposal for a regulation
Recital 27

Text proposed by the Commission

(27) SMEs constitute a significant source of innovation and growth in Europe. Therefore a strong participation of SMEs, as defined in Commission Recommendation 2003/361/EC of 6 May 2003, is needed in Horizon 2020. This should support the aims of the Small Business Act.

Amendment

(27) SMEs constitute an essential source of innovation, growth and jobs in Europe. Therefore a strong participation of SMEs, as defined in Commission Recommendation 2003/361/EC of 6 May 2003, is needed in Horizon 2020. This should support the aims of the Small Business Act.

Amendment 14
Proposal for a regulation
Recital 27 a (new)

Text proposed by the Commission

(27a) In order to maximise the impact of Horizon 2020 special consideration should be given to multidisciplinary, interdisciplinary and transdisciplinary approaches as necessary elements for major scientific progress. Breakthroughs in science take often place at the boundaries or intersections of disciplines and knowledge. Furthermore, the complexity of the problems and challenges that Europe is facing requires solutions that can only be tackled from several disciplines and societal actors working together.

Justification

Multidisciplinary, interdisciplinary and transdisciplinary are crucial for advancing in science and innovation. The complexity of the present problems cannot be often tackled by a scientific
discipline or researchers alone. Consequently common objectives or common cognitive structures among disciplines and societal actors are regularly needed to find and develop the best solutions. For this reason, Horizon 2020 should not only foresee but also promote multidisciplinary and interdisciplinary.

Amendment 15
Proposal for a regulation
Recital 30

**Text proposed by the Commission**

(30) Horizon 2020 should promote cooperation with third countries based on common interest and mutual benefit. International cooperation in science, technology and innovation should be targeted to contribute to achieving the Europe 2020 objectives to strengthen competitiveness, contribute to tackling societal challenges and support Union external and development policies, including by developing synergies with external programmes and contributing to the Union's international commitments such as the achievement of Millennium Development Goals.

**Amendment**

(30) Horizon 2020 should promote cooperation with third countries based on common interest and mutual benefit. International cooperation in science, technology and innovation should be targeted to contribute to achieving the Europe 2020 objectives to strengthen competitiveness, contribute to tackling societal challenges and support Union external and development policies, including by developing synergies with external programmes and contributing to the Union's international commitments such as the achievement of Millennium Development Goals and the RIO+20 targets.

Amendment 16
Proposal for a regulation
Recital 30 a (new)

**Text proposed by the Commission**

(30a) The participation of research teams in different projects should be contemplated as the reinforcement of quality and the possibility of an international co-operation.

**Amendment**

(30a) The participation of research teams in different projects should be contemplated as the reinforcement of quality and the possibility of an international co-operation.
Amendment 17
Proposal for a regulation
Recital 32

Text proposed by the Commission

(32) The need for a new approach to control and risk management in Union research funding was recognised by the European Council of 4 February 2011, asking for a new balance between trust and control and between risk-taking and risk avoidance. The European Parliament, in its Resolution of 11 November 2010 on simplifying the implementation of the Research Framework Programmes, called for a pragmatic shift towards administrative and financial simplification and states that the management of European research funding should be more trust-based and risk-tolerant towards participants. The interim evaluation report of the Seventh Framework Programme for Research (2007-2013) concludes that a more radical approach is needed to attain a quantum leap in simplification, and that the risk-trust balance needs to be redressed.

Amendment

(32) The need for a new approach to develop an evidence-based risk management strategy as part of the Union’s research funding strategy was recognised by the European Council of 4 February 2011. At this time the Council asked for a new balance between trust and control and between risk-taking and risk avoidance. The European Parliament, in its Resolution of 11 November 2010 on simplifying the implementation of the Research Framework Programmes, called for a pragmatic shift towards administrative and financial simplification and states that the management of European research funding should be more trust-based and risk-tolerant towards researchers. The interim evaluation report of the Seventh Framework Programme for Research (2007-2013) concludes that a more radical approach is needed to attain a quantum leap toward simplified procedures that demonstrate the Union's trust in researchers and encourage them to take the risks needed for accelerated progress in science and technology.

Amendment 18
Proposal for a regulation
Recital 35

Text proposed by the Commission

(35) Effective performance management, including evaluation and monitoring, requires development of specific performance indicators which can be measured over time; are both realistic and

Amendment

(35) Effective performance management, including evaluation and monitoring, requires development of specific common European performance indicators which can be measured over time; are both
reflect the logic of the intervention; and relevant to the appropriate hierarchy of objectives and activities. Appropriate coordination mechanisms should be put in place between the implementation and monitoring of Horizon 2020, and the monitoring of progress, achievements and functioning of the ERA.

Amendment 19
Proposal for a regulation
Article 1 – paragraph 1

Text proposed by the Commission

This Regulation establishes Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) (‘Horizon 2020’) and determines the framework governing Union support to research and innovation activities and fostering better exploitation of the industrial potential of policies of innovation, research and technological development.

Amendment

This Regulation establishes Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) (‘Horizon 2020’) and determines the framework governing Union support to research and innovation activities and fostering better exploitation of the societal, economic and industrial potential of policies of innovation, research and technological development.

Amendment 20
Proposal for a regulation
Article 2 – paragraph 1 – point e a (new)

Text proposed by the Commission

( ea) 'Research infrastructures' (RI) "are facilities, resources, organisational systems and services that are used by the research communities to conduct research and innovation in their fields. Where relevant, they may be used beyond research, e.g. for education or public services. This includes: major scientific equipment (or sets of instruments);"
knowledge-based resources such as collections, archives or scientific data; e-infrastructures, such as data, computing and software systems, communication networks and systems to promote openness and digital trust; any other infrastructure of a unique nature essential to achieve excellence in research and innovation."

**Justification**

In order to have common definition referring to the concept of infrastructure, is needed to include in a legislative document the concept already in use that enlarge the traditional interpretation, linked with buildings and physical investment.

**Amendment 21**

Proposal for a regulation
Article 2 – paragraph 1 – point e b (new)

**Text proposed by the Commission**

Amendment

(eb) 'Trans-European technology transfer' means the transfer of scientific outcomes and technology between public and private bodies located in different EU Member States.

**Amendment 22**

Proposal for a regulation
Article 2 – paragraph 1 – point e c (new)

**Text proposed by the Commission**

Amendment

(ec) 'Smart Specialization' means the concept for the development of the R&D and innovation policy of the European Union. The objective of smart specialization is to promote efficient and effective use of public investment using synergies among countries and regions and strengthening their innovation.
capacity. The smart specialization strategy is made of a multi-annual strategy program which goal is to develop a functional national or regional research innovation system.

Justification

The smart specialization is the exercise that needs to be done by the regions for the identification of their own capacities and the design of their future regional strategic program. It is a bottom up requirement that allows the transfer of funds from Structural Funds to Innovation and Horizon 20/20 program.

Amendment 23

Proposal for a regulation
Article 4

Text proposed by the Commission

Horizon 2020 shall play a central role in the delivery of the Europe 2020 strategy for smart, sustainable and inclusive growth by providing a common strategic framework for the Union's research and innovation funding, thus acting as a vehicle for leveraging private investment, creating new job opportunities and ensuring Europe's long-term sustainable growth and competitiveness.

Amendment

Horizon 2020 shall play a central role in the delivery of the Europe 2020 strategy for smart, sustainable and inclusive growth and its Innovation Union and resource-efficient Europe flagship initiatives by providing a common strategic framework for the Union's research and innovation funding, thus acting as a vehicle for leveraging private investment, transferring research results to all the levels of education, supporting the growth of SMEs, creating new job opportunities, better health and health outcomes and generating more innovation out of research, and ensuring Europe's long-term sustainability, economic development and resilience, social inclusion and industrial competitiveness through a resource and energy efficient as well as low carbon leadership. Trans-European technology transfer should be the main tool in achieving these goals.

Justification

Education is a very important Europe 2020 flagship. It is an essential tool for European strength. Transfers from science to education programs should be included.
Amendment 24

Proposal for a regulation
Article 5 – paragraph 1

_text proposed by the Commission_ 1. Horizon 2020 shall contribute to building an economy based on knowledge and innovation across the whole Union by leveraging sufficient additional research, development and innovation funding. Thereby, it shall support the implementation of the Europe 2020 strategy and other Union policies, as well as the achievement and functioning of the European Research Area (ERA). The relevant performance indicators are set out in the introduction of Annex I.

_amendment_ 1. Horizon 2020 shall contribute to economic growth by building a resource efficient and low carbon economy based on knowledge, sustainability and innovation across the whole Union by leveraging sufficient additional research, development and innovation funding. Thereby, it shall support the implementation of the Europe 2020 strategy and its Innovation Union and resource-efficient Europe flagship initiatives and other Union policies, as well as the achievement and functioning of the European Research Area (ERA). The relevant performance indicators are set out in the introduction of Annex I.

Amendment 25

Proposal for a regulation
Article 5 – paragraph 1 a (new)

_text proposed by the Commission_ 1a. This Regulation shall not fund the development of genetically modified organisms for deliberate release into the environment, food or feed and related research activities and infrastructure.

Amendment 26

Proposal for a regulation
Article 5 – paragraph 2 – subparagraph 1 – point c – point i a (new)
(ia) Knowledge science and technology. Life sciences, Health, earth, environment, natural resources and food security.

Justification

Difference between technologies, engineering sciences, research about human and social needs.

Amendment 27

Proposal for a regulation

Article 5 – paragraph 2 – subparagraph 1 – point c – point ii a (new)

Text proposed by the Commission

(iia) Social, Economic and Humanities. Demographic challenges, education, territorial issues, governance, culture, digital contents, humanities, cultural heritage and intangible knowledge areas.

Justification

Importance of intangible areas of knowledge as adaptation to global changes is needed.

Amendment 28

Proposal for a regulation

Article 6

1. The financial envelope for the implementation of Horizon 2020 shall be EUR 87740 million, of which a maximum of EUR 86198 million shall be allocated to activities under Title XIX of the Treaty on the Functioning of the European Union (TFEU).

2. The amount for activities under Title XIX TFEU shall be distributed among the
priorities set out in Article 5(2) as follows:
(a) Excellent science, EUR 27818 million;
(b) Industrial leadership, EUR 20280 million;
(c) Societal challenges, EUR 35888 million.

The maximum overall amount for the Union financial contribution from Horizon 2020 to the non-nuclear direct actions of the Joint Research Centre shall be EUR 2212 million.

(...)

The European Institute of Innovation and Technology shall be financed through a maximum contribution from Horizon 2020 of EUR 3194 million as set out in Annex II. A first allocation of EUR 1542 million shall be provided to the European Institute of Innovation and Technology for activities under Title XVII of the Treaty on the Functioning of the European Union. A second allocation of up to EUR 1652 million shall be provided, subject to the review set out in Article 26 (1). This additional amount shall be provided on a pro-rata basis, as indicated in Annex II, from the amount for the specific objective ‘Leadership in enabling and industrial technologies’ within the priority on industrial leadership set out in paragraph 2(b) and from the amount for the priority on societal challenges set out in 2(c).

This funding in two multiannual allocations shall cover:

(a) in the first allocation, the ongoing developments of the current Knowledge and Innovation Communities (hereinafter KICs) and seed money for the launch of the second wave of three new KICs

(b) in the second allocation, the ongoing developments of the KICs already launched and the seed money for the launch of the third wave of three new
KICs

The second allocation shall be made available following the review set out in Article 26(1) taking into account in particular:

(a) the agreed timing of the creation of the third wave of KICs;

(b) the programmed financial needs of the existing ones according to their specific development;

(c) the contribution of the European Institute of Innovation and Technology and its KICs to the Horizon 2020 objectives.

Amendment 29

Proposal for a regulation
Article 7 – paragraph 1 – point b – point iii

Text proposed by the Commission

(iii) have close economic and geographical links to the Union;

Amendment

(iii) have close political, economic and geographical links to the Union;

Amendment 30

Proposal for a regulation
Article 7 – paragraph 1 – point b – point iii a (new)

Text proposed by the Commission

(iii a) have a legal system based on democratic principles and an efficient civil service;

Amendment

Amendment 31

Proposal for a regulation
Article 12 – paragraph 1
Text proposed by the Commission

1. For the implementation of Horizon 2020, account shall be taken of advice and inputs provided by: advisory groups of independent, high level experts set up by the Commission; dialogue structures created under international science and technology agreements; forward looking activities; targeted public consultations; and transparent and interactive processes that ensure responsible research and innovation is supported.

Amendment

1. For the implementation of Horizon 2020, account shall be taken of advice and inputs provided by: advisory groups of independent, high level experts set up by the Commission; non-profit civil society platforms; dialogue structures created under international science and technology agreements; representatives from industry (especially in the case of EIs); forward looking activities; targeted public consultations (e.g. of patient organizations where health research is concerned); active consultation of organisations of persons with disabilities, and transparent and interactive processes that ensure responsible research and innovation is supported.

Justification

In order to produce research which is useful and meaningful to society, it is vital that persons with disabilities and their representative organisations are fully included in Horizon 2020 decision-making process. This is crucial if we want to ensure that European research delivers results in line with the needs of society and citizens, especially persons with disabilities. No mention is currently made of involving persons with disabilities and their representative organisations in Horizon 2020 research and the proposal should be amended as proposed.

Amendment 32

Proposal for a regulation
Article 12 – paragraph 1 a (new)

Text proposed by the Commission

1a. To ensure the societal relevance of research needs and priorities established under societal challenges, the Commission shall set up platforms for dialogue between civil society representatives and researchers.

Amendment
Amendment 33

Proposal for a regulation
Article 13 – paragraph 1

_text proposed by the Commission_

1. Linkages and interfaces shall be implemented across and within the priorities of Horizon 2020. Particular attention shall be paid in this respect to the development and application of key enabling and industrial technologies, to bridging from discovery to market application, to cross-disciplinary research and innovation, to social and economic sciences and humanities, to fostering the functioning and achievement of the ERA, cooperation with third countries, to responsible research and innovation including gender, and to enhancing the attractiveness of the research profession and to facilitating cross-border and cross-sector mobility of researchers.

Amendment

1. Linkages and interfaces shall be implemented across and within the priorities of Horizon 2020. Particular attention shall be paid in this respect to the development and application of key enabling and industrial technologies, to bridging from discovery to market application, to cross-disciplinary research and innovation, to social and economic sciences and humanities, to _a systemic approach of the spatial, urban and territorial issues, to climate change, healthy seas and oceans and sustainable development_, to fostering the functioning and achievement of the ERA, to _the development of research into European legal systems_, to cooperation with third countries, to _ethical_ responsible research and innovation including _the respect of equal opportunities between men and women in research_, to _more inclusive governance of research_, to _participatory research_, to enhancing the attractiveness of the research profession for _both sexes_ and to facilitating cross-border and cross-sector mobility of researchers.

_Justification_

_Territory a spatial dimension, (land use, region and cities), is completely missing in the program. This is a key and central element of the societal challenges and must be integrated in all the actions._

Amendment 34

Proposal for a regulation
Article 13 – paragraph 1 a (new)
Amendment 35

Proposal for a regulation
Article 14 – paragraph 1

Text proposed by the Commission

Horizon 2020 shall be implemented in a manner ensuring that the priorities and actions supported are relevant to changing needs and take account of the evolving nature of science, technology, innovation, markets and society, where innovation includes business, organisational and social aspects.

