



Management Plan 2012

Directorate-General for Research and Innovation

December 2011



European Research Area

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When reading and interpreting the data accompanying the Management Plan's objectives, the following should be kept in mind:

- some of these objectives and related indicators, e.g. those referring to the projects financed under the Seventh Framework Programme, are more directly linked to DG Research and Innovation's activities, even though they also depend on other actors, such as project participants;

- the European Commission hardly has any influence on other objectives and related indicators¹, as its role is limited to one of catalyst, facilitator, or incentive provider.

¹ Such as those related to the general objectives, ERA Development, Building an Innovation Union, Capacities-Research Infrastructures, and Capacities - Coherent development of research policies.

PERSONAL MESSAGE BY THE DIRECTOR-GENERAL

In these present turbulent economic times that Europe is facing, besides fiscal consolidation measures that are necessary, longer-term growth enhancing measures are required for sustainable European economic growth. Research and innovation is the cornerstone of such growth enhancing measures and for this reason the EU2020 strategy for growth and jobs presents them as a successful exit out of this crisis.

As part of the strategy to improve the innovation climate in Europe, the European Commission presented on 30 November 2011 its proposal for Horizon 2020, the most complete and coherent EU research and innovation funding programme to date. Running from 2014 to 2020, it is a programme to stimulate growth and jobs and is the main financial instrument of the Innovation Union, a Europe 2020 flagship initiative aimed at enhancing Europe's global competitiveness.

Horizon 2020 represents an unprecedented break from the past: it will bring together all existing EU research and innovation funding instruments (the Framework programme for Research, the innovation related activities of the Competitiveness and Innovation Framework Programme and the European Institute of Innovation and Technology) within a single framework and will introduce major simplifications. In addition to boosting frontier research, Horizon 2020 focuses more than ever on turning scientific breakthroughs into innovative products and services that provide business opportunities and connects directly to Europe's citizens by tackling the major societal challenges that affect our lifestyles and well-being.

The focus of Horizon 2020 is on supporting the best research ideas that provide major business opportunities and change people's lives for the better. For the first time at European level, Horizon 2020 offers a seamless, coherent package of support from idea to market, from excellent research to innovative products and services that people want to buy.

Horizon 2020 will tackle at European level the biggest challenges that really matter to people, such as climate change, health, energy and food security and make our investment in research and innovation simpler, more efficient, and more effective at delivering the bigger impacts needed to sustain growth.

A major challenge for DG RTD in the coming year will be to steer the interinstitutional negotiations that will lead to the adoption of Horizon 2020, which will come into force in 2014 when the existing support programmes end.

At the same time, DG RTD will continue with the implementation of the current Seventh Framework Programme (FP7) and launch in 2012 its final - and biggest - calls for proposals. They aim to support innovation in Europe and in particular promote innovation-relevant topics and activities, such as demonstration actions. The overarching strategy for this final Work Programme of FP7 will be coherent across the programmes and the bridging activities towards Horizon 2020.

Furthermore, DG RTD will present a number of key policy initiatives that will strengthen the Innovation Union including:

- A *Framework for the European Research Area (ERA)*, in response to the European Council's conclusions of 4 February 2011 to complete the ERA by 2014. The ERA Framework will build on the progress already made and identify the remaining obstacles to transnational research activities in the EU. It will set out the measures needed to overcome these obstacles, and create a genuine single market for knowledge, research and innovation. Specific measures will cover areas such as researcher mobility and careers, cross-border operations, open access on scientific information, and cooperation with third countries.
- A communication on the *State of the Innovation Union 2012 – accelerating change*, which will, for the second time, take a look at the progress towards achieving the Innovation Union's commitments. In the same communication we will also propose a new Europe 2020 headline indicator on fast-growing, innovative companies, as a further element to assess the overall EU's

research and innovation performance. And we will outline a strategy to mainstream innovation in all EU policies.

- A communication on *Enhancing and focusing international cooperation in Research and Innovation*, which will set out a coherent and new strategy to guide the development of EU international cooperation over the coming years. Starting from an analysis of challenges and opportunities, this new strategy will define objectives, principles and criteria for maximising the impact of EU international cooperation activities. These will provide a framework for implementing international cooperation in Horizon 2020 and for enhancing cooperation and synergies with Members States' international cooperation activities.

The priority initiatives presented above define the principal strategic orientations of DG RTD over the coming twelve months. The pages that follow in this Management Plan describe in more detail the numerous activities that this DG will carry out in the pursuit of these priorities. I am convinced that we are on course in our mission to develop and implement EU research and innovation policy towards achieving the goals of Europe 2020 and the Innovation Union.

For the first time since the beginning of FP7, this Management Plan presents a picture of the concrete results arising from the activities funded by this DG as some of the projects funded under the first and second calls are now finishing. The specific indicators chosen aim to measure the generation of new knowledge as well as the use and dissemination of research results obtained through FP7. However, due to the very limited number of finished projects compared with the number of ongoing ones², results are not yet representative for some indicators. Results will become more representative as the number of finished projects continues to increase. It should also be noted that a number of indicators have been slightly reviewed, in particular to reflect the new focus on innovation. This will be further emphasized in the 2013 Management Plan to ensure the smooth transition towards Horizon 2020.

Not only does this help us assess progress towards delivering the European Research Area, but these indicators also highlight the impact of EU support for research and innovation. This is crucial at a time of economic crisis where we must be able to show that every EURO spent at EU level counts more.

The progress towards achieving our objectives set out in this Management Plan will be regularly monitored in 2012 and the lessons learnt will be incorporated into our decision-making to maximize our performance and fulfill the expectations placed on us.

Robert-Jan SMITS
Director-General
DG Research and Innovation

² For this reason, the number of finished projects is indicated next to the indicators in this Management Plan.

POLICY AREA RESEARCH AND INNOVATION

2.1. MISSION STATEMENT

Directorate General for Research and Innovation's mission is to develop and implement the European research and innovation policy with a view to achieving the goals of Europe 2020 and the Innovation Union.

As such, the DG contributes to making Europe a better place to live and work, improving Europe's competitiveness, growth and job creation while tackling the main current and future societal challenges. To do so, the Directorate General for Research and Innovation supports research and innovation through European Framework Programmes, coordinates and supports national and regional research and innovation programmes, contributes to the creation of the European Research Area by developing the conditions for researchers and knowledge to circulate freely and supports European organisations and researchers in their cooperation at the international level.

2.2. GENERAL OBJECTIVES

Since the entry into force of the Lisbon Treaty (TFEU) on 1st December 2009, the pursuit of scientific and technological advance is an objective of the Union in its own right (article 3§2 TEU). Moreover, Article 179§1 of the TFEU identifies completion of the European Research Area (ERA) as central to achieving this objective. Other objectives set for research policy in Article 179§1 of the TFEU include underpinning the competitiveness of the EU and supporting other EU policies.