Amendment

Horizon 2020 shall be implemented in a manner ensuring that the priorities and actions supported are relevant to changing needs and take account of the evolving nature of science, technology, innovation, markets and society, where innovation includes business, organisational and social aspects and transfer of science results to all the levels of education and training.

Justification

If Europe wants to have a competitive training and education we need to transfer the results of research to the programs.

Amendment 36

Proposal for a regulation
Article 14 a (new)

Text proposed by the Commission

Amendment

Article 14 a

Responsible research and innovation
In order to guarantee a harmonious and efficient relation between science and society, Horizon 2020 shall actively promote responsible research and innovation. This means promoting a governance framework that encourages the societal actors to work together during the whole research and innovation process in order to better align it, as well as the results and impacts, with the expectations, needs and values of society. This governance framework encompasses in particular:

(a) ensuring an effective public engagement to enhance research and innovation, including participatory research where societal actors co-produce knowledge in order to respond to society needs;

(b) up taking of gender dimension referred to in Article 15;

(c) providing free on-line access and re-use of scientific information as referred to in Article 15b;

(d) equipping through education future researchers and other societal actors with the necessary knowledge and tools to fully participate and take responsibility in the research and innovation process;

(e) ensuring the compliance with the ethical principles referred to in Article 16 (1).

Amendment 37
Proposal for a regulation
Article 15 – title

Text proposed by the Commission

Gender equality

Amendment

Equal opportunities between men and women in research
Amendment 38
Proposal for a regulation
Article 15 – paragraph 1

Text proposed by the Commission
Horizon 2020 shall ensure the effective promotion of gender equality and the gender dimension in research and innovation content.

Amendment
Horizon 2020 must respect scientific excellence and professional qualification of research professionals when promoting equal opportunities for men and women in research and innovation content.

Amendment 39
Proposal for a regulation
Article 15 a (new)

Text proposed by the Commission

Amendment

Article 15 a
Equality of Researchers
Horizon 2020 shall contribute to the attractiveness of researchers' careers across Europe. As a result it shall be implemented in a manner to promote the creation of a single market for researchers in particular by providing for appropriate mechanisms to decrease the disparities in researcher's remuneration.

Amendment 40
Proposal for a regulation
Article 16 – paragraph 1 – subparagraph 1

Text proposed by the Commission
All the research and innovation activities carried out under Horizon 2020 shall comply with ethical principles and relevant

Amendment
All the research and innovation activities carried out under Horizon 2020 shall comply with ethical principles and relevant
national, Union and international legislation, including the Charter of Fundamental Rights of the European Union and the European Convention on Human Rights and its Supplementary Protocols. national, Union and international legislation, including the Charter of Fundamental Rights of the European Union and the European Convention on Human Rights and its Supplementary Protocols as well as the United-Nations Convention on the Rights of Persons with Disabilities. Research activities shall also take into account Article 13 TFEU and reduce the use of animals in research and testing, with a view ultimately to replacing animal use, including through strategic development, integration and use of innovative, non-animal tools and technologies.

Justification

On 23rd December 2010, the EU concluded the United-Nations Convention on the Rights of Persons with Disabilities which entered into force on 22nd January 2011. It is the first Human Rights Treaty concluded by the EU and all EU policy and legislative acts should comply with this international Convention.

Amendment 41

Proposal for a regulation
Article 16 – paragraph 1 – subparagraph 2

Text proposed by the Commission

Particular attention shall be paid to the principle of proportionality, the right to privacy, the right to the protection of personal data, the right to the physical and mental integrity of a person, the right to non-discrimination and the need to ensure high levels of human health protection.

Amendment

Particular attention shall be paid to the principle of proportionality, the right to privacy, the right to the protection of personal data, the right to the physical and mental integrity of a person, the right to non-discrimination based on sex, racial or ethnic origin, religion or belief, disability, age and the need to ensure high levels of human health protection.

Amendment 42

Proposal for a regulation
Article 16 – paragraph 3 – point a
(a) research activity aiming at human cloning for reproductive purposes;

(a) research activity aiming at human cloning for reproductive, *therapeutic or scientific* purposes;

Amendment 43

Proposal for a regulation
Article 16 – paragraph 3 – point c a (new)

*(ca) research classified as causing severe suffering to vertebrate animals;*

*Justification*

*The EU should not fund research that causes severe suffering to vertebrate animals.*

Amendment 44

Proposal for a regulation
Article 16 – paragraph 3 – point c b (new)

*(cb) involving wild-caught or F1 non-human primates;*

*Justification*

*The EU should not fund research involving wild-caught or F1 non-human primates.*

Amendment 45

Proposal for a regulation
Article 16 – paragraph 4
4. Research on human stem cells, both adult and embryonic, may be financed, depending both on the contents of the scientific proposal and the legal framework of the Member States involved. No funding shall be granted for research activities that are prohibited in all the Member States. No activity shall be funded in a Member State where such activity is forbidden.

4. Research activities aiming at developing and improving therapies based on human stem cells will be supported. Funding for research on all types of human stem cells, including embryonic stem cells, may be financed, depending both on the contents of the scientific proposal and the legal framework of the Member States involved. For research purposes, embryonic stem cells must have been derived from supernumerary embryos produced via in vitro fertilisation, and not be needed for the purposes of reproduction. Additionally, Horizon 2020 will support research activities aiming at developing potential alternatives to human embryonic stem cells.

No funding shall be granted for research activities that are prohibited in all the Member States. No activity shall be funded in a Member State where such activity is forbidden.

Amendment 46

Proposal for a regulation
Article 17 – title

Text proposed by the Commission
Complementarity with other programmes

Amendment
Complementarity with other Union and national programmes
Amendment 47

Proposal for a regulation
Article 17

Text proposed by the Commission

Horizon 2020 shall be implemented in a way which is complementary to other Union funding programmes, including the Structural Funds.

Amendment

Horizon 2020 shall be implemented in a way which is complementary to other Union and national funding programmes, including shared management funds such as cohesion and Structural Funds and the Programme for the Competitiveness of Enterprises and SMEs (COSME). To this end, the Commission shall develop appropriate tools to assess complementarity. The European Court of Auditors, when assessing the implementation of Horizon 2020 in its annual discharge report presented to the European Parliament, shall also take into account the complementarity principle.

Justification

In order to ensure efficiency in Union spending for research and innovation, even if synergies with other Union programmes are welcome and desirable, duplications should be avoided by ensuring better coordination between these programmes and Horizon 2020. The Commission should therefore ensure this coordination in the implementation process.

Amendment 48

Proposal for a regulation
Article 17 a (new)

Text proposed by the Commission

Amendment

Article 17 a

Strategic coordination

The Commission shall ensure strategic coordination of research and innovation activities under Horizon 2020, if necessary by setting up sectoral steering boards composed of leading researchers who will provide advice in the priority...
**setting process.**

**Justification**

There is a need to ensure strategic coordination, especially in areas such as healthcare where innovation cycles are very long, even longer than the duration of the current programme. The Commission can work with leading researchers in setting the priorities for funding under Horizon 2020.

**Amendment 49**

**Proposal for a regulation**

**Article 18 – paragraph 3**

**Text proposed by the Commission**

3. The integrated approach set out in paragraphs 1 and 2 is expected to lead to around 15% of the total combined budget for the specific objective on "Leadership in enabling and industrial technologies" and the priority "Societal challenges" going to SMEs

**Amendment**

3. The integrated approach set out in paragraphs 1 and 2 is expected to lead to around 20% of the total combined budget for the specific objective on "Leadership in enabling and industrial technologies" and the priority "Societal challenges" going to SMEs

**Justification**

SMEs are those with the greatest need for support in financing their innovation activities. A greater share of the budget should therefore go to these.

**Amendment 50**

**Proposal for a regulation**

**Article 19 – paragraph 3 – point a**

**Text proposed by the Commission**

(a) the added value of action at Union level;

**Amendment**

(a) the added value of action at Union level, particularly the Trans-European nature;

**Amendment 51**
Proposal for a regulation
Article 19 – paragraph 3 a (new)

Text proposed by the Commission

Amendment

3a. Public private partnerships will be financed through open and competitive calls.

Amendment 52

Proposal for a regulation
Article 19 – paragraph 3 – point e a (new)

Text proposed by the Commission

Amendment

(ea) Helping the creation and strengthening of association networks of researchers, patients and stakeholders in order to improve the relations and exchanges among them, concerned sectors, institutions and civil society.

Amendment 53

Proposal for a regulation
Article 21 – paragraph 1 – point c

Text proposed by the Commission

Amendment

(c) supporting the Union's external and development policy objectives, complementing external and development programmes.

(c) supporting the Union's external and development policy objectives, complementing external and development programmes and contributing to international commitments such as the achievement of the Millennium Development Goals.

Amendment 54

Proposal for a regulation
Article 21 – paragraph 2 – subparagraph 1

PE487.915v02-00 32/98 AD\913296EN.doc
Targeted actions with the objective of promoting cooperation with specific third countries or groups of third countries shall be implemented on the basis of common interest and mutual benefit, taking into account their scientific and technological capabilities and market opportunities, and the expected impact.

Amendment 55
Proposal for a regulation
Article 22 – paragraph 3 – point a

Text proposed by the Commission

(a) initiatives aimed at widening awareness and facilitating access to funding under Horizon 2020, in particular for those regions or types of participant that are underrepresented;

Amendment

(a) initiatives aimed at widening awareness and facilitating access to funding under Horizon 2020, in particular for those regions or types of participant that are underrepresented, including researchers and participants with disabilities;

Amendment 56
Proposal for a regulation
Article 22 – paragraph 3 – point a a (new)

Text proposed by the Commission

(aa) In order to simplify the access to information and to develop an instrument with all the information demanded by the research community and, having regard
the need for a transparency, Cordis, as a digital instrument should be revised and reformed in a more clear and flexible way. The New Cordis should be finished before June 2013.

Justification

At the current time CORDIS is one of the most complex and difficult programs to deal with. If we want to make an easier access of society, researchers and companies to information, it is needed to review the program and to extend the information and make an easier access to all the proposals and grants.

Amendment 57

Proposal for a regulation
Article 22 – paragraph 3 – point e

Text proposed by the Commission

(e) initiatives to foster dialogue and debate on scientific, technological and innovation related issues with the public, and to take advantage of social media and other innovative technologies and methodologies.

Amendment

(e) initiatives to foster dialogue and debate on scientific, technological and innovation related issues with the public through involvement of the academic community, and to take advantage of social media and other innovative technologies and methodologies, especially in order to help raise public awareness of the benefits of research and innovation in meeting society’s challenges.

Amendment 58

Proposal for a regulation
Article 25 – paragraph 1

Text proposed by the Commission

1. The Commission shall annually monitor the implementation of Horizon 2020, its specific programme and the activities of the European Institute of Innovation and Technology. This shall include information on cross-cutting topics such as sustainability and climate change,

Amendment

1. The Commission shall annually monitor the implementation of Horizon 2020, its specific programme and the activities of the European Institute of Innovation and Technology. This shall include information on cross-cutting topics such as sustainability, resource efficiency and
including information on the amount of climate related expenditure.

Amendment 59

Proposal for a regulation
Article 25 – paragraph 1

Text proposed by the Commission

1. The Commission shall annually monitor the implementation of Horizon 2020, its specific programme and the activities of the European Institute of Innovation and Technology. This shall include information on cross-cutting topics such as sustainability and climate change, including information on the amount of climate related expenditure.

Amendment

1. The Commission shall annually monitor the implementation of Horizon 2020, its specific programme and the activities of the European Institute of Innovation and Technology. This shall include information and indicators on cross-cutting topics such as responsible research and innovation including sustainability and climate change, marine and maritime research, including information on the amount of climate related expenditure.

Amendment 60

Proposal for a regulation
Article 25 – paragraph 1 a (new)

Text proposed by the Commission

1a. In order to deliver a future Union environment that offers a real increase in prosperity and in quality of life, the balance between economic, social and environmental aspects will need to be regularly and effectively monitored during the implementation of Horizon 2020. To this end, the Commission shall set up in advance a clear and transparent mechanism for such monitoring.

Amendment
Amendment 61
Proposal for a regulation
Article 25 – paragraph 2

Text proposed by the Commission

2. The Commission shall report and disseminate the results of that monitoring.

Amendment

2. The Commission shall annually report and disseminate the results of that monitoring, including to the Parliament and the Council.

Amendment 62
Proposal for a regulation
25 a (new)

Text proposed by the Commission

(25a) The Commission should actively support research aiming at developing alternatives to embryonic stem cells. The recent discovery of induced pluripotent stem cells (iPSCs) has opened up a new avenue for research, over and beyond the opportunities for research on adult and embryonic stem cells that have existed for several years, and has thus offered new hope to patients awaiting treatment. Nevertheless, the Commission should also take due account of the scientific community's interest in all types of stem cell research and, therefore, not favour any one over another, while considering the ethical problems raised by each category of stem cells.

Amendment 63
Proposal for a regulation
Article 26 – paragraph 1 – point a

Text proposed by the Commission

(a) Not later than end 2017, the

Amendment

deleted
Commission shall carry out, with the assistance of independent experts, a review of the European Institute of Innovation and Technology. The second allocation of funds to the European Institute of Innovation and Technology as set out in Article 6(3) shall be made available following this review. The review shall assess the progress of the European Institute of Innovation and Technology against all of the following:

(i) the level of consumption of the first allocation of funds set out in Article 6(3), differentiating between the amount of money used for the development of the first wave of KICs and the effect of the seed money for the second phase, and the ability of the European Institute of Innovation and Technology to attract funds from the partners in the Knowledge and Innovation Communities and from the private sector, as set out in Regulation XX/2012 [revised EIT Regulation];

(ii) the agreed timing for the creation of the third wave of Knowledge and Innovation Communities and the programmed financial needs of existing ones according to their specific development; and

(iii) the contribution of the European Institute of Innovation and Technologies and the Knowledge and Innovation Communities to the priority on societal challenges and the specific objective on ‘leadership in enabling and industrial technologies’ of the programme Horizon 2020.

Amendment 64

Proposal for a regulation
Annex I – paragraph 7 a (new)
New instrument: implementation of a clear program for the transfer of science, research and innovation to the education content at all levels, as well as for the adaptation of the technologies to the use.

Amendment 65

Proposal for a regulation
Annex I – part II Priority 'Industrial leadership' – point a

(a) Leadership in enabling and industrial technologies shall provide dedicated support for research, development and demonstration on ICT, nanotechnology, advanced materials, biotechnology, advanced manufacturing and processing and space. Emphasis will be placed on interactions and convergence across and between the different technologies.

Amendment 66

Proposal for a regulation
Annex I – part III Priority 'Societal Challenges' – paragraph 1 – point b

(b) Food security, quality and safety, sustainable agriculture, marine and maritime research, and the bio-economy;

Amendment 67

Proposal for a regulation
Annex I - Part III Priority 'Societal Challenges' - paragraph 1 - point e

(b) Food security, quality and safety, sustainable agriculture, marine and maritime research, and the bio-economy;
(e) Climate action, resource efficiency and raw materials;

(e) Climate and water action, resource efficiency and sustainable use of raw materials;

Amendment 68
Proposal for a regulation
Annex I – part III Priority 'Societal Challenges' – paragraph 2 a (new)

Text proposed by the Commission
Under each societal challenge, research priorities and objectives will be set out in a transparent and participatory way, through the balanced involvement of players including the scientific community, researchers (also from smaller research organisations), the public sector, the private sector and in particular SMEs, Civil Society Organisations and other stakeholders as relevant; in particular the Commission will establish specific platforms for dialogue between the citizens and Civil Society Organisations with research actors in the research priorities under the societal challenges.

Amendment 69
Proposal for a regulation
Annex I – part III Priority 'Societal Challenges' – paragraph 3

Text proposed by the Commission
Social sciences and humanities shall be an integral part of the activities to address all the challenges. In addition, the underpinning development of these disciplines shall be supported under the specific objective ‘Inclusive, innovative

Amendment
Social sciences and humanities as well as the integration of civil society shall be an integral part of the activities to address all the challenges. In addition, the underpinning development of these disciplines shall be supported under the
and secure societies’. Support will also focus on providing a strong evidence base for policy making at international, Union, national and regional levels. Given the global nature of many of the challenges, strategic cooperation with third countries shall be an integral part of each challenge. In addition, cross-cutting support for international cooperation shall be provided under the specific objective ‘Inclusive, innovative and secure societies’.

Amendment 70

Proposal for a regulation
Annex I – part I – point 2.1 – introductory paragraph

The specific objective is to foster radically new technologies by exploring novel and high-risk ideas building on scientific foundations. By providing flexible support to goal-oriented and interdisciplinary collaborative research on various scales and by adopting innovative research practices, the aim is to identify and seize opportunities of long-term benefit for citizens, the economy and society.

Amendment

The specific objective is to foster radically new technologies by exploring novel and high-risk ideas building on scientific foundations, including expanding the understanding of human disease and toxicity pathways and the application of human-relevant cellular, genomic and computational tools and technologies in EU health research and risk assessment strategies, by providing flexible support to goal-oriented and interdisciplinary collaborative research on various scales and by adopting innovative research practices, the aim is to identify and seize opportunities of long-term benefit for citizens, the economy and society.

Amendment 71

Proposal for a regulation
Annex I – part I – point 2.3 – paragraph 2 – point a
(a) By fostering novel ideas (‘FET Open’), FET shall support *embryonic* science and technology research exploring new foundations for radically new future technologies by challenging current paradigms and venturing into unknown areas. A bottom-up selection process widely open to any research ideas shall build up a diverse portfolio of targeted projects. Early detection of promising new areas, developments and trends, along with attracting new and high-potential research and innovation players, will be key.

Amendment

(a) By fostering novel ideas (‘FET Open’), FET shall support _emerging_ science and technology research exploring new foundations for radically new future technologies by challenging current paradigms, such as the use of animal models in biomedical research or for the testing of chemicals for adverse effects on human health, and venturing into unknown areas. A bottom-up selection process widely open to any research ideas shall build up a diverse portfolio of targeted projects. Early detection of promising new areas, developments and trends, along with attracting new and high-potential research and innovation players, will be key.

**Justification**

*EU research should support the paradigm shift in biomedical research and toxicity testing away from animal tests to modern toxicity testing of the 21st century. Advances in molecular biology, biotechnology, and other fields are paving the way for major improvements in how scientists can evaluate the health risks posed by potentially toxic chemicals. These advances can make toxicity testing quicker, less expensive, and more directly relevant to human exposures.*

**Amendment 72**

**Proposal for a regulation**  
**Annex I – part I – point 3.3 – point a – paragraph 2**

*Text proposed by the Commission*

Key activities shall be to provide excellent and innovative training to early-stage researchers at post-graduate level via interdisciplinary projects or doctoral programmes involving universities, research institutions, businesses, SMEs and other socio-economic groups from different countries. This will improve career prospects for young post-graduate

*Amendment*

Key activities shall be to provide excellent and innovative training to early-stage researchers at post-graduate level via interdisciplinary projects or doctoral programmes involving universities, research institutions, businesses, SMEs and other socio-economic groups from different countries. _Full flexibility in terms of duration, host institution, number of_
researchers in both the public and private sectors.

trainees will be possible inside the overall agreed host network and financial volume for a project. This will improve career prospects for young post-graduate researchers in both the public and private sectors.

Amendment 73

Proposal for a regulation
Annex I – part I – point 4.3 a (new)

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
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<tbody>
<tr>
<td>4.3 a. Constitution of a data base concerning the results of the research and innovation</td>
<td>The aim shall be to create and to make available a data base of the results of research and innovation. This will be open to international collaboration. Both research groups and enterprises will add contents to this data base in order to help the launch of a market of innovation and cooperation and to stimulate the meeting of possible partners.</td>
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</table>

Amendment 74

Proposal for a regulation
Annex I – part II – point 1 – introductory paragraph

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
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<tbody>
<tr>
<td>The specific objective is to maintain and build global leadership in enabling technologies and space research and innovation, which underpin competitiveness across a range of existing and emerging industries and sectors.</td>
<td>The specific objective is to maintain and build global leadership in enabling technologies and space research and innovation, which underpin competitiveness across a range of existing and emerging industries and sectors, including leadership through health research funding to advance human-relevant research such as –omics,</td>
</tr>
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computational, and other innovative, non-animal tools and technologies to further define human disease pathways as a basis for drug development and safety testing.

Amendment 75
Proposal for a regulation
Annex I – part II – point 1 – paragraph 1

Text proposed by the Commission

The global business environment is changing rapidly and the Europe 2020 goals for smart, sustainable and inclusive growth present challenges and opportunities to European industry. Europe needs to accelerate innovation, transforming the knowledge generated to underpin and enhance existing products, services and markets; and to create new ones. Innovation should be exploited in the widest sense, going beyond technology to include business, organisational and social aspects.

Amendment

The global business environment is changing rapidly and the Europe 2020 goals for smart, sustainable and inclusive growth present challenges and opportunities to European industry. Europe needs to accelerate innovation, transforming the knowledge generated to underpin and enhance quality and sustainability of existing products, services and markets; and to create new ones. Innovation should be exploited in the widest sense, going beyond technology to include business, organisational and social aspects.

Amendment 76
Proposal for a regulation
Annex I – part II – point 1 – paragraph 5

Text proposed by the Commission

The activities under ‘Leadership in Enabling and Industrial Technologies’ will be primarily based on research and innovation agendas defined by industry and business, together with the research community and have a strong focus on leveraging private sector investment.

Amendment

The activities under 'Leadership in Enabling and Industrial Technologies’ will be primarily based on research and innovation agendas defined together with industry and business, research community and other stakeholders organisations such as civil society organisations; activities will aim not only at addressing common needs and concerns in the specific sector but also at supporting implementation of
policy objectives in those specific sectors; activities will have a strong focus on leveraging private sector investment.

Amendment 77

Proposal for a regulation
Annex I – part II – point 1 – paragraph 8 'An integrated approach to Key Enabling Technologies'

Text proposed by the Commission

A major component of ‘Leadership in Enabling and Industrial Technologies’ are Key Enabling Technologies (KETs), defined as micro- and nanoelectronics, photonics, nanotechnology, biotechnology, advanced materials and advanced manufacturing systems. These multi-disciplinary, knowledge and capital-intensive technologies cut across many diverse sectors providing the basis for significant competitive advantage for European industry. An integrated approach, promoting the combination, convergence and cross-fertilisation effect of KETs in different innovation cycles and value chains can deliver promising research results and open the way to new industrial technologies, products, services and novel applications (e.g. in space, transport, environment, health etc.). The numerous interactions of KETs and enabling technologies will therefore be exploited in a flexible manner, as an important source of innovation. This will complement support for research and innovation in KETs that may be provided by national or regional authorities under the Cohesion Policy Funds within the framework of smart specialisation strategies.

Amendment

A major component of ‘Leadership in Enabling and Industrial Technologies’ are Key Enabling Technologies (KETs), defined as micro- and nanoelectronics, photonics, nanotechnology, biotechnology, advanced materials and advanced manufacturing systems and eco-innovation. These multi-disciplinary, knowledge and capital-intensive technologies cut across many diverse sectors providing the basis for significant competitive advantage for European industry. An integrated approach, promoting the combination, convergence and cross-fertilisation effect of KETs in different innovation cycles and value chains can deliver promising research results and open the way to new industrial technologies, products, services and novel applications (e.g. in space, transport, environment, health, agriculture etc.). The numerous interactions of KETs and enabling technologies will therefore be exploited in a flexible manner, as an important source of innovation. This will complement support for research and innovation in KETs that may be provided by national or regional authorities under the Cohesion Policy Funds within the framework of smart specialisation strategies.
Justification

Industrial leadership in eco-innovation will lead to improved environmental performance and resilience across the economy being at the same time cost-effective and good for business and society, from rural to urban citizens, as a whole. The global market (2020) for eco-industries is rapidly expanding and this EU business sector is already growing rapidly: Horizon 2020 needs to build on this. Eco-innovation needs to permeate all sectors of the economy and society, providing the basis for a significant competitive advantage for Europe to face up to the challenge of sustainability. Therefore eco-innovation is a key enabling technology.

Amendment 78

Proposal for a regulation
Annex I – part II – point 1.1.3 – point e a (new)

Text proposed by the Commission

Amendment

(ea) advanced robots and technology applied to health and disabilities.

Justification

Advanced technology as robots are a key factor in health.

Amendment 79

Proposal for a regulation
Annex I – part II – point 1.1.3 – point f – point i (new)

Text proposed by the Commission

Amendment

i) Improving the energy efficiency of ICT.

Amendment 80

Proposal for a regulation
Annex I – part II – point 1.2.1. – introductory paragraph

Text proposed by the Commission

Amendment

The specific objective of nanotechnologies research and innovation is to secure Union leadership in this high growth global
market, by stimulating investment in nanotechnologies and their uptake in high added-value, competitive products and services across a range of applications and sectors.

Justification

Reality is different: Europe is lagging behind its main competitors – the USA, Japan and South Korea – who account for over half of the investment and two-thirds of the patents filed worldwide.

There are many unresolved questions about the safety of nanomaterials, and certain applications clearly have an unacceptable risk for human health and/or the environment. The EU should only fund investment in safe and responsible nanotechnologies.

Amendment 81

Proposal for a regulation
Annex I – part II – point 1.2.1. – paragraph 1

Text proposed by the Commission

By 2020, nanotechnologies will be mainstreamed, that is seamlessly integrated with most technologies and applications, driven by consumer benefits, quality of life, sustainable development and the strong industrial potential for achieving previously unavailable solutions for productivity and resource efficiency.

Amendment

By 2015, the Commission will review all relevant legislation to ensure safety for all applications of nanomaterials in products with potential health, environmental or safety impacts over their life cycle. By 2020, nanotechnologies will be mainstreamed, that is seamlessly integrated with most technologies and applications, driven by consumer benefits, quality of life, sustainable development and the strong industrial potential for achieving previously unavailable solutions for productivity and resource efficiency.

Justification

In its resolution adopted in April 2009, the Parliament considered particularly important to address nanomaterials explicitly within the scope of at least legislation on chemicals, food, waste, air and water and worker protection.

Amendment 82
Proposal for a regulation
Annex I – part II – point 1.2.3. – point a – paragraph 1

Text proposed by the Commission
Aiming at fundamentally new products enabling sustainable solutions in a wide range of sectors.

Amendment
Aiming at fundamentally new products enabling sustainable solutions in a wide range of sectors, in particular electronics, medicine, new energy sources and materials.

Justification

There is more justification for strengthening the properties and resistance of products at the nanoscale in some industrial sectors or in medicine (the possibility, in the long term, of injecting a cancerous cell with a drug) than in other sectors. Exploiting this revolutionary technology, for example in the agri-food business, must remain questionable, given that it has not been proved that nanoparticles pose no danger to health (they can penetrate cells and accumulate) and the environment.

Amendment 83

Proposal for a regulation
Annex I – part II – point 1.2.3. – point b

Text proposed by the Commission
(b) Ensuring the safe development and application of nanotechnologies

Amendment
(b) Ensuring the safe development and application of nanotechnologies, and the development of appropriate test methods to assess the impact of nanotechnologies and engineered nanomaterials on human health and the environment.

Amendment 84

Proposal for a regulation
Annex I – part II – point 1.3.1. – paragraph 1

Text proposed by the Commission
Materials are at the core of industrial innovation and are key enablers. Advanced materials with higher knowledge content,

Amendment
Materials are at the core of industrial innovation and are key enablers. Advanced materials with higher knowledge content,
new functionalities and improved performance are indispensable for industrial competitiveness and sustainable development across a range of applications and sectors.

new functionalities and improved performance, in particular in terms of resource and energy efficiency, are indispensable for industrial competitiveness and sustainable development across a range of applications and sectors.

Amendment 85
Proposal for a regulation
Annex I – Part II – Point 1.3.3 d a (new)

Text proposed by the Commission
(da) Materials for increasing the efficiency of renewable energies.
Developing new products and applications that increase the efficiency of renewable energies such as photovoltaic, solar thermal, wind turbines.

Amendment 86
Proposal for a regulation
Annex I – part II – point 1.3.3. – point g – paragraph 1

Text proposed by the Commission
Research and development to investigate alternatives to the use of materials and innovative business model approaches.

Amendment
Research and development to investigate alternatives to the use of materials, substitution of critical raw material or hazardous substances. Development of innovative business model approaches.

Amendment 87
Proposal for a regulation
Annex I – part II – point 1.4.2. – paragraph 1
Powered by the expansion of the knowledge of living systems, biotechnology is set to deliver a stream of new applications and to strengthen the Union's industrial base and its innovation capacity. Examples of the rising importance of biotechnology are in industrial applications including bio-chemicals, of which the market share is estimated to increase by up to 12 %–20 % of chemical production by 2015. A number of the so-called twelve rules of Green Chemistry are also addressed by biotechnology, due to the selectivity and efficiency of bio-systems. The possible economic burdens for Union enterprises can be reduced by harnessing the potential of biotechnology processes and bio-based products to reduce CO2 emissions, estimated to range from between 1 to 2.5 billion tons CO2 equivalent per year by 2030. In Europe's biopharmaceutical sector, already some 20 % of the current medicines are derived from biotechnology, with up to 50 % of new medicines. Biotechnology also opens new avenues for exploiting the huge potential of marine resources for producing innovative industrial, health and environmental applications. The emerging sector of marine (blue) biotechnology has been predicted to grow by 10 % a year.