In line with the Treaty, the Europe 2020 strategy and the Innovation Union flagship initiative, three general objectives for European research and innovation policy can thus be specified:

1. Acknowledging knowledge and innovation to be drivers of growth and competitiveness, the Europe 2020 strategy sets as a key EU priority the development of an economy based on knowledge and innovation. Research, as the main means to produce new knowledge and technological innovation, plays a central role. As reflected in its 3% of GDP R&D intensity target, the Europe 2020 strategy calls for a structural transformation of the European economy towards more knowledge-intensive activities, such as those which exploit information and communication technologies, biotechnology, nanotechnology and indeed all forms of exploitable scientific and technological knowledge. It requires appropriate and comprehensive public policies to nurture European research and innovation, for instance by making Europe a world-leading place for the creation and growth of high-tech and innovative SMEs.
2. Deploying research and innovation in support of other policies is becoming increasingly crucial, especially in the context of finding adequate responses to the major societal challenges the EU is facing, such as climate change, energy and resources efficiency, health and ageing population. As stressed in the Europe 2020 strategy, EU research and innovation policy has therefore a key role to play in mobilizing and coordinating research and innovation efforts on an appropriate scale to tackle these societal challenges, while also taking into account the need to bring together supply-side support with appropriate demand-side measures.
3. Strengthening our knowledge base and achieving research excellence in Europe, besides being objectives of European research policy in their own right, are also prerequisites for the achievement of the other research and innovation policy objectives mentioned above. However, bibliometric indicators (such as the number of citations that a publication receives) reveal a significant deficit in European research excellence compared to the US. This deficit in excellence is linked to structural deficiencies of the European research system. In particular, the fragmentation of the European research system along national borders remains an important impediment to European research and innovation performance including the aggregation and

accretion of a broad spectrum of critical-mass and world-leading centres of excellence. A well-functioning European Research Area requires that any obstacles to mobility and cross-border cooperation be removed. Moreover, the funding of research and the coordination of research efforts at EU level are keys to create leverage effects on the effectiveness and efficiency of the whole European research system by enabling cross-border synergies, increased competition and pooling of resources across a European-wide space. In order to step up overall quality of Europe's R&D to world best, European research policy needs to target more and better frontier research, world-class infrastructures and specialisation around clusters of excellence.

DG Research & Innovation continues to implement the research framework programme and to develop European research and innovation policy under the umbrellas of the Innovation Union and the European Research Area (see the first two activities hereafter).

Activities implementing the various specific programmes of FP7 under the responsibility of DG Research and Innovation are detailed in sections 08 02 to 08 23.

GENERAL OBJECTIVE 1		
Foster investment in research and the transition towards the knowledge-based economy in order to reinforce EU competitiveness		
Impact indicators	Latest known result	Target (result)
Gross Expenditure on R&D (GERD) as of % of GDP (R&D intensity)	EU-27: 2.00% of GDP (2010), US: 2,77 (2008), JP: 3.36 (2009), CN: 1.70 (2009) ³	To approach 3% of GDP
PCT patent applications per billion GDP (in PPSE ⁴)	2008: EU27: 3.78; US: 3.82; JP: 8.06; CN: 1.06	To reduce the gap between EU and US
Contribution of high-tech and medium-high-tech manufactured goods to the trade balance	2009: EU27 ⁵ : 4.9; US: 4.8; JP: 10.7	To reduce the gap between EU and Japan
GENERAL OBJECTIVE 2		
Mobilise research to support other policies and tackle major societal challenges		
Impact indicators	Latest known result	Target (result)
PCT patent applications in health-related technologies per billion GDP (in PPSE)	2007: EU27: 0.55; US: 0.89; JP: 0.65; CN: 0.09	0.7 by 2020
PCT patent applications in climate change mitigation technologies per billion GDP (in PPSE)	2008: EU27: 0.11; US: 0.06; JP: 0.27; CN: 0.02	0.2 by 2020
GENERAL OBJECTIVE 3		
Strengthen the knowledge base of the ERA and improve the excellence of research in Europe through increased competition, pooling of resources and cross-border synergies		
Impact indicators	Latest known result	Target (result)
EU scientific publications among the top 10% most cited publications, as % of total EU scientific publications	2007 (citation window 2007-2010): EU27: 11.46, US: 14.78; JP: 8.17; CN: 7.24	To reduce the gap between EU and US
Public-private co-publications per million population	2008: EU27: 36.2; US: 70.2; JP: 56.3	50 by 2020

³ In the 2011 Management Plan the following results were presented for this indicator: EU-27: 2.01% of GDP (2009), US: 2,77 (2008), JP: 3.4 (2008), CN: 1.47 (2008).

⁴ PPS - Purchasing Power Standards.

⁵ EU-27 does not include BG, CY, LV, LT, MT, RO.

2.3. SPECIFIC OBJECTIVES FOR OPERATIONAL ACTIVITIES

BUILDING AN INNOVATION UNION

More than one year after the launch of the Innovation Union Flagship Initiative the large majority of the 34 commitments that comprise the strategy are on track. However, while the building of the Innovation Union has progressed well in most areas, Europe is facing an exceedingly difficult economic outlook. This calls for strong and effective decision making as required for a more competitive, inclusive and resource efficient economy. Europe needs to maintain its commitment to growth and jobs.⁶ While taking account of the forecasts which point to a strong economic slowdown, the building of the Innovation Union is more than ever a key to creating the conditions for growth to resume.

The building of an Innovation Union will focus on the following five areas:

1. The development of an innovation mainstreaming strategy to bring innovation to EU policies, following the recognition in the Innovation Union Communication of the need for innovation to become a "key element in EU policies" and the Commission's commitment to "reflect this strategic approach to innovation in all its policies".
2. The development of a new Europe 2020 headline indicator measuring the share of fast-growing innovative companies in the economy to benchmark the innovation performance of the EU and its Member States. The new headline indicator will complement the existing Europe 2020 3% R&D intensity target by offering a more output-oriented assessment of the success of research and innovation policies undertaken at EU and national levels.
3. The implementation of the IU commitments especially for key framework conditions, continuing on the progress made in 2011 such as standards, a single market for innovative solutions, IPR, an EU-wide venture capital scheme; and innovation-friendlier public procurement.
4. Establishment of further European Innovation Partnerships in key areas, bringing together all actors from the research all the way to the final users, to help Europe address societal challenges while accelerating the speed of new ideas and inventions from research to the market.
5. The implementation of ambitious National Reform Programmes with a view of improving the efficiency and performance of national and regional innovation systems and boosting national competitiveness. Member States should regularly review and benchmark their innovation systems on the basis of the self-assessment tool included in the Innovation Union Flagship.

At EU level, the rapid improvement of the following framework conditions should be given priority:

- Removing remaining obstacles to the functioning of the single market, as set out in the Single Market Act, recognising that competitive markets are one of the key drivers for innovation. 2012 will be a crucial year for the preparations for Horizon2020, bringing together the Framework Programme, the EIT and the Competitiveness and Innovation Programme while innovation will be strongly supported by the next generation of Cohesion policy programmes.
- Further efforts will be made in the area of EU patents and the exploitation of Intellectual Property Rights in order to achieve the first EU patents that should be delivered in 2014.
- Standard-setting processes will be accelerated by 50 % so as to respond better to the needs that accompany rapid technological advances, assisted by the development of new performance indicators. The standardisation package also includes a way to recognise globally ICT standards, which is increasingly important, for example, for European public procurers.

⁶ COM CWP 2012 COM(2011) 777.

- Activities that tackle specific innovations related issues not yet addressed in FP7 e.g. social innovation and public sector innovation.
- Pilot projects will be implemented in 2012 for transnational cooperation on procurement for innovative products and services. These projects together with a feasibility study will prepare the ground for increasing and fine-tuning the future EU-level support that will help Member States to pool their financial and human resources to unleash the potential of public demand for innovative solutions.
- In parallel, European Innovation Partnerships will be rolled out to strategically articulate research-support and innovation-stimulation while better aligning EU and Member States' policies/instruments, after lessons are drawn from the pilot Active and Healthy ageing Partnership. Preparations are underway to launch new partnerships in other areas, such as raw materials, agricultural productivity and sustainability, water-efficient Europe, and smart cities.

Building an Innovation Union		
SPECIFIC OBJECTIVE 1	Define and implement framework conditions to stimulate innovation demand and R&D investments across the single market	
Result indicators	Latest known result	Target
Venture capital (early stage, expansion and replacement) as % of EU GDP	0.09% in 2009	0.2% by 2020
Total cost of an EU-27 patent for SMEs (incl. maintaining costs for 20 years)	€ 192 k in 2011	Less than € 50 k in 2020 ⁷
Average development time of EU standards	35 months in 2010	18 months by 2020
Budgets for pre-commercial procurements and public procurements of innovative products	Less than € 1 billion /year ⁸	€ 10 billion /year by 2020
SPECIFIC OBJECTIVE 2	Address societal challenges through the integration of European efforts from research to the market	
Result indicators	Latest known result	Target
Cumulative number of European Innovation Partnerships established	Strategic Implementation Plan agreed for the pilot Active and Healthy Ageing EIP	5 by the end of 2012
SPECIFIC OBJECTIVE 3	Support the improvement of national innovation systems through the review of their performance	
Result indicators	Latest known result	Target
Number of Member States peer reviewed in a given year	2 expected by end of 2011	6 in 2012
Number of Member States having used the IU self-assessment tool to prepare/update their National Reform Programmes	Data not yet available ⁹	At least half of the Member States by the end of 2012
Main outputs in 2012		
Communication on State of the Innovation Union 2012 – accelerating change. Communication from the Commission to the European Parliament and the Council on the State of the Innovation Union including the establishment of a new Europe 2020 innovation headline indicator and the mainstreaming of innovation across EU policies		

⁷ Reduction of at least 75% compared to baseline value for 2010.

⁸ Current value of innovative public procurement (corresponding to € 10 billion/target 2020) still needs to be accurately estimated.

⁹ Data should be part of the standard set of questions to Member states during bilateral meetings

EUROPEAN RESEARCH AREA DEVELOPMENT

The completion of the European Research Area (ERA) is a key component of the "Innovation Union" flagship initiative of the Europe 2020 Strategy. Indeed, even though research and innovation are critical to building a dynamic knowledge-based economy in Europe, research activities and policies in Europe still suffer from fragmentation, less than optimal levels of coherence and coordination and constraints on the free movement of knowledge. The main aim of the ERA is to overcome such deficiencies. The Innovation Union flagship sets the target of achieving by 2014 a well-functioning ERA where researchers and innovators are able to work and cooperate across the EU as easily as within national borders.

For universities and other research performing organisations, ERA will give rise to a European-wide space within which to operate where, with appropriate autonomy and incentives, they can further differentiate and specialize, as well as gain access to complementary knowledge and capacities, funding and cooperation opportunities and vast well-trained mobile human resources. This will raise the overall quality of research and favour the emergence of world-leading European centres of excellence.

For the funders of research, ERA will permit resources to be allocated in a more effective and efficient way, at the European scale when appropriate via, for example, joint programming of research agendas/programmes, pooling of resources and European-wide competition to raise research standards right across Europe.

Several key trends reinforce the urgency of completing ERA and better coordinating research policies and activities across Europe:

- Tackling major pressing societal challenges which transcend national borders such as climate change, energy and resources efficiency, ageing and sustainable development requires reinforced research efforts coordinated at least at European level.
- As Europe experiences a declining share of world R&D, it is more and more important to build a coherent and strategic European approach to cooperation in research with the rest of the world.
- For research to deploy its full potential as an engine of socio-economic development for Europe, still more care will need to be taken in linking research with innovation in the market place, notably through business involvement and articulation with demand-side policies. This in turn requires careful linkages with several EU-level policies, including horizontal "enabling" policies such as competition, internal market and the Structural Funds (Regional policy) as well as sectorial "user" policies such as health, environment, transport or agriculture.

As the vast majority of resources and regulations impacting on research are at national (and regional) levels, the development of ERA requires a strong partnership between the EU and the Member States. This is one of the purposes of the Ljubljana process, launched in 2008. The first step of the Ljubljana process was to agree on an ERA 2020 vision. The objectives below are compatible with this vision, noting that the first five encompass the five specific ERA initiatives launched in 2008¹⁰. Beyond the Ljubljana "partnership" approach and complementary to the Framework Programme, the Commission will propose in 2012 a new European Research Area framework and supporting measures keeping in mind the strengthened legal basis for ERA in the Lisbon Treaty. The preparation of this framework will thus be a key task for DG Research and Innovation in 2012. Moreover, in relation to specific societal challenges, the European Innovation Partnerships will test a new integrated approach to EU research and innovation.

¹⁰ I.e. the initiatives to: create a unified labour market for researchers; increase knowledge transfer between research actors and industry; establish concrete possibilities for joint programming among Member States; develop pan-European research infrastructures; and develop a European strategy for international cooperation in science and technology with third countries.

ERA Development¹¹		
SPECIFIC OBJECTIVE 1	Ensure an adequate supply of human resources for research and an open, attractive and single labour market for male and female researchers	
Result indicators	Latest known result	Target (result)
Number of Member States and Associated Countries having taken and reported new actions (through the Steering Group on Human Resources and Mobility) to enhance researchers' careers and mobility in line with the objectives of the Commitments 1, 2, 4 and 30 of the Innovation Union Flagship Initiative	89% of Member States and 50% of Associated Countries (EPR Report 2009)	100% of Member States and 67% of Associated Countries by 2013
Percentage of women researchers in the higher education sector (HES) and public research institutions (GOV)	37% in HES 39% in GOV ¹²	45% by 2020
Percentage of female academic staff in grade A (the highest grade at which research is normally conducted)	19% ¹³	30% by 2020
Percentage of female heads of institutions in the higher education sector	13% ¹⁴	25% by 2020
Number of contacts with EURAXESS- In Motion Portal	55.000 unique visitors/month	100.000 unique visitors/month by 2013
Number of pages views on EURAXESS-In Motion	600.000 on a monthly basis	700.000 page views by 2013
Number of countries involved in EURAXESS-Link (Abroad) ¹⁵	5 countries (USA, Japan, China, Singapore, India)	7 by 2013
SPECIFIC OBJECTIVE 2	Develop world-class research infrastructures (including e-infrastructures) and ensure access to them	
Result indicators	Latest known result	Target (result)
Number of national roadmaps defining priorities for jointly setting-up European research infrastructures ¹⁶	17 finalised roadmaps	28 roadmaps out of 33 Member States and Associated Countries by 2013
Number of Research Infrastructures (RI) of world class relevance operated jointly at EU level (built or under implementation)	7 EIROforum RIs already built and 12 ESFRI projects under implementation ¹⁷	35 by 2013 (7 EIROforum RIs + 28 ESFRI projects)
SPECIFIC OBJECTIVE 3	Promote public-private cooperation and knowledge transfer	
Result indicators	Latest known result	Target (result)

¹¹ These objectives correspond to the set of ERA objectives derived from the ERA 2020 vision, which, with related indicators, have been discussed with Member States. Not included above are the "impact" objectives derived from the vision as these correspond to the general objectives of EU research policy.