*Justification*

*Biotechnology is also important in agricultural applications.*

**Amendment**

Powered by the expansion of the knowledge of living systems, biotechnology is set to deliver a stream of new applications and to strengthen the Union's industrial base and its innovation capacity. Examples of the rising importance of biotechnology are in industrial and agricultural applications including *food and feed production*, bio-chemicals, of which the market share is estimated to increase by up to 12 %–20 % of chemical production by 2015. A number of the so-called twelve rules of Green Chemistry are also addressed by biotechnology, due to the selectivity and efficiency of bio-systems. The possible economic burdens for Union enterprises can be reduced by harnessing the potential of biotechnology processes and bio-based products to reduce CO2 emissions, estimated to range from between 1 to 2.5 billion tons CO2 equivalent per year by 2030. In Europe's biopharmaceutical sector, already some 20 % of the current medicines are derived from biotechnology, with up to 50 % of new medicines. Biotechnology also opens new avenues for exploiting the huge potential of marine resources for producing innovative industrial, health and environmental applications. The emerging sector of marine (blue) biotechnology has been predicted to grow by 10 % a year.

**Amendment 88**

**Proposal for a regulation**

Annex I – part II – point 1.4.3. – point a – paragraph 1
Development of emerging technology areas such as synthetic biology, bioinformatics and systems biology, which hold great promise for completely novel applications.

Justification

The potential of biotechnology do not have to be limited to industrial processes but should cover all relevant products and processes.

Amendment 89

Proposal for a regulation
Annex I – part II – point 1.4.3. – point b – paragraph 1

Development of platform technologies (e.g. genomics, meta-genomics, proteomics, molecular tools) to enhance leadership and competitive advantage in a wide number of economic sectors.

Diagnostic tools will be supported

Amendment 90

Proposal for a regulation
Annex I – part II – point 1.4.3. – point c – paragraph 1

Development of platform technologies (e.g. systems biology, computational chemistry and systems biology, genomics, meta-genomics, proteomics, high-throughput in-vitro platforms, human-on-a-chip, phenomics and molecular tools) to enhance leadership and competitive advantage in a wide number of economic sectors.
if there is a link to therapy.

Justification

Systems biology is the broadest term, which should be put first. The other terms are for more specific areas.

Amendment 91

Proposal for a regulation
Annex I – part II – point 1.5.1 – introductory paragraph

Text proposed by the Commission
The specific objective of advanced manufacturing and processing research and innovation is to transform today's industrial forms of production towards more knowledge intensive, sustainable, trans-sectoral manufacturing and processing technologies, resulting in more innovative products, processes and services.

Amendment
The specific objective of advanced manufacturing and processing research and innovation is to transform today's industrial forms of production towards more knowledge intensive, sustainable, resource and energy efficient trans-sectoral manufacturing and processing technologies, resulting in more innovative products, processes and services.

Amendment 92

Proposal for a regulation
Annex I – part II – point 1.5.2 – paragraph 2

Text proposed by the Commission
Europe needs to continue to invest at an Union level to maintain European leadership and competence in manufacturing technologies and make the transition to high-value, knowledge-intensive goods, creating the conditions and assets for sustainable, production and provision of lifetime service around a manufactured product. Resource intensive manufacturing and process industries need to further mobilise resources and knowledge at Union level and continue to invest in research, development and

Amendment
Europe needs to continue to invest at an Union level to maintain European leadership and competence in manufacturing technologies and make the transition to high-value, resource and energy efficient, knowledge-intensive goods, creating the conditions and assets for sustainable, production and provision of lifetime service around a manufactured product. Resource intensive manufacturing and process industries need to further mobilise resources and knowledge at Union level and continue to invest in
innovation to enable further progress towards a competitive low carbon economy and to comply with the agreed Union wide reductions in greenhouse gas emissions by 2050 for industrial sectors.

research, development and innovation to enable further progress towards a competitive low carbon and resource efficient economy and to comply with the agreed Union wide reductions in greenhouse gas emissions by 2050 for industrial sectors.

Amendment 93

Proposal for a regulation
Annex I – part II – point 1.5.3 – point a – paragraph 1

Text proposed by the Commission
Promoting sustainable industrial growth by facilitating a strategic shift in Europe from cost-based manufacturing to an approach based on the creation of high added value.

Amendment
Promoting sustainable industrial growth by facilitating a strategic shift in Europe from cost-based manufacturing to an approach based on the creation of high added value, materials efficiency and closed-loop systems.

Amendment 94

Proposal for a regulation
Annex I – part II – point 1.5.3 – point c – paragraph 1

Text proposed by the Commission
Increasing the competitiveness of process industries, by drastically improving resource and energy efficiencies and reducing the environmental impact of such industrial activities through the whole value chain, promoting the adoption of low-carbon technologies.

Amendment
Increasing the competitiveness of process industries, by drastically improving resource and energy efficiencies and reducing the environmental impact of such industrial activities through the whole value chain, promoting the adoption of resource and energy efficient technologies, processes and materials.

Amendment 95

Proposal for a regulation
Annex I – part II – point 1.6.2 – paragraph 2 a (new)
Support dedicated to research and development of space-related applications will in particular be devoted to supporting the meeting of the societal challenges such as climate change, environment, sustainable transport systems and agriculture. The objectives of knowledge sharing and interoperable development shall underpin support provided in these areas.

Amendment 96

Proposal for a regulation
Annex I – part II – point 1.6.3 – point c – paragraph 1

A considerably increased exploitation of data from European satellites can be achieved if a concerted effort is made to coordinate and organise the processing, validation and standardisation of space data. Innovations in data handling and dissemination can also ensure a higher return on investment of space infrastructure, and contribute to tackling societal challenges, in particular if coordinated in a global effort such as through Global Earth Observation System of Systems, the European satellite navigation programme Galileo or IPCC for climate change issues.

Amendment 97

Proposal for a regulation
Annex I – part II – point 1.6.3 – point c – paragraph 1 a (new)

A considerably increased exploitation of data from European satellites can be achieved if a concerted effort is made to coordinate and organise the processing, validation and standardisation of space data. Innovations in data handling, dissemination and interoperability, in particular promotion of free access to and exchange of Earth science data and metadata can also ensure a higher return on investment of space infrastructure, and contribute to tackling societal challenges, in particular if coordinated in a global effort such as through Global Earth Observation System of Systems, the European satellite navigation programme Galileo or IPCC for climate change and ocean monitoring issues.
Support will be provided for the development of a comprehensive and sustained global environmental observation and information system, including through fostering cooperation between climate modelling communities and environmental observation and data management communities. The inclusion of the Member States in such cooperation is essential since national authorities are often the owners of data records.

Amendment 98
Proposal for a regulation
Annex I – part II – point 1.6 a (new)

The specific objective of eco-innovation is to foster an innovative European industry and innovation community which targetly creates new products, processes and services that deliver green growth and environmental benefits and which is recognized to be a world-leader. The aim is to increase resource-efficiency, reduction of environmental impacts, preventing (water) pollution and / or achieving a more efficient, effective and responsible use of natural resources.

Rationale and Union added value
Industrial leadership in eco-innovation will lead to improved environmental performance and resilience across the economy being at the same time cost-effective and good for business and society, from rural to urban citizens, as a whole. The global market (2020) for eco-
industries is rapidly expanding and this EU business sector is already growing rapidly: EU eco-industries are often world leaders. Horizon 2020 needs to build on this. Eco-innovation needs to permeate all sectors of the economy and society, providing the basis for a significant competitive advantage for Europe to face up to the challenge of sustainability. Therefore eco-innovation is a key enabling technology.

Eco-industries are marked by the presence of large numbers of small and medium-sized enterprises (SMEs). These firms account for approximately half of the total employment. Hence, SMEs in partnership with larger industry-partners must play an increasing role in innovating new technologies and solutions and in implementing them.

Key sources of innovations are at the interface between eco-innovation and other enabling technologies, to start with ICT (monitoring and sensoring) and nanotechnologies.

Broad lines of the activities

Eco-innovation is any form of innovation resulting in or aiming at significant and demonstrable progress towards the goal of sustainable development, through reducing impacts on the environment, enhancing resilience to environmental pressures, or achieving a more efficient and responsible use of natural resources.

Eco-innovation activities focus on sustainable innovations in and across the following fields:

a) Green energy supply
b) Energy Efficiency
c) Material Efficiency
d) Green mobility
e) Water
f) Waste
Amendment 99
Proposal for a regulation
Annex I – Part II – Point 2.3 – point a – paragraph 3 – point 2

Text proposed by the Commission

(2) Targeted, focusing on policies and key sectors crucial for tackling societal challenges, enhancing competitiveness, supporting sustainable, low-carbon, inclusive growth, and providing environmental and other public goods. This component shall help the Union address research and innovation aspects of sectoral policy objectives.

Amendment

(2) Targeted, focusing on policies and key sectors crucial for tackling societal challenges, enhancing competitiveness, supporting sustainable, low-carbon, inclusive growth, promoting renewable energies and providing environmental and other public goods. This component shall help the Union address research and innovation aspects of sectoral policy objectives.

Amendment 100
Proposal for a regulation
Annex I – part II – point 3.1 – paragraph 2

Text proposed by the Commission

However, SMEs have – despite their important economic and employment share and significant innovation potential – size-related problems to become more innovative and more competitive. Although Europe produces a similar number of start-up companies than the United States of America, European SMEs are finding it much harder to grow into large companies than their US counterparts. The internationalised business environment with increasingly interlinked value chains puts further pressure on them. SMEs need to enhance their innovation capacity. They need to generate, take up and commercialise new knowledge and business ideas faster and to a greater extent to compete successfully on fast evolving

Amendment

However, SMEs have – despite their important economic and employment share and significant innovation potential – size-related problems to become more innovative and more competitive. Although Europe produces a similar number of start-up companies than the United States of America, European SMEs are finding it much harder to grow into large companies than their US counterparts. The internationalised business environment with increasingly interlinked value chains puts further pressure on them. SMEs need to enhance their innovation capacity and to have ready access to different forms of financial support (loans, guarantees, venture capital). They need to generate, take up and commercialise new knowledge.
global markets. The challenge is to stimulate more innovation in SMEs, thereby enhancing their competitiveness and growth.

and business ideas faster and to a greater extent to compete successfully on fast evolving global markets. The challenge is to stimulate more innovation in SMEs, thereby enhancing their competitiveness and growth.

**Amendment 101**

**Proposal for a regulation**  
**Annex I - Part III - point 1.1 - paragraph 1**

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifelong health and wellbeing for all, high-quality and economically sustainable health and care systems, and opportunities for new jobs and growth are the aims of support to research and innovation in response to this challenge and will make a major contribution to Europe 2020.</td>
<td>Lifelong health, <em>mental and physical</em> wellbeing for all, <em>inclusive</em>, high-quality and economically sustainable health and care systems, <em>solutions to deal with the economy of an ageing population</em> and opportunities for new jobs and growth are the aims of support to research and innovation in response to this challenge and will make a major contribution to Europe 2020.</td>
</tr>
</tbody>
</table>

**Amendment 102**

**Proposal for a regulation**  
**Annex I – part III – point 1.1 – paragraph 1 a (new)**

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><em>It should be needed to strengthen research on diseases that are derived from the increase of temperature and climate change which affect Mediterranean countries in particular but not only them.</em></td>
</tr>
</tbody>
</table>

**Amendment 103**

**Proposal for a regulation**  
**Annex I – part III – point 1.1 – paragraph 1 b (new)**
Research shall allow to improve advanced therapies and cellular therapies and would be focused on the treatment of chronic and degenerative diseases.

Amendment 104
Proposal for a regulation
Annex I – part III – point 1.1 – paragraph 2

Text proposed by the Commission
The cost of Union health and social care systems is rising with care and prevention measures in all ages increasingly expensive, the number of Europeans aged over 65 expected to nearly double from 85 million in 2008 to 151 million by 2060, and those over 80 to rise from 22 to 61 million in the same period. Reducing or containing these costs such that they do not become unsustainable depends in part on ensuring the lifelong health and wellbeing of all and therefore on the effective prevention, treatment and management of disease and disability.

Amendment
The cost of Union health and social care systems is rising with care and prevention measures in all ages increasingly expensive, the number of Europeans aged over 65 expected to nearly double from 85 million in 2008 to 151 million by 2060, and those over 80 to rise from 22 to 61 million in the same period. Preventing or containing these costs such that they do not become unsustainable depends in part on better informing and increasing the responsibility of citizens regarding health determinants in order to ensure the lifelong health and wellbeing of all and therefore on the effective prevention tools financed at an appropriate level, on the access to appropriate and specialised treatment and the management of disease and disability, while taking due account of the gender dimension.

Amendment 105
Proposal for a regulation
Annex I – part III – point 1.1 – paragraph 3
Chronic conditions such as cardiovascular disease (CVD), cancer, diabetes, neurological and mental health disorders, overweight and obesity and various functional limitations are major causes of disability, ill-health and premature death, and present considerable social and economic costs.

Chronic conditions such as cardiovascular disease (CVD), pulmonary disease, cancer, diabetes, rheumatic and musculoskeletal diseases, allergies, respiratory, neurological and mental health disorders, overweight and obesity, infertility disorders and various functional limitations are major causes of disability, ill-health, morbidity and premature death, and present considerable social and economic costs. Chronic non-communicable diseases account for 86% of deaths in the WHO European Region.

Amendment 106
Proposal for a regulation
Annex I – part III – point 1.1 – paragraph 4

In the Union, CVD annually accounts for more than 2 million deaths and costs the economy more than EUR 192 billion while cancer accounts for a quarter of all deaths and is the number one cause of death in people aged 45-64. Over 27 million people in the Union suffer from diabetes and the total cost of brain disorders (including, but not limited to those affecting mental health) has been estimated at EUR 800 billion. Environmental, life-style and socio-economic factors are relevant in several of these conditions with up to one third of the global disease burden estimated to be related to these.

In the Union, CVD annually accounts for more than 2 million deaths and costs the economy more than EUR 192 billion. Cancer accounts for a quarter of all deaths and is the number one cause of death in people aged 45-64. Over 120 million citizens suffer from rheumatic and musculoskeletal diseases, while over 27 million people in the Union suffer from diabetes and the total cost of brain disorders (including, but not limited to those affecting mental health) has been estimated at EUR 800 billion. This figure will continue to rise dramatically, largely as a result of Europe’s ageing population and the associated increase in the burden of neurodegenerative diseases, such as Parkinson’s and Alzheimer’s. Environmental, life-style and socio-economic factors are relevant in several of these conditions with up to one third of the
global disease burden estimated to be related to these. Four risk factors together account for the majority of chronic non-communicable diseases: tobacco consumption, unbalanced diets, alcohol intake and lack of physical activity. However, for other conditions, in particular neurodegenerative diseases, effective prevention strategies will require a considerable boost in research into their causes and the development of better early diagnosis and treatment options.

Amendment 107
Proposal for a regulation
Annex I – part III – point 1.1 – paragraph 4 a (new)

Text proposed by the Commission

Amendment

Mental health problems account for almost 20% of the burden of disease in the WHO European Region, with one in four people being affected by mental health problems at some time in their life.

Amendment 108
Proposal for a regulation
Annex I – part III – point 1.1 – paragraph 4 b (new)

Text proposed by the Commission

Amendment

Diseases in children, including premature born children.

Health of children is a core priority for the European Union. Similar to rare diseases effective research and treatment can only be developed in a common European effort.
Infectious diseases (e.g. HIV/AIDS, tuberculosis and malaria), are a global concern, accounting for 41% of the 1.5 billion disability adjusted life years worldwide, with 8% of these in Europe. Emerging epidemics and the threat of increasing anti-microbial resistance must also be prepared for.

Infectious diseases (e.g. HIV/AIDS, tuberculosis, malaria and neglected diseases), are a global concern, accounting for 41% of the 1.5 billion disability adjusted life years worldwide, with 8% of these in Europe. The resurgence of old infectious diseases including tuberculosis in the European region and the increased prevalence of vaccine-preventable diseases in developed countries underlines the need for a comprehensive approach and for increased public support for R&D. Emerging epidemics and the threat of increasing anti-microbial resistance must also be prepared for.

5a. Rare diseases remain a major challenge for the EU and the Member States. There are 6000 to 8000 rare diseases affecting approximately 30 million people across the EU. Relevant scientific knowledge and expertise which could serve as a basis for the development of innovative and more efficient therapies for patients with rare diseases is still lacking. Hence, there are currently few or no therapeutic options for the majority of these patients. European support for cooperation shall ensure that knowledge can be shared and resources combined as efficiently as possible, in order to tackle rare diseases effectively across the EU as a whole.
Justification

The Commission has set the target of developing 200 new therapies in the context of the International consortium on rare diseases. However, due to the limited number of patients per disease, the economic attractiveness of research and development of new orphan drugs is also lower. Therefore public funding would help mitigating this and act as a catalyst for private investment. Collaborative research is essential in ensuring that scarce knowledge can be shared and resources combined as efficiently as possible, in order to tackle rare diseases effectively across the EU.

Amendment 111

Proposal for a regulation
Annex I – part III – point 1.1 – paragraph 6

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
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<tbody>
<tr>
<td>Meanwhile, drug and vaccine development processes are becoming more expensive and less effective. Persistent health inequalities must be addressed, and access to effective and competent health systems must be ensured for all Europeans.</td>
<td>Meanwhile, drug and vaccine development processes are becoming more expensive and less effective, while public health interventions, health promotion, risk factors reduction and prevention strategies proved to be cost-effective in the long term. The validity of the underlying animal tests for humans more and more challenged. Their regulatory science needs to be improved. Persistent health inequalities must be addressed, and access to effective, viable and competent health systems must be ensured for all Europeans.</td>
</tr>
</tbody>
</table>

Justification

EU research should support the paradigm shift in biomedical research away from animal tests to modern testing of the 21st century. Advances in molecular biology, biotechnology, and other fields are paving the way for major improvements in how scientists can evaluate drugs and vaccines. These advances can make testing quicker, less expensive, and more directly relevant to humans.

Amendment 112

Proposal for a regulation
Annex I – part III – point 1.1 – paragraph 6 a (new)
A growing number of studies also show that certain chemical substances have a worrying impact on our endocrine systems and general health. The effects of these endocrine disruptors, particularly when combined, are thought among many other things to include deformation of the sexual organs in male babies, early puberty in young girls, sterility, obesity and diabetes. Further research in this whole area is therefore needed.

Amendment 113

Proposal for a regulation
Annex I – Part III – point 1.2. – paragraph 1

Disease and disability are not stopped by national borders. An appropriate European level research and innovation response can and should make a crucial contribution to addressing these challenges, deliver better health and wellbeing for all, and position Europe as a leader in the rapidly expanding global markets for health and wellbeing innovations.

Amendment 114

Proposal for a regulation
Annex I – part III – point 1.2 – paragraph 2

The response depends on excellence in research to improve our fundamental
understanding of health, disease, disability, development and ageing (including of life expectancy), and on the seamless and widespread translation of the resulting and existing knowledge into innovative, scalable and effective products, strategies, interventions and services. Furthermore, the pertinence of these challenges across Europe and in many cases, globally, demands a response characterised by long term and coordinated support for co-operation between excellent, multidisciplinary and multi-sector teams.

dissemination of research results to improve our fundamental understanding of health, disease, disability, development and ageing (including of life expectancy), and on the seamless and widespread translation of the resulting and existing knowledge into innovative, scalable and effective prevention, products, strategies, interventions and services. In particular, a large-scale human biology-based research effort is needed to discover the key events in the biological pathway between early disruptions in genetic and cellular processes and the manifestation of adverse human health outcomes. Furthermore, the pertinence of these challenges across Europe and in many cases, globally, demands a response characterised by long term and coordinated support for co-operation between excellent, multidisciplinary and multi-sector teams, not only at Union but also at global level, by supporting for instance research and development capacity in endemic areas and diseases, in particular malaria, dengue fever and tuberculosis.

Amendment 115

Proposal for a regulation
Annex I – part III – point 1.2 – paragraph 3

Text proposed by the Commission

Similarly, the complexity of the challenge and the interdependency of its components demand a European level response. Many approaches, tools and technologies have applicability across many of the research and innovation areas of this challenge and are best supported at Union level. These include the development of long term cohorts and the conduct of clinical trials, the clinical use of ‘-omics’ or the

Amendment

Similarly, the complexity of the challenge and the interdependency of its components demand a European level response. Many approaches, tools and technologies have applicability across many of the research and innovation areas of this challenge and are best supported at Union level. These include the support to health promotion and health literacy research, the development of long term cohorts and the
The development of ICT and their applications in healthcare practice, notably e-health. The requirements of specific populations are also best addressed in an integrated manner, for example in the development of stratified and/or personalised medicine, in the treatment of rare diseases, and in providing assisted and independent living solutions.

Amendment 116

Proposal for a regulation
Annex I – Part III – point 1.2. – paragraph 4

Text proposed by the Commission

To maximise the impact of Union level actions, support will be provided to the full spectrum of research and innovation activities. From basic research through translation of knowledge to large trials and demonstration actions, mobilising private investment; to public and pre-commercial procurement for new products, services, scalable solutions, which are when necessary, interoperable and supported by defined standards and/or common guidelines. This co-ordinated, European effort will contribute to the ongoing development of the ERA. It will also interface, as and when appropriate, with activities developed in the context of the Health for Growth Programme and the European Innovation Partnership on Active and Healthy Ageing.

Amendment

To maximise the impact of Union level actions, support will be provided to the full spectrum of research and innovation activities. From basic research through translation of knowledge to large trials and demonstration actions, mobilising private investment; to public and pre-commercial procurement for new products, services, scalable solutions, which are when necessary, interoperable and supported by defined standards and/or common guidelines. This co-ordinated, European effort will contribute to the ongoing development of the ERA. It will also complement and create synergies, as and when appropriate, with activities developed in the context of the Health for Growth Programme and the European Innovation Partnership on Active and Healthy Ageing and future actions in relation to chronic conditions.

Amendment 117
Proposal for a regulation
Annex I – part III – point 1.3 – paragraph 1

Text proposed by the Commission

Effective health promotion, supported by a robust evidence base, prevents disease, improves wellbeing and is cost effective. Health promotion and disease prevention also depend on an understanding of the determinants of health, on effective preventive tools, such as vaccines, on effective health and disease surveillance and preparedness, and on effective screening programmes.

Amendment

Effective health promotion, supported by a robust evidence base, prevents disease, improves mental and physical wellbeing and is cost effective. Health promotion and disease prevention also depend on an understanding of the determinants of, and links between, physical and mental health, on European data based on common indicators, on effective preventive tools, such as vaccines and behavioural interventions addressing risk factors, including obesity, on effective health and disease surveillance and preparedness, and on effective screening programmes and early diagnosis.

Amendment 118

Proposal for a regulation
Annex I –Part III – point 1.3. – paragraph 2

Text proposed by the Commission

Successful efforts to prevent, manage, treat and cure disease, disability and reduced functionality are underpinned by the fundamental understanding of their determinants and causes, processes and impacts, as well as factors underlying good health and wellbeing. Effective sharing of data and the linkage of these data with large scale cohort studies is also essential, as is the translation of research findings into the clinic, in particular through the conduct of clinical trials.

Amendment

Successful efforts to prevent, manage, treat and cure disease, disability and reduced functionality are underpinned by improved molecular knowledge of diseases through biomedical research, the fundamental understanding of their determinants and causes, processes and impacts, as well as of factors underlying good health and wellbeing. Building on the results of biomedical research in developing treatment and, in particular stratified and personalised medicine, is a powerful tool for providing disease treatment that is tailored to the patient's genetic make-up and to the specific disease type, thus increasing the efficiency of care and patients' quality of life. Effective collection and sharing of data,
standardised data processing and the linkage of these data with large scale cohort studies is also essential, as is the timely translation of research findings into the clinic, in particular through the conduct of multicentre clinical trials.

Amendment 119
Proposal for a regulation
Annex I – part III – point 1.3 – paragraph 3

Text proposed by the Commission

An increasing disease and disability burden in the context of an aging population places further demands on health and care sectors. If effective health and care is to be maintained for all ages, efforts are required to improve decision making in prevention and treatment provision, to identify and support the dissemination of best practice in the health and care sectors, and to support integrated care and the wide uptake of technological, organisational and social innovations empowering in particular older persons as well as disabled persons to remain active and independent. Doing so will contribute to increasing, and lengthening the duration of their physical, social, and mental well-being.

Amendment

An increasing disease and disability burden in the context of an aging population places further demands on health and care sectors. If effective health and care is to be maintained for all individuals, irrespective of their age or gender and economic means, efforts are required to improve decision making in prevention and treatment provision, and diagnosis, to identify and support the dissemination of best practice in the health and care sectors, to empower citizens and patients through health literacy, and to support integrated care (provided in expert centres where appropriate), and the wide uptake of technological, organisational and social innovations empowering in particular older persons, persons with chronic diseases as well as disabled persons and patients to remain active and independent. Doing so will contribute to increasing, and lengthening the duration of their physical, social, and mental well-being and quality of life.

Justification

Chronic diseases are the greatest challenge to the EU’s goal of adding two healthy life years to Europe’s citizens by 2020. Specific reference should be made to ensuring that all people with chronic diseases benefit from improved decision making on prevention and treatment provision, dissemination of best practice and uptake of technological and social innovations.
Amendment 120
Proposal for a regulation
Annex I – Part III – point 1.3. – paragraph 4

Text proposed by the Commission

All of these activities shall be undertaken in such a way as to provide support throughout the research and innovation cycle, strengthening the competitiveness of the European based industries and development of new market opportunities.

Amendment

All of these activities shall be undertaken in such a way as to provide support throughout the research and innovation cycle, while avoiding unnecessary research duplication, strengthening the development of new market opportunities and the competitiveness of the European based industries and supporting SMEs. Emphasis will also be placed on engaging all health stakeholders – including patient and patient organisations – in order to develop a research and innovation agenda that actively involves citizens and reflects their needs and expectations. To this end, a broad basis of research is of utmost importance for a high level of competitiveness and future innovation in the European Union.

Justification

EU-funded health research should reflect the needs and expectations of the citizens it is there to assist – the patients themselves. With their expertise, insights and ideas, patient organisations are ideally placed to help set the research agenda, build meaningful relationships with all major stakeholders and express a unified patient voice.

Amendment 121
Proposal for a regulation
Annex I – Part III – point 1.3. – paragraph 5

Text proposed by the Commission

Specific activities shall include: understanding the determinants of health (including environmental and climate)

Amendment

Specific activities shall include: understanding the determinants of health (including phyhosocial, behavioural,
related factors), improving health promotion and disease prevention; understanding disease and improving diagnosis; developing effective screening programmes and improving the assessment of disease susceptibility; improving surveillance and preparedness; developing better preventive vaccines; using in-silico medicine for improving disease management and prediction; **treating disease**; transferring knowledge to clinical practice and scalable innovation actions; better use of health data; active ageing, independent and assisted living; individual empowerment for self-management of health; promotion of integrated care; improving scientific tools and methods to support policy making and regulatory needs; and optimising the efficiency and effectiveness of healthcare systems and reducing inequalities by evidence based decision making and dissemination of best practice, and innovative technologies and approaches.

environmental, climate, **poverty and gender** related factors), improving health promotion and disease prevention; understanding the pathways of human disease, of toxicity, of biomarkers and modes of action and improving diagnosis; developing effective screening programmes and improving the assessment of disease susceptibility; improving surveillance and preparedness; developing better preventive tools, including vaccines; using in-silico medicine for improving disease management and prediction; **improving disease treatment with an emphasis on the development of stratified/personalised medicine and orphan medicinal products**; transferring knowledge stemming from basic research to clinical practice and scalable innovation actions in a more timely and efficient manner, by fostering high-quality translational research; better use of health data; promoting active ageing, independent and assisted living; individual empowerment for self-management of health; promotion of integrated care; improving scientific tools and methods to support policy making and regulatory needs; and optimising the efficiency and effectiveness of healthcare systems, including by the development and wider implementation of e-Health solutions, and reducing inequalities by evidence based decision making and dissemination of best practice, and innovative technologies and approaches.

Amendment 122

Proposal for a regulation
Annex I – part III – point 1.3 – paragraph 5 a (new)
In order to meet the challenges for the future of the need for European water actions, appropriate Union funding should be allocated for research and innovation activities in the area of water innovation. To this end, part of the total budget of Horizon 2020 (during 2014-2020) should be allocated for this societal challenge.

Amendment 123

Proposal for a regulation
Annex I – part III – point 2 – title

Text proposed by the Commission

2. Food security, sustainable agriculture, marine and maritime research and the bio-economy

Amendment

2. Food safety and security, sustainable agriculture, marine and maritime research and the bio-economy

Justification

Correction of amendment 31 reflecting partly comments by the Commission on the scope of the research on marine and maritime research.

Amendment 124

Proposal for a regulation
Annex I – part III – point 2.1 – introductory paragraph

Text proposed by the Commission

The specific objective is to secure sufficient supplies of safe and high quality food and other bio-based products, by developing productive and resource-efficient primary production systems, fostering related ecosystem services, along side competitive and low carbon supply chains. This will accelerate the transition

Amendment

The specific objective is to secure sufficient supplies of safe and high quality healthy food and other bio-based products, avoiding the current over-exploitation of ecosystems, by developing productive and resource-efficient primary production and food processing systems which respect biodiversity, bringing together
to a sustainable European bio-economy. quantitative et qualitative approaches, 
alongside competitive and low carbon supply chains.