¹² Data for EU -27, She figures 2009, p. 31.

¹³ Data for EU -27, She figures 2009, p. 75.

¹⁴ Data for EU -27, She figures 2009, p. 97.

¹⁵ Former ERA-Link: network aiming at linking European researchers abroad with the European Research Area.

¹⁶ See Council Regulation on the Community legal framework for a European Research Infrastructure Consortium (ERIC), EC No 723/2009 of 25 June 2009.

¹⁷ Based on EIROforum organizations and ESFRI database.

Number of Member States and Associated Countries having taken and reported actions to improve knowledge transfer between public research organizations and industry in line with the Commission recommendation on management of the Intellectual Property by the Public Research Organizations	28, including 23 MS (i.e. all except BG, GR, PT and SL) and 5 AC (AL, IS, NO, CH, TU) in 2010	39, including all Member States and the 12 Associated countries by 2012
Share of licence revenue from abroad as % of GDP	2010: EU27: 0.253; 2009: US: 0.644; JP: 0.431	Reduce the gap with the US
SPECIFIC OBJECTIVE 4	Increase European coordination and integration of research funding	
Result indicators	Latest known result	Target (result)
Number of Joint Programming initiatives (JPI)	10 Joint Programming Initiatives launched by 6 December 2011	6 JPIs by 2013
Number of preparatory actions for coordination of international S&T cooperation programmes	India 'pilot' initiative initiated by the Strategic Forum for International S&T Cooperation (SFIC) – New Delhi Conference.	4 new SFIC initiatives by 2013
SPECIFIC OBJECTIVE 5	Strengthen international cooperation in science and technology and the role and attractiveness of European research in the world	
Result indicators	Latest known result	Target (result)
International scientific co-publications (EU/ third countries) per million population	2008: EU27: 265.5; US: 386.9; JP: 188.5; CN: 28.1	Reduce the gap with the US
SPECIFIC OBJECTIVE 6	Increase public support for research	
Result indicators	Latest known result	Target (result)
Public ¹⁸ expenditures on R&D (GOVERD+HERD) as % of GDP	2010: EU27: 0.76; 2009: JP: 0.71; CN: 0.46 2008: US: 0.66	1% by 2020
SPECIFIC OBJECTIVE 7	Enhance research capacity across Europe	
Result indicators	Latest known result	Target (result)
Amount of Structural funds allocated to core RTDI as % of total Structural funds	14,4%	20% by 2015
SPECIFIC OBJECTIVE 8	Strengthen research institutions, including notably universities	
Result indicators	Latest known result	Target (result)
Number of EU universities with citations impact score > 1.3	30	45 by 2013
SPECIFIC OBJECTIVE 9	Improve framework conditions for private investments in R&D	
Result indicators	Latest known result	Target (result)
Business expenditure on R&D (BERD) as % of GDP	2010: EU27: 1.23; 2009: JP: 2.53; CN: 1.25; 2008: US: 2.02	2 % by 2020
SPECIFIC OBJECTIVE 10	Enhance knowledge circulation across Europe and beyond	
Result indicators	Latest known result	Target (result)
Share of scientific publications with co-authors from at least two EU MS, as of % of total EU publications	2009: 14.4%	20% by 2020
Main outputs for 2012		
The ERA Framework		

¹⁸ It covers higher education and governmental R&D expenditures.

08 02 COOPERATION – HEALTH

The main added value of collaborative Health research at Union level is obtained from transnational co-operation, the integration of relevant activities and participants, and the concentration of European effort on fewer more important priorities.

In particular, EU health research brings down barriers between countries, via multinational consortia and coordination of national funding programmes, such as the Europe-Developing Countries Clinical Trials Partnership (EDCTP), that concentrates the Member States' efforts on fighting global health threats, more specifically HIV/AIDS, malaria and tuberculosis. EU Health research also takes advantage of the critical mass that action at EU level makes possible to enforce cooperation between different types of organisations. With its increased focus on translating basic discoveries into clinical applications (translational research), it also promotes cooperation between scientific disciplines. Finally, it tackles European-wide issues through initiatives such as the Innovative Medicine Initiative, a Joint Undertaking with the EU health industry to faster and safer develop new drugs and treatments.

By doing so, EU Health research contributes to achieving the two major EU policy objectives of improving the health of European citizens, and boosting the competitiveness and the innovative capacity of European health-related industries and business, in line with the objectives of the Europe 2020 Strategy and the Innovation Union flagship initiative.

The focus on the ageing population, notably through the Innovation Partnership on Active and healthy Ageing will address the objective of achieving a socially-inclusive Europe, while the development of the Joint Programming Initiative on Antibiotics resistance will address an alarming health issue via the innovative approach exposed in the Communication on Partnering in Research and Innovation.

The 2012 work programme places a strong emphasis on the participation of small and medium sized enterprises (SMEs) in most research areas with a major focus on the medical technologies sector. In the context of a specific *SMEs for Innovation* call, € 108 millions will be specifically dedicated to projects in which high-technology SMEs will play a major role, similar to those funded by the US Small Business Innovation Research (SBIR) program. A €2 million prize will also be awarded to the team that will develop an alternative to cold-chain technologies for vaccine formulation, preservation and transportation, representing the first use of innovation inducement prizes by the Health theme.

The following themes will also be subject to important financial support:

- Health challenges related to the ageing population.
- Poverty-related infectious diseases (HIV/AIDS, malaria or tuberculosis) also in the framework of specific action with developing countries in order to contribute to achieving the Millennium Development Goals;
- Rare diseases, including the development of new technologies for diagnosis and treatment, as well as drug development. The topics funded in this area correspond to the EU's share of the research agenda of the newly-constituted International Rare Diseases Research Consortium (IRDIRC).

08 02 : Cooperation — Health		
SPECIFIC OBJECTIVE 1	Enhance the generation of new knowledge in all top priority areas in 'Health' with practical relevance at EU level	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Coverage of topics being granted priority in the Specific Programme ¹⁹	94%	100% by 2013
Projects that achieved <u>all or most</u> of their objectives...	100% (based on 27 finished projects ²⁰)	90% by 2013
of which projects that achieved <u>all</u> their objectives	59%	75% by 2013
SPECIFIC OBJECTIVE 2	Promote the use and dissemination of research results in the area of 'Health'	
Result indicators	Latest known result (Dec. 2011)	Target (result)
EU financial contribution to industry ²¹	12,72% ²²	18% by 2013
Industrial penetration in projects	72% ²²	70% by 2013
EU financial contribution to SMEs	11.1% ²²	15% ²³ by 2013
SMEs penetration in projects	63% ²²	60% by 2013
Projects which generate patent applications or other types of intellectual property rights	31% (based on 16 finished projects ²⁴)	20% by 2013
Average number of publications in peer reviewed journals per project	19 (based on 16 finished projects ²⁴)	4 per completed project by 2013
SPECIFIC OBJECTIVE 3	Improve, via new types of Partnerships, research at EU and international levels regarding the drug development process and the fight against major diseases	
Result indicators	Latest known result	Target (result)
Number of field testing ²⁵ of vaccines and drugs against HIV/AIDS, malaria and Tuberculosis	60 ongoing field test by the end of 2011: 24 in HIV/AIDS, 17 in malaria and 19 in tuberculosis	Field testing, by 2018 of 140 vaccines and drugs against HIV/AIDS [60], malaria [40] and Tuberculosis [40]
Main outputs for 2012		
<ul style="list-style-type: none"> - Launch of the Joint Programming Initiative on Antibiotics resistance - Launch of the first generation of <i>SMEs for Innovation</i> projects [SBIR-like scheme] - Launch of the first research projects addressing rare diseases in the context of the EU contribution to the International Rare Diseases Research Consortium. 		

¹⁹ This indicator covers the topics published in the annual calls for proposals launched under the specific programme Cooperation of the Seventh Framework Programme. The last calls will be launched in 2012.

²⁰ The number includes finished projects funded through all types of funding schemes, i.e. Coordination and Support Actions, Collaborative Projects, Networks of excellence and other.

²¹ Industry corresponds to "private for profit" category which may include consultancies.

²² The results are calculated on the basis of ongoing projects - 607 on 1 December 2011.

²³ 15% refers to a legal global target for the Cooperation Specific Programme (the Decision no 1982/2006/EC establishing FP7 provides that at least 15% of the Cooperation Programme's total budget shall be allocated to SMEs) and is not a target for every activity under this SP. On 1 December 2011, 14,9% of the EU financial contribution under the Cooperation Programme (including Information and Communication Technologies, Space and Security Themes) was going to SMEs.

²⁴ Only the projects funded through the funding schemes "Collaborative Projects" and "Networks of Excellence" are taken into account.

²⁵ Via the EDCTP 'European-Developing Countries Clinical Trials Partnership.

Main expenditure-related outputs ²⁶	Budget line	2012	
		Output (no.)	EUR million ²⁷
Proposals retained for funding in the area of:			
Biotechnology, generic tools and medical technologies for human health	08.02.01	29	151.000
Translating research for human health		62	377.00
Optimising the delivery of healthcare to European citizens		22	45.000
Other actions across the health theme		4	7.000
EDCTP		1	10.000
Others			47.177
Total 08.02.01 Cooperation Health			
Contribution to JTI "Innovative Medicine" – operational costs	08.02.02	1	294.300
Contribution to JTI "Innovative Medicine" – running costs	08.02.03		5.700
Total 08.02	08.02		937.177

²⁶ The figures for 2012 are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

²⁷ For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

08 03 COOPERATION – FOOD, AGRICULTURE AND BIOTECHNOLOGY

This activity aims at building a sustainable and competitive bio-based economy in Europe to provide a resilient food chain and respond to pressures on natural resources linked to food security, climate change, renewable energy and waste reduction. By bringing together science, industry and other stakeholders, it contributes to exploiting new and emerging research opportunities that address social, environmental and economic challenges that can be better tackled EU-wide.

Along the lines of the Europe 2020 for smart, sustainable and inclusive growth, the Commission will put forward in February 2012 a Communication on "Innovating for Sustainable Growth: A Bioeconomy for Europe". DG Research & Innovation Directorate "Biotechnologies, Agriculture and Food" leads this initiative which aims to reinforce the innovation potential of research, to foster better knowledge transfer and public engagement, to link the existing and new initiatives related to the bio-economy sectors into a coherent policy framework and to build stronger links with other EU policies²⁸. Following adoption, the governance, implementation and monitoring aspects of the strategy laid forth by the Communication will be initiated with specific actions included in the 2012 Work Programme.

Innovation is a key focus of this year's Work Programme (WP). The added-value of technological innovation can only be realised if it is transformed into a value-adding product, process, solution or service. In order to induce this holistic value-chain approach, and to pave the way to the societal challenge-driven focus of Horizon 2020, the 2012 WP puts special emphasis on pilot, demonstration and validation activities.

Further than universities and research institutions, the main driver for product or solution driven research and development is industry itself. It is for this reason that, in order to be able to successfully complete the innovation value chain, the active participation of industry and especially SME's is an indispensable factor of success. To tackle this, a strong industrial participation, especially of SME's, is being targeted in the majority of the 2012 WP topics.

In order to reduce knowledge and resource fragmentation, which is an important barrier to innovation, and to develop a strong ERA in bio-economy sectors, a number of coordination and networking mechanisms are in place. In 2012, the Commission will start preparatory work on a proposal for the setup of a Public-Private Partnership (PPP) on a "Bioeconomy for bio-based industries" envisaged as a key initiative under Horizon 2020. In particular, discussions with the European bio-based industry are in progress, and will be intensified in 2012, to assess the level of interest and commitment for the initiative.

Work will also continue in close collaboration with the Common Agriculture Policy in the area of agricultural productivity and sustainability to make sure that research investments meet the innovation needs of the agricultural and food sector.

Several International Cooperation activities, most notably the EU-US Biotech Task Force, the EU-China Agri-Food Task Force and the Knowledge-Based-Bioeconomy (KBBE) International Forum will continue their work in 2012.

Important events will take place in 2012, including the launching of the Bioeconomy conference in Copenhagen in March; the AQUA 2012 conference on Aquaculture in Prague in May and the "2012 Bio International Convention" in Boston in June.

²⁸ DG AGRI (CAP), DG MARE (Maritime strategy, CFP), DG SANCO (Animal Health Strategy, Public health legislation), DG ENV (Roadmap to a Resource efficient Europe), DG ENTR (Lead Markets initiative on bio-based products, Communication on Key Enabling Technologies, Innovation Action Plan)

08 03 : Cooperation — Food, agriculture and fisheries, and biotechnology		
SPECIFIC OBJECTIVE 1	Enhance the generation of new knowledge in all top priority areas in 'Food, agriculture and fisheries, and biotechnology' with practical relevance at EU level	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Coverage of topics being granted priority in the Specific Programme ²⁹	98%	100% by 2013
Projects that achieved <u>all or most</u> of their objectives...	100% (based on 4 finished projects ³⁰)	90% by 2013
of which projects that achieved <u>all</u> their objectives	50%	75% by 2013
SPECIFIC OBJECTIVE 2	Promote the use and dissemination of research results in the area of 'Food, agriculture and fisheries, and biotechnology'	
Result indicators	Latest known result (Dec. 2011)	Target (result)
EU financial contribution to industry ³¹	11,1% ³²	10% by 2013
Industrial penetration in projects	72% ³²	70% by 2013
EU financial contribution to SMEs	9,9% ³²	15% ³³ by 2013
SMEs penetration in projects	68% ³²	70% by 2013
Projects which generate patent applications or other types of intellectual property rights	Data not yet available ³⁴	40% by 2013
Percentage of projects with publications in peer reviewed journals	Data not yet available ³⁴	55% by 2013
Main outputs for 2012		
- "Innovating for Sustainable Growth: A Bioeconomy for Europe"		

²⁹ This indicator covers the topics published in the annual calls for proposals launched under the specific programme Cooperation of the Seventh Framework Programme. The last calls will be launched in 2012.

³⁰ The number includes finished projects funded through all types of funding schemes, i.e. Coordination and Support Actions, Collaborative Projects, Networks of excellence and other.

³¹ Industry corresponds to "private for profit" category which may include consultancies.

³² The results are calculated on the basis of ongoing projects - 290 on 1 December 2011.

³³ 15% refers to a legal global target for the Cooperation Specific Programme (the Decision no 1982/2006/EC establishing FP7 provides that at least 15% of the Cooperation Programme's total budget shall be allocated to SMEs) and is not a target for every activity under this SP. On 1 December 2011, 14,9% of the EU financial contribution under the Cooperation Programme (including Information and Communication Technologies, Space and Security Themes) was going to SMEs.