Amendment 125

Proposal for a regulation
Annex I – part III – point 2.1 – paragraph 1

Text proposed by the Commission

Over the coming decades, Europe will be challenged by increased competition for limited and finite natural resources, by the effects of climate change, in particular on primary production systems (agriculture, forestry, fisheries and aquaculture) and by the need to provide a sustainable, safe and secure food supply for the European and an increasing global population. A 70 % increase of the world food supply is estimated to be required to feed the 9 billion global population by 2050. Agriculture accounts for about 10 % of Union greenhouse gases emissions, and while declining in Europe, global emissions from agriculture are projected to increase up to 20 % by 2030. Furthermore, Europe will need to ensure sufficient supplies of raw materials, energy and industrial products, under conditions of decreasing fossil carbon resources (oil and liquid gas production expected to decrease by about 60 % by 2050), while maintaining its competitiveness. Bio-waste (estimated at up to 138 million tonnes per year in the Union, of which up to 40 % is land-filled) represents a huge problem and cost, despite its high potential added value. For example, an estimated 30 % of all food produced in developed countries is discarded. Major changes are needed to reduce this amount by 50 % in the Union by 2030. In addition, national borders are irrelevant in the spread of animal and plant pests and diseases, including zoonotic

Amendment

Over the coming decades, Europe will be challenged by increased competition for limited and finite natural resources, by the effects of climate change, in particular on primary production systems (agriculture, forestry, fisheries and aquaculture) and by the need to provide a sustainable, safe and secure food supply for the European and an increasing global population. A 70 % increase of the world food supply is estimated to be required to feed the 9 billion global population by 2050. This food emergency does not justify the current imbalance between often surplus national production levels and the steady rise in food imports, nor does it provide a reason for the increasing complexity of the global food network. Hence the importance of the European Union having better control of the supply circuits, taking into account, as a matter of priority, seasonal cycles, the origin of products and the ability to track food. Agriculture accounts for about 10 % of Union greenhouse gases emissions, and while declining in Europe, global emissions from agriculture are projected to increase up to 20 % by 2030. Furthermore, Europe will need to ensure sufficient supplies of raw materials, energy and industrial products, under conditions of decreasing fossil carbon resources (oil and liquid gas production expected to decrease by about 60 % by 2050), while maintaining its competitiveness. Bio-waste (estimated
diseases, and food borne pathogens. While effective national prevention measures are needed, action at Union level is essential for ultimate control and the effective running of the single market. The challenge is complex, affects a broad range of interconnected sectors and requires a plurality of approaches.

at up to 138 million tonnes per year in the Union, of which up to 40% is land-filled) represents a huge problem and cost, despite its high potential added value. For example, an estimated 30% of all food produced in developed countries is discarded. Major changes are needed to reduce this amount by 50% in the Union by 2030. In addition, national borders are irrelevant in the spread of animal and plant pests and diseases, including zoonotic diseases, and food borne pathogens. While effective national land monitoring, territorial care and prevention measures are needed, action at Union level is essential for ultimate control and the effective running of the single market. The challenge is complex, affects a broad range of interconnected sectors and requires a plurality of approaches.

Justification

*It is vital for the European Union to have better traceability of foodstuffs so that it can more easily identify the origins of food poisoning outbreaks and avoid delays in identifying the source of contamination. The example of the E.coli health crisis in Germany in June 2011 is particularly relevant.*

Amendment 126

Proposal for a regulation
Annex I – part III – point 2.1 – paragraph 2

Text proposed by the Commission

More and more biological resources are needed to satisfy market demand for a secure and healthy food supply, biomaterials, biofuels and bio-based products, ranging from consumer products to bulk chemicals. However the capacities of the terrestrial and aquatic ecosystems required for their production are limited, while there are competing claims for their utilisation, and often not optimally managed, as shown for example by a severe decline in soil

Amendment

More and more biological resources are needed to satisfy market demand for a secure and healthy food supply, biomaterials, biofuels and bio-based products, ranging from consumer products to bulk chemicals. However the capacities of the terrestrial and aquatic ecosystems required for their production are limited, while there are competing claims for their utilisation, and often not optimally managed, as shown for example by a severe decline in soil
carbon content and fertility. There is under-utilised scope for fostering ecosystem services from farmland, forests, marine and fresh waters by integrating agronomic and environmental goals into sustainable production.

Amendment 127
Proposal for a regulation
Annex I – part III – point 2.1 – paragraph 2 a (new)

Text proposed by the Commission

The creation of a low-waste production chain, that is also able to secure food supply in the context of climate change and growing population can span from improved management systems that minimize inputs at the land/sea level and throughout the supply chain. Farmers' collective knowledge of natural resources, ecological processes and product quality, can be used as a basis to minimise dependence on external inputs. Shorter agro-food chains based on consumers' trust and greater proximity to producers is also a basis of a low-waste production chain, whilst addressing consumer demands for high quality food, taking into account animal welfare.

Amendment 128
Proposal for a regulation
Annex I – part III – point 2.1 – paragraph 3

Text proposed by the Commission

The potential of biological resources and ecosystems could be used in a much more sustainable, efficient and integrated manner. For examples, the potential of biomass from forests and waste streams from agricultural, aquatic, industrial, and
also municipal origins could be better harnessed industrial, and also municipal origins could be better harnessed

Justification

It should be made clear that agriculture in itself holds great potential for the sustainable production and use of biomass, through dedicated crops, the development of plants with in-built traits and the cascading use of crops.

Amendment 129

Proposal for a regulation
Annex I – part III – point 2.2 – paragraph 2

Text proposed by the Commission

A fully functional European bio-economy – encompassing the sustainable production of renewable resources from land and aquatic environments and their conversion into food, bio-based products and bioenergy as well as the related public goods - will generate high European added value. Managed in a sustainable manner, it can reduce the environmental footprint of primary production and the supply chain as a whole. It can increase their competitiveness and provide jobs and business opportunities for rural and coastal development. The food security, sustainable agriculture, and overall bio-economy – related challenges are of a European and global nature. Actions at Union level are essential to bring together clusters to achieve the necessary breadth and critical mass to complement efforts made by a single or groups of Member States. A multi-actor approach will ensure the necessary cross-fertilising interactions between researcher, businesses, farmers/ producers, advisors and end-users. The Union level is also necessary to ensure coherence in addressing this challenge across sectors and with strong links to relevant Union policies. Coordination of research and innovation at Union level will

Amendment

A fully functional European bio-economy – encompassing the sustainable production of renewable resources from land and aquatic environments and their conversion into food, feed, bio-based products and bioenergy as well as the related public goods - will generate high European added value. Managed in a sustainable manner, it can reduce the environmental footprint of primary production and the supply chain as a whole. It can increase their competitiveness and provide jobs and business opportunities for rural and coastal development. In parallel to the market oriented functions, the bio-economy sustains also a wide range of public goods function that should be preserved: agricultural and forested landscape, farmland and forest biodiversity, water quality and availability, soil functionality, climate stability, air quality, resilience to flooding and fire. The food security, sustainable agriculture, and overall bio-economy – related challenges are of a European and global nature. Actions at Union level are essential to bring together clusters to achieve the necessary breadth and critical mass to complement efforts made by a single or groups of Member States. A transparent multi-actor approach
stimulate and help to accelerate the required changes across the Union.

will ensure the necessary cross-fertilising interactions between researcher, businesses, farmers/ producers, advisors, consumers and end-users. The Union level is also necessary to ensure coherence in addressing this challenge across sectors and with strong links to relevant Union policies. Coordination of research and innovation at Union level will stimulate and help to accelerate the required changes across the Union.

Amendment 130
Proposal for a regulation
Annex I – part III – point 2.2 – paragraph 3

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and innovation will interface with a wide spectrum of Union policies and related targets, including the Common Agriculture Policy (in particular the Rural Development Policy) and the European Innovation Partnership ‘Agricultural Productivity and Sustainability’, the Common Fisheries Policy, the Integrated Maritime Policy, the European Climate Change Programme, the Water Framework Directive, the Marine Strategy Framework Directive, the Forestry Action Plan, the Soil Thematic Strategy, the Union's 2020 Biodiversity Strategy, the Strategic Energy Technology Plan, the Union's innovation and industrial policies, external and development aid policies, plant health strategies, animal health and welfare strategies and regulatory frameworks to protect the environment, health and safety, to promote resource efficiency and climate action, and to reduce waste. A better integration of research and innovation into related Union policies will significantly improve their European added value, provide leverage effects, increase societal relevance and help to further develop</td>
<td>Research and innovation will interface with a wide spectrum of Union policies and related targets, including the Common Agriculture Policy (in particular the Rural Development Policy) and the European Innovation Partnership ‘Agricultural Productivity and Sustainability’, the Common Fisheries Policy, the Integrated Maritime Policy, the European Climate Change Programme, the Water Framework Directive, the Marine Strategy Framework Directive, the Forestry Action Plan, the Soil Thematic Strategy, the Union's 2020 Biodiversity Strategy, the Strategic Energy Technology Plan, the Union's innovation and industrial policies, external and development aid policies, plant health strategies, animal health and welfare strategies and regulatory frameworks to protect the environment, health and safety, to promote resource efficiency and climate action, and to reduce waste. A better integration of research and innovation into related Union policies will significantly improve their European added value, provide leverage effects, increase societal relevance and help to further develop</td>
</tr>
</tbody>
</table>
sustainable land, seas and oceans management and bio-economy markets.

relevance and help to further develop sustainable land, seas and oceans management and bio-economy markets.

Amendment 131

Proposal for a regulation
Annex I – part III – point 2.2 – paragraph 5

Text proposed by the Commission

Challenge-driven actions focusing on social and economic benefits and the modernisation of the bio-economy associated sectors and markets shall be supported through multi-disciplinary research, driving innovation and leading to the development of new practices, products and processes. It shall also pursue a broad approach to innovation ranging from technological, non-technological, organisational, economic and social innovation to for instance novel business models, branding and services.

Amendment

Challenge-driven actions focusing on social, environmental and economic benefits and the modernisation of the bio-economy associated sectors, participating actors and markets shall be supported through multi-disciplinary research, driving innovation and leading to the development of new practices, sustainable products and processes. It shall also pursue a broad approach to innovation ranging from technological, non-technological, organisational, economic and social innovation to for instance novel business models, branding and services. The potential of farmers and SMEs to contribute to innovation in the field must be fully recognised. The approach to the bio-based economy shall take account of the importance of local knowledge enhancing local capabilities, while also accommodating diversity and complexity.

Amendment 132

Proposal for a regulation
Annex I – part III – point 2.3 – point a – paragraph 1

Text proposed by the Commission

The aim is to supply sufficient food, feed, biomass and other raw-materials, while safeguarding natural resources and enhancing ecosystems services, including

Amendment

The aim is to supply sufficient food, feed, biomass and other raw-materials, while safeguarding natural resources at the global level and enhancing ecosystems services.
Coping with and mitigating climate change. The activities shall focus on more sustainable and productive agriculture and forestry systems which are both resource-efficient (including low-carbon) and resilient, while at the same time developing services, including protecting biodiversity and natural habitats, and protecting soil and water resources, while tackling the challenges of mitigation and adaptation to climate change. The activities shall favour systemic approaches and focus on more sustainable and productive agriculture and forestry systems including organic farming, which are both resource-efficient (including low-carbon and low input) and resilient, while at the same time developing services, concepts and policies for thriving rural livelihoods.

Amendment 133

Proposal for a regulation
Annex I – part III – point 2.3 – point b – paragraph 1

Text proposed by the Commission

The aim is to meet the requirements of citizens for safe, healthy and affordable food, and to make food and feed processing and distribution more sustainable and the food sector more competitive. The activities shall focus on healthy and safe foods for all, informed consumer choices, and competitive food processing methods that use less resources and produce less by-products, waste and greenhouse gases.

Amendment

The aim is to meet the requirements of citizens for good quality, safe, healthy and affordable food, and to make food and feed processing and distribution as well as food consumption more sustainable and the food sector more competitive while preserving European biodiversity. The activities shall focus on good quality, a broad diversity of healthy, authentic, high quality and safe foods for all, better food information to consumers, and competitive food processing methods that use less resources and additives and produce less by-products, waste and greenhouse gases.

Amendment 134

Proposal for a regulation
Annex I – part III – point 2.3 – point c – paragraph 1
The aim is to *sustainably exploit* aquatic living resources *to maximise* social and economic benefits/returns from Europe's oceans and seas. The activities shall focus on an optimal contribution to secure food supplies by developing sustainable and environmentally friendly fisheries and *competitive* European aquaculture in the context of the global economy *and on boosting* marine *innovation through biotechnology to fuel smart ‘blue’ growth.*

The aim is to *maintain sustainable consumption levels of* aquatic living resources, *while maximising* social and economic benefits/returns from Europe's oceans and seas *while protecting biodiversity and ecosystem services.* The activities shall focus on an optimal contribution to secure food supplies by developing sustainable and environmentally friendly fisheries and European aquaculture in the context of the global economy. *Environmental concerns regarding the use of biotechnology in open marine ecosystems have to be carefully taken into account. The precautionary principle as well as civil society concerns on the use and dissemination of biotechnology in open marine ecosystems have to be taken into account.*

**Amendment 135**

**Proposal for a regulation**

**Annex I – part III – point 2.3 – point c a (new)**

*Text proposed by the Commission*  
*(c a) Another objective is to fight against the homogenisation of species present in inland seas and rivers, which has a significant impact on the functioning of ecosystems, particularly as a result of increased resistance to disturbances.*

*Justification*

*It is important to tackle the phenomenon of waters and rivers becoming uniform. In the EU alone, more than 400 fish species have been introduced in recent decades into rivers where they have not historically been present.*
Amendment 136

Proposal for a regulation
Annex I – part III – point 2.3 – point d – paragraph 1

Text proposed by the Commission

The aim is the promotion of low carbon, resource efficient, sustainable and competitive European bio-based industries. The activities shall focus on fostering the bio-economy by transforming conventional industrial processes and products into bio-based resource and energy efficient ones, the development of integrated biorefineries, utilising biomass from primary production, biowaste and bio-based industry by-products, and opening new markets through supporting standardisation, regulatory and demonstration/field trial activities and others, while taking into account the implication of the bio-economy on land use and land use changes.

Amendment

The aim is the promotion of renewable-based and energy efficient, resource efficient, sustainable and competitive European bio-based industries. The activities shall focus on fostering the bio-economy by transforming conventional industrial processes and products into bio-based resource and energy efficient ones, the development of integrated biorefineries, producing and utilising biomass from primary production, biowaste and bio-based industry by-products, and opening new markets through supporting where necessary standardisation, but also through regulatory and demonstration activities and others, while taking into account the environmental and socio-economic implication of the bio-economy on land use and land use changes as well as civil society views and concerns.

Justification

The development of integrated biorefineries must not be limited to the use.