³⁴ The sample of finished projects funded through the funding schemes "Collaborative Projects" and "Networks of Excellence" is not representative enough (1 project on 1 December 2011).

Main expenditure-related outputs ³⁵	Budget line	2012	
		Output (no.)	EUR million ³⁶
Proposals retained for funding in the area of:			
1. Sustainable production and management of biological resources from land, forest and aquatic environments	08.03.01	32	116.540
2. Fork to Farm: Food, health and well-being		21	80.175
3. Life sciences biotechnology and biochemistry for sustainable non-food products and processes		21	111.096
Others (monitoring, evaluations, impact assessments, horizontal expenditures)		6	43.818
Total	08.03.01		311,629

³⁵ The figures are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

³⁶ For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

08 04 COOPERATION – NANOSCIENCES, NANOTECHNOLOGIES, MATERIALS AND NEW PRODUCTION TECHNOLOGIES

The nanosciences, nanotechnologies, materials and new production technologies (NMP) theme covers a wide spectrum of technologies and industrial sectors. Its central objective is to help make European industry less resource-intensive and more knowledge-intensive and sustainable.

There are more than 20 million active enterprises in the EU-27, of which a third are active in the manufacturing sectors (including construction). In terms of wealth creation, manufacturing and construction generate around a quarter of the total EU-27 added value and provide around 50 million jobs; however, they are facing growing competition. Embedding knowledge into products is more than a question of competitiveness of European manufacturing, it is a core issue for growth, employment and a better quality of life for everyone, now and for generations to come. This could be addressed primarily through adequate Research and Innovation efforts in view to incorporate knowledge into high-value-added products and high-efficient processes.

In the European Union composed of a large mosaic of Member States (MS), EU-supported research and innovation, as a complement and leverage to national public and private work, can make the difference in the global challenges. In line with Europe 2020 and the Innovation Union flagship initiative stressing the need for growth and the focus on societal challenges, NMP activities concentrate on smart and sustainable growth for a greener industry. NMP assumes an active role in policy making, ensuring a strong science/policy interface at many levels, in particular with industry SMEs and Member States.

The 2012 Work Programme is continuing for the third year to support the European Economic Recovery Plan, through three Public-Private Partnerships (PPPs): “Factories of the future”, “Energy efficient Buildings” and “Green cars”. The PPPs are designed to align research with the needs of industry and to ensure an immediate industrial take-up, with the objective to make these sectors more resource efficient, greener and more competitive.

Particular emphasis will be given in 2012 to innovation-specific elements, such as demonstrators and pilots, as well as support to address non technological factors. At the same time, longer-term research in key enabling technologies, seen as a crucial driver of innovation in the areas of nanotechnology, materials and advanced manufacturing, will also be supported.

08 04 : Cooperation — Nanosciences, nanotechnologies, materials and new production technologies		
SPECIFIC OBJECTIVE 1	Enhance the generation of new knowledge in all top priority areas in 'Nanosciences, nanotechnologies, materials and new production technologies' with practical relevance at EU level	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Coverage of topics being granted priority in the Specific Programme ³⁷	100%	100% by 2013
Projects that achieved <u>all or most</u> of their objectives...	100% (based on 7 finished projects ³⁸)	90% by 2013
of which projects that achieved <u>all</u> their objectives	43%	75% by 2013

³⁷ This indicator covers the topics published in the annual calls for proposals launched under the specific programme Cooperation of the Seventh Framework Programme. The last calls will be launched in 2012.

³⁸ The number includes finished projects funded through all types of funding schemes, i.e. Coordination and Support Actions, Collaborative Projects, Networks of excellence and other.

SPECIFIC OBJECTIVE 2	Promote the use and dissemination of research results in the area of 'Nanosciences, nanotechnologies, materials and new production technologies'	
Result indicators	Latest known result (Dec.2011)	Target (result)
EU financial contribution to industry ³⁹	35,3% ⁴⁰	40% by 2013
Industrial penetration in projects	93% ⁴⁰	95% by 2013
EU financial contribution to SMEs	22,7% ⁴⁰	15% ⁴¹ by 2013
SMEs penetration in projects	83% ⁴⁰	85% by 2013
Projects which generate patent applications or other types of intellectual property rights	Data not yet available ⁴²	40-50% by 2013
Average number of publications in peer reviewed journals per project	Data not yet available ⁴²	5 publications per project by 2013
Main outputs for 2012		

Main expenditure-related output⁴³	Budget line	2012	
		Output (no)	EUR million⁴⁴
Proposals retained for funding in the area of:			
Large-scale integrating collaborative projects. Large-scale targets oriented towards industrial applications and include closer-to-market activities, such as demonstration and dissemination.	08.04.01	15	107,777
Small or medium-scale focused research projects. Longer-term RTD efforts inviting more academic input to mobilize the best resources to generate knowledge.		38	121,494
SME-targeted projects		8	47,030
Coordination and support actions		20	10,288
ERANET		1	5,389
Factory of the Future		10	97,979
Energy Efficient Building		15	68,586
Green Cars		6	19,596
Others			21,051
Total 08 04 01			
EC contribution to JTI "Fuel Cells and Hydrogen"	08.04.02	1	9,866
Total	08.04		509,056

³⁹ Industry corresponds to "private for profit" category which may include consultancies.

⁴⁰ The results are calculated on the basis of ongoing projects - 426 on 1 December 2011.

⁴¹ 15% refers to a legal global target for the Cooperation specific programme (the Decision no 1982/2006/EC establishing FP7 provides that at least 15% of the Cooperation Programme's total budget shall be allocated to SMEs) and is not a target for every activity under this SP. On 1 December 2011, 14,9% of the EU financial contribution under the Cooperation Programme was going to SMEs.

⁴² The sample of finished projects funded through the funding schemes "Collaborative Projects" and "Networks of Excellence" is not representative enough (1 project on 1 December 2011).

⁴³ The figures are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

⁴⁴ For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

08 05 COOPERATION – ENERGY

A new generation of economically viable decarbonised technologies should be developed to enable the EU to meet its international climate commitments (i.e. reduce greenhouse gas emissions by 20%, ensure 20% of renewable energy sources in the EU energy mix, and a plan to reduce EU global primary energy use by 20% by 2020), to roll out the energy technologies of tomorrow, to develop new sources of growth and to ensure the EU's competitiveness. Meeting the 2020 targets and the milestones to 2050 is a significant challenge which is best tackled collectively at European level.

The activities planned for 2012 focus on the implementation of the Strategic Energy Technology Plan (SET-Plan) which is the technology pillar of the EU Energy and Climate policy. The great majority of topics support the European Industrial Initiatives' (EII) Technology Roadmaps and Implementation Plans as well as the Joint Programmes of the European Energy Research Alliance (EERA). The Roadmaps specify the research and demonstration needs for the next decade to accelerate the market up-take of the most promising technologies in the areas of solar, wind, bioenergy, smart grids, Carbon Capture and Storage and smart cities and communities. They are thus to a large extent geared towards innovation. A strong participation of European industries and SMEs in collaborative research and demonstration activities is essential to fulfil EU international climate commitments.

Given the global nature of the challenges, threats and opportunities, international collaboration with developed, emerging and developing economies will continue to be strongly encouraged in 2012 activities. In addition, the European Commission will also need to ensure that the EU increasingly speaks with one voice in international fora, where appropriate, to achieve a more coherent and stronger partnership effect as regards energy research.

08 05 : Cooperation — Energy		
SPECIFIC OBJECTIVE 1	Enhance the generation of new knowledge in all top priority areas in Energy with practical relevance at EU level	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Coverage of topics being granted priority in the Specific Programme ⁴⁵	100%	100% by 2013
Projects that achieved <u>all</u> or <u>most</u> of their objectives...	93% (based on 14 finished projects ⁴⁶)	90% by 2013
of which projects that achieved <u>all</u> their objectives	36%	75% by 2013
SPECIFIC OBJECTIVE 2	Promote the use and dissemination of research results in the area of Energy	
Result indicators	Latest known result (Dec.2011)	Target (result)
EU financial contribution to industry ⁴⁷	48,2% ⁴⁸	40% by 2013
Industrial penetration in projects	96% ⁴⁸	95% by 2013
EU financial contribution to SMEs	18,3% ⁴⁸	15% ⁴⁹ by 2013

⁴⁵ This indicator covers the topics published in the annual calls for proposals launched under the specific programme Cooperation of the Seventh Framework Programme. The last calls will be launched in 2012.

⁴⁶ The number includes finished projects funded through all types of funding schemes, i.e. Coordination and Support Actions, Collaborative Projects, Networks of excellence and other.

⁴⁷ Industry corresponds to "private for profit" category which may include consultancies.

⁴⁸ The results are calculated on the basis of ongoing projects - 229 on 1 December 2011.

⁴⁹ 15% refers to a legal global target for the Cooperation Specific Programme (the Decision no 1982/2006/EC establishing FP7 provides that at least 15% of the Cooperation Programme's total budget shall be allocated to SMEs) and is not a target for every activity under this SP. On 1 December 2011, 14,9% of the EU financial contribution under the Cooperation Programme (including Information and Communication Technologies, Space and Security Themes) was going to SMEs..

SMEs penetration in projects	82% ⁴⁸	80% by 2013
Projects which generate patent applications or other types of intellectual property rights	38 % (based on 8 finished projects ⁵⁰)	30% by 2013
Projects with publications in peer reviewed journals	63% (based on 8 finished projects ⁵⁰)	55% by 2013
Main outputs in 2012		

Main expenditure-related outputs ⁵¹	Budget line	2012	
		Output (no.)	EUR million ⁵²
Proposals retained for funding in the area of :			
Renewable Energy (Solar, Wind, Bio Energy, Solar Thermal, Geo Thermal or Ocean)	08.05.01	14	78,488
CO2 Capture and Storage		4	22,700
Smart Energy Networks		5	34,100
Future Emerging Technologies		8	22,700
Others			8,040
EC contribution to JTI "Fuel Cells and Hydrogen" – operational costs	08.05.02	1	10,374
EC contribution to JTI "Fuel Cells and Hydrogen" – running costs	08.05.03	1	1,239
Total	08.05		177,641

⁵⁰ Only the projects funded through the funding schemes "Collaborative Projects" and "Networks of Excellence" are taken into account.

⁵¹ The figures for 2012 are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

⁵² For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

08 06 COOPERATION – ENVIRONMENT (INCLUDING CLIMATE CHANGE)

Environmental systems and phenomena do not respect national borders. This explains why Member States recognized that joint action is required to address environmental problems, therefore calling for action at European level. In addition, environmental preservation needs to go along with economic prosperity and social cohesion, as indicated in the reinvigorated EU Sustainable Development Strategy and in the European strategy for smart, sustainable and inclusive growth, Europe 2020.

The EU plays an important role in providing and facilitating the use of environmental knowledge in science and in policy making. EU research activities stimulate the coordination and integration of national efforts and foster multidisciplinary networks, essential to optimise the design of the Union's future action, notably in the framework of the Climate Action and Renewable Energy package, and the Innovation Union and Resource efficiency initiatives under the Europe 2020 Strategy.

EU actions help understanding transnational environmental systems and the linkages between the environment, the economy and the society. In particular they contribute to identify solutions for a Resource Efficient Europe, a Europe which reduces the impacts from both natural processes as well as human intervention on the environment while maintaining competitiveness. Most solutions are feasible only if undertaken beyond national boundaries and in many cases request global action.

EU environmental research is essential to support the European Union's leadership in the international arena, notably in the fields of Climate Action, Biodiversity, Sustainable Development, Disaster Reduction and Earth Observation.

EU environmental research promotes the development of environmental technologies, which contribute to turn the challenge of sustainable growth to Europe's competitive advantage following the orientations of Europe 2020 Strategy and the Innovation Union.

The 2012 Work Programme (WP) will respond to global societal challenges in the framework of resource efficiency and climate resilience, aiming in particular at:

- Providing knowledge-based options for addressing major societal challenges, notably climate change, biodiversity loss, land and sea management and resource efficiency;
- Developing and strengthening European leadership in innovation including key environmental technologies;
- Promoting and facilitating knowledge transfer, assessment, uptake and exploitation of scientific data and results, in particular through demonstration and delivery of innovative tools and services such as ecosystem services and earth observation systems.

Contribution to ERA objectives is made mainly through the Article 185 initiative 'BONUS'⁵³ which will be continued in 2012. In addition preparatory work on the Joint Programming Initiatives on water and on climate are supported through the 2012 WP update and put into implementation.

SME targeted bottom-up approaches will also be further continued to enhance innovative ideas with specific activities to engage European companies and SMEs in promoting market potential and breakthrough, including socio-economic aspects of environmental innovation through demonstration activities with focus on successful prototypes deriving from previous research activities.

⁵³ Bonus supports an integrated research programme tackling environmental and societal challenges in the Baltic Sea region.

08 06 : Cooperation — Environment (including climate change)		
SPECIFIC OBJECTIVE 1	Enhance the generation of new knowledge in all top priority areas in Environment (including climate change) with practical relevance at EU level	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Coverage of topics being granted priority in the Specific Programme ⁵⁴	100%	100% by 2013
Projects that achieved <u>all or most</u> of their objectives...	100% (based on 9 finished projects ⁵⁵)	90% by 2013
of which projects that achieved <u>all</u> their objectives	56%	75% by 2013
SPECIFIC OBJECTIVE 2	Promote the use and dissemination of research in the area of Environment (including climate change)	
Result indicators	Latest known result (Dec. 2011)	Target (result)
EU financial contribution to industry ⁵⁶	9,5% ⁵⁷	10% by 2013
Industrial penetration in projects	66% ⁵⁷	65% by 2013
EU financial contribution to SMEs	9,1% ⁵⁷	15% ⁵⁸ by 2013
SMEs penetration in projects	65% ⁵⁷	65% by 2013
Projects which generate patent applications or other types of intellectual property rights	Data not yet available ⁵⁹	15% by 2013
Projects with publications in peer reviewed journals	Data not yet available ⁵⁹	90% by 2013
Main outputs for 2012		

Main expenditure-related outputs⁶⁰	Budget line	2012	
		Output (no.)	EUR million⁶¹
Proposals retained for funding in the area of:			
Climate Change, Pollution and Risks	08.06.01	21	77,000
Sustainable Management of Resources		14	56,000
Environmental Technologies		25	95,000
Earth Observation & Assessment tools for Sustainable Development		11	33,000
Horizontal Actions (dissemination)		3	2,000
BONUS		1	5,900
Others			10,903
EC contribution to JTI "Fuel Cells and Hydrogen"	08.06.02	1	4,433
Total	08.06		284,236

⁵⁴ This indicator covers the topics published in the annual calls for proposals launched under the specific programme Cooperation of the Seventh Framework Programme. The last calls will be launched in 2012.