Amendment 137

Proposal for a regulation
Annex I – part III – point 3.1 – paragraph 1

Text proposed by the Commission

The Union intends to reduce greenhouse gas emissions by 20 % below 1990 levels by 2020, with a further reduction to 80-95 % by 2050. In addition, renewables should cover 20 % of final energy consumption in 2020 coupled with a 20 % energy efficiency

Amendment

The Union intends to reduce greenhouse gas emissions by 20 % below 1990 levels by 2020, with a further reduction to 80-95 % by 2050. In addition, renewables should cover 20 % of final energy consumption in 2020 coupled with a 20 % energy efficiency
efficiency target. Achieving these objectives will require an overhaul of the energy system combining low carbon profile, energy security and affordability, while at the same time reinforcing Europe’s economic competitiveness. Europe is currently far from this overall goal. 80% of the European energy system still relies on fossil fuels, and the sector produces 80% of all the Union's greenhouse gas emissions. Every year 2.5% of the Union's Gross Domestic Product (GDP) is spent on energy imports and this is likely to increase. This trend would lead to total dependence on oil and gas imports by 2050. Faced with volatile energy prices on the world market, coupled with concerns over security of supply, European industries and consumers are spending an increasing share of their income on energy. By 2050 greenhouse gas emission reductions of 80-95% should be achieved. All decarbonisation scenarios in the Energy Roadmap 2050 show that renewable energy technologies will by the middle of this century account for the biggest share of energy supply technologies and that end-use energy efficiency will play a crucial role for meeting the objectives. It is therefore appropriate for 80% of the budget under this Challenge to go towards research and innovation in renewable energy and end-use energy efficiency. Achieving these objectives will require an overhaul of the energy system combining low carbon profile, energy security and affordability, while at the same time reinforcing Europe’s economic competitiveness. Europe is currently far from this overall goal. 80% of the European energy system still relies on fossil fuels, and the sector produces 80% of all the Union's greenhouse gas emissions. Every year 2.5% of the Union's Gross Domestic Product (GDP) is spent on energy imports and this is likely to increase. This trend would lead to total dependence on oil and gas imports by 2050. Faced with volatile energy prices on the world market, coupled with concerns over security of supply, European industries and consumers are spending an increasing share of their income on energy.

Amendment 138

Proposal for a regulation
Annex I – part III – point 3.1 – paragraph 2

Text proposed by the Commission

The roadmap to a competitive low-carbon economy in 2050 shows that the targeted reductions in greenhouse gas emissions will have to be met largely within the territory of the Union. This would entail reducing CO2 emissions by over 90% by

Amendment

The roadmap to a competitive low-carbon economy in 2050, as drafted by the European Commission, assumes that the targeted reductions in greenhouse gas emissions will have to be met largely within the territory of the Union in light of
2050 in the power sector, by over 80 % in industry, by **at least** 60 % in transport and by **about** 90 % in the residential sector and services. 

the lack of worldwide agreement on the issue. This would entail reducing CO2 emissions **even** by over 90 % by 2050 in the power sector, by over 80 % in industry, by 60 % in transport and by 90 % in the residential sector and services.

**Justification**

The final goal of GHG reduction by 2050 has not been decided yet. 80-95% targets are desired, but not necessarily feasible ones.

**Amendment 139**

Proposal for a regulation
Annex I – part III – point 3.3 – point b – paragraph 1

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities shall focus on research, development and full scale demonstration - of innovative renewables and carbon capture and storage technologies offering larger scale, lower cost, environmentally safe technologies with higher conversion efficiency and higher availability for different market and operating environments.</td>
<td>Activities shall focus on research, development and full scale demonstration - of innovative renewables and carbon capture and storage technologies offering larger scale, lower cost, environmentally safe technologies with higher conversion efficiency and higher availability for different market and operating environments. <strong>Activities shall also focus on research and development of renewable energy storage technologies.</strong></td>
</tr>
</tbody>
</table>

**Amendment 140**

Proposal for a regulation
Annex I – part III – point 3.3 – point d – introductory part

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>(d) A single, smart European electricity grid</td>
<td>(d) A single, smart European electricity grid <strong>which enables renewable energy sources to be fully integrated into the energy mix</strong></td>
</tr>
</tbody>
</table>
Amendment 141
Proposal for a regulation
Annex I – part III – point 3.3 – point e – paragraph 1

*Text proposed by the Commission*

Activities shall focus on multi-disciplinary research for energy technologies (including visionary actions) and joint implementation of pan-European research programmes and world-class facilities.

*Amendment*

Activities shall focus on multi-disciplinary research for energy technologies (including visionary actions) and the impact of devices, facilities and new technological developments on the marine environment and joint implementation of pan-European research programmes and world-class facilities.

Amendment 142
Proposal for a regulation
Annex I – part III – point 4.3 – point a – paragraph 2

*Text proposed by the Commission*

The focus of activities shall be to reduce resource consumption and greenhouse gas emissions and improve vehicle efficiency, to accelerate the development and deployment of a new generation of electric and other low or zero emission vehicles, including through breakthroughs in engines, batteries and infrastructure; to explore and exploit the potential of alternative fuels and innovative and more efficient propulsion systems, including fuel infrastructure; to optimise the use of infrastructures, by means of intelligent transport systems and smart equipment; and to increase the use of demand management and public and non-motorised transport, particularly in urban areas.

*Amendment*

The focus of activities shall be to reduce resource consumption and greenhouse gas emissions and improve vehicle efficiency, to accelerate the development and deployment of a new generation of low emission vehicles at affordable market prices, including through breakthroughs in engines, batteries and infrastructure; to explore and exploit the potential of alternative fuels and innovative and more efficient propulsion systems, including fuel infrastructure; to optimise the use of infrastructures, by means of intelligent transport systems and smart equipment; and to increase the use of demand management and public and non-motorised transport, particularly in urban areas.

Amendment 143
Proposal for a regulation
Annex I – part III – point 4.3 – point c – paragraph 2
The focus of activities shall be to develop the next generation of innovative transport means and to prepare the ground for the following one, by working on novel concepts and designs, smart control systems and interoperable standards, efficient production processes, shorter development times and reduced lifecycle costs.

Amendment 144

Proposal for a regulation
Annex I – part III – point 5 – title

Text proposed by the Commission

5. Climate action, resource efficiency and raw materials

Amendment

5. Climate and water action, resource efficiency and sustainable use of raw materials;

Amendment 145

Proposal for a regulation
Annex I – part III – point 5.1 – introductory paragraph

Text proposed by the Commission

The specific objective is to achieve a resource efficient and climate change resilient economy and a sustainable supply of raw materials, in order to meet the needs of a growing global population within the sustainable limits of the planet's natural resources. Activities will contribute to increasing European competitiveness and improving well being, whilst assuring environmental integrity and sustainability, keeping average global warming below 2 °C and enabling ecosystems and society to adapt to climate change.

Amendment

The specific objective is to achieve a resource efficient and climate change resilient economy, the protection and sustainable management of natural resources and ecosystems, a sustainable use and supply of raw materials and water, in order to meet the needs of a growing global population within the sustainable limits of the planet's terrestrial and marine natural resources. Activities will contribute to increasing European competitiveness and improving well being, whilst assuring environmental integrity and sustainability, keeping average global warming below 2
°C, enabling ecosystems and society to adapt to climate change and protecting cultural heritage.

Amendment 146

Proposal for a regulation
Annex I – part III – point 5.1 – paragraph 3a (new)

Text proposed by the Commission

Amendment

3a. In view of serious and largely irreversible changes to large components of the Earth's climate system, there is a need of considering all sources of global warming and all mitigation options. Besides considering CO2 emission reductions, fast-action strategies (e.g. cuts in hydrofluorocarbons, black carbon, tropospheric ozone; biosequestration) can produce the fastest climate response within decades or sooner.

Justification

Amendment replacing amendment 29 in the draft opinion.

Amendment 147

Proposal for a regulation
Annex I – part III – point 5.1 – paragraph 4

Text proposed by the Commission

Amendment

The sustainable supply and resource efficient management of raw materials, including their exploration, extraction, processing, re-use, recycling and substitution, is essential for the functioning of modern societies and their economies. European sectors, such as construction, chemicals, automotive, aerospace, machinery and equipment, which provide a total added value of some EUR 1.3 trillion and employment for approximately 30 million people, heavily depend on access to
raw materials. However, the supply of raw materials to the Union is coming under increasing pressure. Furthermore, the Union is highly dependent on imports of strategically important raw materials, which are being affected at an alarming rate by market distortions. Moreover, the Union still has valuable mineral deposits, whose exploration and extraction is limited by a lack of adequate technologies and hampered by increased global competition. Given the importance of raw materials for European competitiveness, the economy and for their application in innovative products, the sustainable supply and resource efficient management of raw materials is a vital priority for the Union.

Amendment 148
Proposal for a regulation
Annex I – part III – point 5.1 – paragraph 4 a (new)

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate change also poses a threat to European cultural heritage. Understanding the challenges and providing the adequate responses will be essential in order to maintain identity, social cohesion and to maximise the economic benefits associated with tourism.</td>
<td></td>
</tr>
</tbody>
</table>

Amendment 149
Proposal for a regulation
Annex I – part III – point 5.2 – paragraph 1

<table>
<thead>
<tr>
<th>Text proposed by the Commission</th>
<th>Amendment</th>
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</thead>
<tbody>
<tr>
<td>Meeting Union and international targets for greenhouse gas emissions and</td>
<td>Meeting Union and international targets for greenhouse gas emissions and coping with</td>
</tr>
</tbody>
</table>

AD/913296EN.doc 85/98 PE487.915v02-00
concentrations and coping with climate change impacts requires the development and deployment of cost-effective technologies, and mitigation and adaptation measures. Union and global policy frameworks must ensure that ecosystems and biodiversity are protected, valued and appropriately restored in order to preserve their ability to provide resources and services in the future. Research and innovation can help secure reliable and sustainable access to raw materials and ensure a significant reduction in resource use and wastage.

climate change impacts requires the development and deployment of sustainable and effective non-technological and technological solutions, and mitigation and adaptation measures. Union and global policy frameworks must ensure that ecosystems and biodiversity are protected, valued and appropriately restored in order to preserve their ability to provide resources and services in the future. Research and innovation can help secure reliable and sustainable access to raw materials and ensure a significant reduction in resource use and wastage.

Amendment 150

Proposal for a regulation
Annex I – part III – point 5.2 – paragraph 2

Text proposed by the Commission
The focus of Union actions shall therefore be on supporting key Union objectives and policies including: the Europe 2020 strategy; the Innovation Union; Resource-Efficient Europe and the corresponding Roadmap; the Roadmap for moving to a competitive low carbon economy in 2050; Adapting to climate change: Towards a European framework for action; the Raw Materials Initiative; the Union's Sustainable Development Strategy; an Integrated Maritime Policy for the Union; the Marine Strategy Framework Directive; the Eco-innovation Action Plan and the Digital Agenda for Europe. These actions shall reinforce the ability of society to become more resilient to environmental and climate change and ensure the availability of raw materials.

Amendment
The focus of Union actions shall therefore be on supporting key Union objectives and policies including: the Europe 2020 strategy; the Innovation Union; Resource-Efficient Europe and the corresponding Roadmap; the Roadmap for moving to a competitive low carbon economy in 2050; Adapting to climate change: Towards a European framework for action; the Raw Materials Initiative; the Union's Sustainable Development Strategy; an Integrated Maritime Policy for the Union; the Marine Strategy Framework Directive; the Eco-innovation Action Plan and the 7th Environmental Action Programme. These actions shall reinforce the ability of society to become more resilient to environmental and climate change and ensure the availability of raw materials.

Amendment 151

Proposal for a regulation
Annex I – part III – point 5.2 – paragraph 3

PE487.915v02-00 86/98 AD\913296EN.doc
Given the transnational and global nature of the climate and the environment, their scale and complexity, and the international dimension of the raw materials supply chain, activities have to be carried out at the Union level and beyond. The multi-disciplinary character of the necessary research requires pooling complementary knowledge and resources in order to effectively tackle this challenge. Reducing resource use and environmental impacts, whilst increasing competitiveness, will require a decisive societal and technological transition to an economy based on a sustainable relationship between nature and human well-being. Coordinated research and innovation activities will improve the understanding and forecasting of climate and environmental change in a systemic and cross-sectoral perspective, reduce uncertainties, identify and assess vulnerabilities, risks, costs and opportunities, as well as expand the range and improve the effectiveness of societal and policy responses and solutions. Actions will also seek to empower actors at all levels of society to actively participate in this process.

Proposal for a regulation
Annex I – part III – point 5.2 – paragraph 4

Addressing the availability of raw materials calls for co-ordinated research and innovation efforts across many disciplines and sectors to help provide safe, economically feasible, environmentally sound and socially acceptable solutions along the entire value chain (exploration,
extraction, processing, re-use, recycling and substitution). Innovation in these fields will provide opportunities for growth and jobs, as well as innovative options involving science, technology, the economy, policy and governance. For this reason, a European Innovation Partnership on Raw Materials is being prepared.

Amendment 153

Proposal for a regulation
Annex I -Part III – point 5.3. – point a – paragraph 1

**Text proposed by the Commission**

(a) Fighting and adapting to climate change

The aim is to develop and assess innovative, cost-effective and sustainable adaptation and mitigation measures, targeting both CO2 and non-CO2 greenhouse gases, and underlining both technological and non-technological green solutions, through the generation of evidence for informed, early and effective action and the networking of the required competences. Activities shall focus on: improving the understanding of climate change and the provision of reliable climate projections; assessing impacts, vulnerabilities and developing innovative cost-effective adaptation and risk prevention measures; supporting mitigation policies.

**Amendment**

(a) Fighting and adapting to climate change

The aim is to develop and assess innovative, cost-effective and sustainable adaptation and mitigation measures and strategies, targeting both CO2 and non-CO2 greenhouse gases and particles, and underlining both technological and non-technological green solutions, through the generation of evidence for informed, early and effective action and the networking of the required competences. Activities shall focus on: improving the understanding of climate change and the risks associated with extreme events and abrupt changes through the provision of reliable climate projections; understanding the ozone-climate interactions and the water cycle in the atmosphere; assessing impacts at global, regional and local level, vulnerabilities and developing innovative cost-effective adaptation and risk prevention measures, including threats to cultural heritage; supporting mitigation policies and defining fast-action strategies for climate responses within few decades.
Amendment 154

Proposal for a regulation
Annex I – part III – point 5.3 – point b – paragraph 1

- Text proposed by the Commission
  The aim is to provide knowledge for the management of natural resources that achieves a sustainable balance between limited resources and the needs of society and the economy. Activities shall focus on: furthering our understanding of the functioning of ecosystems, their interactions with social systems and their role in sustaining the economy and human well-being; and providing knowledge and tools for effective decision making and public engagement.

- Amendment
  The aim is to provide knowledge for the management of natural resources that achieves a sustainable balance between limited resources and the needs of society and the economy. Activities shall focus on: ensuring action to safeguard the sustainable transition, management and use of water resources and water services, furthering our understanding of the functioning of ecosystems, including the regulatory role played by oceans and forests to prevent global warming, their interactions with social systems and their role in sustaining the economy and human well-being; and providing knowledge and tools for effective decision making and public engagement.

Amendment 155

Proposal for a regulation
Annex I – part III – point 5.3 – point c – introductory part

- Text proposed by the Commission
  (c) Ensuring the sustainable supply of non-energy and non-agricultural raw materials

- Amendment
  (c) Ensuring the sustainable use, management and supply of non-energy and non-agricultural raw materials

Amendment 156

Proposal for a regulation
Annex I – part III – point 5.3 – point c – paragraph 1

- Text proposed by the Commission
  The aim is to improve the knowledge base on raw materials and develop innovative

- Amendment
  The aim is to improve the knowledge base on raw materials and develop innovative
solutions for the cost-effective and environmentally friendly exploration, extraction, processing, recycling and recovery of raw materials and for their substitution by economically attractive alternatives with a lower environmental impact. Activities shall focus on: improving the knowledge base on the availability of raw materials; promoting the sustainable supply and use of raw materials; finding alternatives for critical raw materials; and improving societal awareness and skills on raw materials.

The aim is to foster all forms of eco-innovation that enable the transition to a green economy. Activities shall focus on: strengthening eco-innovative technologies, processes, services and products and boosting their market uptake and replication, with special attention for SMEs; supporting innovative policies and societal changes; measuring and assessing progress towards a green economy; and fostering resource efficiency through digital systems.

Proposal for a regulation
Annex I – part III – point 5.3 – point d – paragraph 1

Text proposed by the Commission

The aim is to foster all forms of eco-innovation that enable the transition to a green economy. Activities shall focus on: strengthening eco-innovative technologies (including technologies and new materials for cultural heritage preservation and restoration), processes, services and products and boosting their market uptake and replication, with special attention for SMEs; supporting innovative policies and societal changes; measuring and assessing progress towards a green economy; and fostering resource efficiency through digital systems.

Amendment 157

The aim is to foster all forms of eco-innovation that enable the transition to a green economy. Activities shall focus on: strengthening eco-innovative technologies, processes, services and products and boosting their market uptake and replication, with special attention for SMEs; supporting innovative policies and societal changes; measuring and assessing progress towards a green economy; and fostering resource efficiency through digital systems.
Amendment 158

Proposal for a regulation
Annex I – Part III – point 5.3. – point e

Text proposed by the Commission

(e) Developing comprehensive and sustained global environmental observation and information systems

The aim is to ensure the delivery of the long-term data and information required to address this challenge. Activities shall focus on the capabilities, technologies and data infrastructures for earth observation and monitoring that can continuously provide timely and accurate information, forecasts and projections. Free, open and unrestricted access to interoperable data and information will be encouraged.

Amendment

(e) Developing comprehensive and sustained global environmental observation and information systems

The aim is to ensure the delivery of the long-term data and information required to address this challenge. Activities shall focus on the capabilities, technologies and data infrastructures for earth observation and monitoring from both remote sensing and in situ measurements that can continuously provide timely accurate information and permit forecasts and projections. Free, open and unrestricted access to interoperable data and information will be encouraged.

Amendment 159

Proposal for a regulation
Annex I – part III – point 6.3.2 – paragraph 1

Text proposed by the Commission

The aim is to foster the development of innovative societies and policies in Europe through the engagement of citizens, enterprises and users in research and innovation and the promotion of coordinated research and innovation policies in the context of globalisation. Particular support will be provided for the development of the ERA and the development of framework conditions for innovation.

Amendment

The aim is to foster the development of innovative societies and policies in Europe through the engagement of citizens, including persons with disabilities, enterprises and users in research and innovation and the promotion of coordinated research and innovation policies in the context of globalisation. Particular support will be provided for the development of the ERA and the development of framework conditions for innovation.
Amendment 160
Proposal for a regulation
Annex I – part III – point 6.3.1 – paragraph 2 – point c

Text proposed by the Commission
(c) ensure societal engagement in research and innovation;

Amendment
(c) ensure societal engagement, also by consulting civil society organisations, in particular organisations of persons with disabilities, in research and innovation;

Justification
In order to produce research which is useful and meaningful to society, it is vital that persons with disabilities and their representative organisations are fully included in research projects funded by Horizon 2020. This is key if we want to ensure that European research delivers results in line with the needs of society and citizens, especially persons with disabilities. At this stage, no mention is currently made of involving persons with disabilities in Horizon 2020 research and the proposal should be amended accordingly.

Amendment 161
Proposal for a regulation
Annex I – part III – point 6.3.1 – paragraph 2 – point c

Text proposed by the Commission
(c) ensure societal engagement in research and innovation;

Amendment
(c) ensure societal engagement in research and innovation; increase societal appreciation of science

Justification
The perception of the importance science is an important factor for the society.

Amendment 162
Proposal for a regulation
Annex I – part III – point 6.3.3 – paragraph 2 – point d

Text proposed by the Commission
(d) increase Europe's resilience to crises and disasters;

Amendment
(d) increase Europe's prevention, response and resilience to crises and disasters, including natural and man-made
Europe is facing a number of structural weaknesses when it comes to innovation capacity and the ability to deliver new services, products and processes. Among the main issues at hand are Europe's relatively poor record in talent attraction and retention; the underutilisation of existing research strengths in terms of creating economic or social value; low levels of entrepreneurial activity; a scale of resources in poles of excellence which is insufficient to compete globally; and an excessive number of barriers to collaboration within the knowledge triangle of higher education, research and business on a European level.

The EIT will address these issues by promoting structural changes in the European innovation landscape. It will do so by fostering the integration of higher education, research and innovation of the highest standards, thereby creating new environments conducive to innovation, and by promoting and supporting a new generation of entrepreneurial people. In doing so, the EIT will contribute fully to creating new environments conducive to innovation, as well as by promoting and

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**Amendment 163**

**Proposal for a regulation**
**Annex I – part V – point 1 – paragraph 1**

*Text proposed by the Commission*

Europe is facing a number of structural weaknesses when it comes to innovation capacity and the ability to deliver new services, products and processes. Among the main issues at hand are Europe's relatively poor record in talent attraction and retention; the underutilisation of existing research strengths in terms of creating economic or social value; low levels of entrepreneurial activity; a scale of resources in poles of excellence which is insufficient to compete globally; and an excessive number of barriers to collaboration within the knowledge triangle of higher education, research and business on a European level.

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**Amendment 164**

**Proposal for a regulation**
**Annex I – part V – point 2 – paragraph 2**

*Text proposed by the Commission*

The EIT will address these issues by promoting structural changes in the European innovation landscape. It will do so by fostering the integration of higher education, research and innovation of the highest standards, thereby creating new environments conducive to innovation, and by promoting and supporting a new generation of entrepreneurial people. In doing so, the EIT will contribute fully to creating new environments conducive to innovation, as well as by promoting and

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**Proposed new text**

Europe is facing a number of structural weaknesses when it comes to innovation capacity and the ability to deliver new services, products and processes. Among the main issues at hand are Europe's relatively poor record in talent attraction and retention; *the impoverishment of technical and scientific skills characteristic historically of various regions*; the underutilisation of existing research strengths in terms of creating economic or social value; low levels of entrepreneurial activity; a scale of resources in poles of excellence which is insufficient to compete globally; and an excessive number of barriers to collaboration within the knowledge triangle of higher education, research and business on a European level.

The EIT will address these issues by promoting structural changes in the European innovation landscape. It will do so by fostering the integration of higher education, research and innovation of the highest standards, thereby *spreading the co-location centres of the KICs throughout European regions and so* creating new environments conducive to innovation, *as well as* by promoting and
the objectives of Europe 2020 and notably the Innovation Union and Youth on the Move flagship initiatives.

Amendment 165

Proposal for a regulation
Annex I – part V – point 2 – paragraph 4

Text proposed by the Commission

The EIT, via its KICs, operates in line with business logic. Strong leadership is a pre-requisite: each KIC is driven by a CEO. KIC partners are represented by single legal entities to allow more streamlined decision-making. KICs must produce annual business plans, including an ambitious portfolio of activities from education to business creation, with clear targets and deliverables, looking for both market and societal impact. The current rules concerning participation, evaluation and monitoring of KICs allow fast-track, business-like decisions.

Amendment

The EIT, via its KICs, operates in line with business logic. Strong leadership is a pre-requisite: each KIC is driven by a CEO. KIC partners are represented by single legal entities to allow more streamlined decision-making. KICs must produce annual business plans, including an ambitious portfolio of activities from education to business creation, with clear targets and deliverables, looking for both market and societal impact, and clear added value determined by a results-oriented approach. The current rules concerning participation, evaluation and monitoring of KICs allow fast-track, business-like decisions.

Justification

Although the term ‘results-oriented approach’ is in the title, no reference is made to it in the paragraph itself; added value determined by such an approach should be explicitly included however.

Amendment 166

Proposal for a regulation
Annex I – part V – point 3 – point f – paragraph 2

Text proposed by the Commission

The EIT will make a strong contribution to the objectives set in Horizon 2020, in

Amendment

The EIT will make a strong contribution to the objectives set in Horizon 2020, in
particular by addressing societal challenges in a way complementing other initiatives in these areas. It will test out new and simplified approaches to funding and governance and thereby play a pioneering role within the European innovation landscape. Its approach to funding will be firmly based on a strong leverage effect, mobilising both public and private funds. Moreover, it will employ entirely new vehicles for targeted support to individual activities through the EIT Foundation.

Amendment 167

Proposal for a regulation
Annex I – part V – point 3 – point g – paragraph 2

Text proposed by the Commission

Via the KICs and their co-location centres – nodes of excellence, bringing together higher education, research and business partners in a given geographical location – the EIT will also be linked to regional policy. In particular, it shall ensure a better connection between higher education institutions and regional innovation and growth, in the context of regional and national smart specialisation strategies. In doing so, it will contribute to the objectives of the Union’s Cohesion Policy.

Amendment

Via the KICs and their co-location centres – nodes of excellence, bringing together higher education, research and business partners in a given geographical location – the EIT will also be linked to regional policy. In particular, it shall ensure a better connection between higher education institutions, the labour market and regional and local innovation and growth, in the context of local, regional and national smart specialisation strategies. In doing so, it will contribute to the objectives of the Union’s Cohesion Policy.

Justification

If higher education is not linked to the labour market too, and to the regional and local labour market in particular, Europe will not be able to plug one of the major gaps it is suffering in terms of economic growth.

Amendment 168

Proposal for a regulation
Annex II - Table

Text proposed by the Commission
<table>
<thead>
<tr>
<th>I</th>
<th>Excellent science, of which:</th>
<th>27818</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The European Research Council</td>
<td>15008</td>
</tr>
<tr>
<td>2.</td>
<td>Future and Emerging Technologies</td>
<td>3505</td>
</tr>
<tr>
<td>3.</td>
<td>Marie Curie actions on skills, training and career development</td>
<td>6503</td>
</tr>
<tr>
<td>4.</td>
<td>European research infrastructures (including eInfrastructures)</td>
<td>2802</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>II</th>
<th>Industrial leadership, of which:</th>
<th>20280</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Leadership in enabling and industrial technologies*</td>
<td>15580 of which 500 for EIT</td>
</tr>
<tr>
<td>2.</td>
<td>Access to risk finance**</td>
<td>4000</td>
</tr>
<tr>
<td>3.</td>
<td>Innovation in SMEs</td>
<td>700</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III</th>
<th>Societal challenges, of which</th>
<th>35888</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Health, demographic change and wellbeing;</td>
<td>9077 of which 292 for EIT</td>
</tr>
<tr>
<td>2.</td>
<td>Food security, sustainable agriculture, marine and maritime research and the bio- economy;</td>
<td>4694 of which 150 for EIT</td>
</tr>
<tr>
<td>3.</td>
<td>Secure, clean and efficient energy</td>
<td>6537 of which 210 for EIT</td>
</tr>
<tr>
<td>4.</td>
<td>Smart, green and integrated transport</td>
<td>7690 of which 247 for EIT</td>
</tr>
<tr>
<td>5.</td>
<td>Climate action, resource efficiency and raw materials</td>
<td>3573 of which 115 for EIT</td>
</tr>
<tr>
<td>6.</td>
<td>Inclusive, innovative and secure societies</td>
<td>4317 of which 138 for EIT</td>
</tr>
</tbody>
</table>

European Institute of Innovation and Technology (EIT) | 1542 + 1652***
Non-nuclear direct actions of the Joint Research Centre | 2212

TOTAL | 87740

*Including EUR 8975 million for Information and Communication Technologies (ICT) of which EUR 1795 million for photonics and micro-and nanoelectronics, EUR 4293 million for nanotechnologies, advanced materials and advanced manufacturing and processing, EUR 575 million for biotechnology and EUR 1737 million for space. As a result, EUR 6663 million will be available to support Key Enabling Technologies.

** Around EUR 1131 million of this amount may go towards the implementation of Strategic Energy Technology Plan (SET Plan) projects. Around one third of this may go to SMEs.

*** The total amount will be made available through allocations as foreseen in Article 6(3). The second allocation of EUR 1652 million shall be made available pro-rata from the budgets of the societal challenges and Leadership in enabling and industrial technologies, on an indicative basis and subject to the review set out in Article 26(1)

Amendment

<table>
<thead>
<tr>
<th>I</th>
<th>Excellent science, of which:</th>
<th>29,00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The European Research Council</td>
<td>14,2%</td>
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</table>

PE487.915v02-00 96/98 AD\913296EN.doc
<table>
<thead>
<tr>
<th></th>
<th>Future and Emerging Technologies</th>
<th>3.9%</th>
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<tbody>
<tr>
<td>3.</td>
<td>Marie Curie actions on skills, training and career</td>
<td>7.4%</td>
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<tr>
<td>4.</td>
<td>European research infrastructures (including eInfrastructures)</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

**II Industrial leadership, of which:**
- 1. Leadership in enabling and industrial technologies* | 17.7%
- 2. Access to risk finance** | 4.5%
- 3. Innovation in SMEs | 3%

**III Societal challenges, of which**
- 1. Health, demographic change and wellbeing; | 12%
- 2. Food security, sustainable agriculture, marine and maritime research and the bio-economy; | 5.3%
- 3. Secure, clean and efficient energy | 7.5%
- 4. Smart, green and integrated transport | 8.7%
- 5. Climate action, resource efficiency and raw materials | 4.3%
- 6. Inclusive, innovative and secure societies | 2.5%

European Institute of Innovation and Technology (EIT) | 3%
Non-nuclear direct actions of the Joint Research Centre | 2.5%

**TOTAL** | **100%**

*Including 57.6% for Information and Communication Technologies (ICT) of which 11.5% for photonics and micro- and nanoelectronics, 27.6% for nanotechnologies, advanced materials and advanced manufacturing and processing, 3.7% for biotechnology and 11.1% for space. As a result, 42.9% will be available to support Key Enabling Technologies.

** Around 28.3% of this amount may go towards the implementation of Strategic Energy Technology Plan (SET Plan) projects. Around one third of this may go to SMEs Deleted
**PROCEDURE**

<table>
<thead>
<tr>
<th>Title</th>
<th>Establishment of Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committee responsible</td>
<td>ITRE 13.12.2011</td>
</tr>
<tr>
<td>Opinion by</td>
<td>ENVI 13.12.2011</td>
</tr>
<tr>
<td>Rapporteur</td>
<td>Cristian Silviu Bușoi 20.1.2012</td>
</tr>
<tr>
<td>Date adopted</td>
<td>19.9.2012</td>
</tr>
</tbody>
</table>
| Result of final vote | +: 50  
| | --: 1  
| | 0: 10 |
| Substitute(s) present for the final vote | Frieda Brepols, Cristian Silviu Bușoi, Nikos Chrysochelos, Christofer Fjellner, Gaston Franco, Romana Jordan, Miroslav Mikolášik, James Nicholson, Justas Vincas Paleckis, Vittorio Prodi, Britta Reimers, Christel Schaldemose, Alda Sousa, Anna Záborská, Andrea Zanoni |
| Substitute(s) under Rule 187(2) present for the final vote | Agustín Díaz de Mera García Consuegra |