⁵⁵ The number includes finished projects funded through all types of funding schemes, i.e. Coordination and Support Actions, Collaborative Projects, Networks of excellence and other.

⁵⁶ Industry corresponds to "private for profit" category which may include consultancies.

⁵⁷ The results are calculated on the basis of ongoing projects - 335 on 1 December 2011.

⁵⁸ 15% refers to a legal global target for the Cooperation Specific Programme (the Decision no 1982/2006/EC establishing FP7 provides that at least 15% of the Cooperation Programme's total budget shall be allocated to SMEs) and is not a target for every activity under this SP. On 1 December 2011, 14,9% of the EU financial contribution under the Cooperation Programme (including Information and Communication Technologies, Space and Security Themes) was going to SMEs.

⁵⁹ The sample of finished projects funded through the funding schemes "Collaborative Projects" and "Networks of Excellence" is not representative enough (1 project on 1 December 2011).

⁶⁰ The figures for 2012 are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

⁶¹ For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

08 07 COOPERATION – TRANSPORT (INCLUDING AERONAUTICS)

The transport sector is knowledge intensive and a driver of Europe's economic competitiveness and growth. Because transport (air, rail, road and waterborne) is responsible for 25% of CO₂ emissions and contributes to congestion, pollution and noise in urban areas, European transport research is currently investing the development of innovative transport systems that are greener, more efficient, smarter and more socially inclusive, which aim to tackle challenges such as climate change, environmental impact, the increasing scarcity of non-renewable energy sources, and urbanisation.

The 2012 Work Programme has been designed to support the implementation of the Innovation Union Initiative and the achievement of the Europe 2020 bringing together research and innovation to address the major societal challenges. The Work Programme contributes to achieving the European transport policy goals of the better integration of transport networks, sustainable mobility and clean technologies, an upgrade of the infrastructure and optimisation of its use by ITS, and transport decarbonisation.

To achieve critical mass, a leverage effect and EU added-value, the 2012 strategic research and innovation priorities are built around three major socio-economic challenges responding to societal concerns:

1. Eco-innovation – the decarbonisation of the transport system and an efficient use of natural resources, i.e. eco-innovation in all transport modes and the further development of clean vehicles and vessels;
2. Safe and seamless mobility – the optimisation of global efficiency and safety and making efficient use of infrastructure and network capacity, with the aim of offering safe and seamless transport and mobility to all European citizens, as transport is also crucial for social inclusion.
3. Competitiveness through innovation – the strengthening of the competitiveness of the European transport industry through innovation, as competition from highly industrialized and emerging countries is intensifying in a global economy.

An example to illustrate the current implementation of the transport policy is the 'Clean Sky' Joint Technology Initiative that, since 2008, has brought together the European Commission and aeronautical stakeholders in a Public-Private Partnership, developing environmentally-friendly aeronautical technologies.

The European Green Car Initiative is a successful Public-Private Partnership that since 2009 has mobilised the European Union, the European Investment Bank, industry and Member States. In 2012, the focus will be on supporting research on technologies and infrastructures essential for achieving breakthroughs in the use of renewable and non-polluting energy sources, safety and traffic fluidity.

The 2012 'Ocean of Tomorrow' initiative is consistent with the two previous cross-thematic calls in 2010 and 2011. It is one of the activities undertaken to implement the European Strategy for Marine and Maritime Research through nine coordinated topics, including transport. It addresses innovative exploitable technologies and processes so as to make the most of the sea's resources and to mitigate the potential damages to the marine environment.

08 07 : Cooperation – Transport (including aeronautics)		
SPECIFIC OBJECTIVE 1	Enhance the generation of new knowledge in all top priority areas in Transport (including aeronautics) with practical relevance at EU level	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Coverage of topics being granted priority in the Specific Programme ⁶²	85,79%	100% by 2013

⁶² This indicator covers the topics published in the annual calls for proposals launched under the specific programme Cooperation of the Seventh Framework Programme. The last calls will be launched in 2012.

Projects that achieved <u>all or most</u> of their objectives...	100% (based on 28 finished projects ⁶³)	90% by 2013
of which projects that achieved <u>all</u> their objectives	32%	75% by 2013
SPECIFIC OBJECTIVE 2		
Promote the use and dissemination of research results in the area of Transport (including aeronautics)		
Result indicators	Latest known result (Dec. 2011)	Target (result)
EU financial contribution to industry ⁶⁴	49,3% ⁶⁵	40% by 2013
Industrial penetration in projects	95% ⁶⁵	95% by 2013
EU financial contribution to SMEs	17,5% ⁶⁵	15% ⁶⁶ by 2013
SMEs penetration in projects	86% ⁶⁵	85% by 2013
Projects which generate patent applications or other types of intellectual property rights	20% (based on 5 finished projects ⁶⁷)	10% by 2013
Projects with publications in peer reviewed journals	40% (based on 5 finished projects ⁶⁷)	20% by 2013
Main outputs for 2012		

Main expenditure-related outputs ⁶⁸	Budget line	2012	
		Output (no.)	EUR million ⁶⁹
Proposals retained for funding in the area of:			
Aeronautics and Air Transport	08.07.01	60	150,583
Sustainable Surface Transport		54	150,584
Horizontal Activities		5	5,861
Others			15,597
EC contribution to the Clean Sky Joint Undertaking	08.07.02	1	137,460
	08.07.03	1	2,540
EC contribution to the JTI "Fuel Cells and Hydrogen"	08.07.04	1	19,666
Total	08.07		482,291

⁶³ The number includes finished projects funded through all types of funding schemes, i.e. Coordination and Support Actions, Collaborative Projects, Networks of excellence and other.

⁶⁴ Industry corresponds to "private for profit" category which may include consultancies.

⁶⁵ The results are calculated on the basis of ongoing projects - 421 on 1 December 2011.

⁶⁶ 15% refers to a legal global target for the Cooperation Specific Programme (the Decision no 1982/2006/EC establishing FP7 provides that at least 15% of the Cooperation Programme's total budget shall be allocated to SMEs) and is not a target for every activity under this SP. On 1 December 2011, 14,9% of the EU financial contribution under the Cooperation Programme (including Information and Communication Technologies, Space and Security Themes) was going to SMEs.

⁶⁷ Only the projects funded through the funding schemes "Collaborative Projects" and "Networks of Excellence" are taken into account.

⁶⁸ The figures for 2012 are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

⁶⁹ For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

08 08 COOPERATION – SOCIO-ECONOMIC SCIENCES AND THE HUMANITIES

Socioeconomic sciences and the humanities (SSH) research is essential for increasing our knowledge and understanding of European societies and for informing and guiding European and national or even regional policies in many inter-related areas.

The Socioeconomic sciences and the humanities activity has a particular responsibility in mobilising the academic community around common challenges and important themes as defined by the Commission's strategic documents such as the recent Communication on the Innovation Union (IU) and the remaining Europe 2020 Flagship initiatives.

In 2012, Socio-economic sciences and the humanities will address different themes set out in Europe 2020 such as the Innovation Union, Youth on the Move, New Skills and Jobs, a Resource-efficient Europe and an Industrial Policy for the Globalisation Era, together with other themes defined in the Budget Review such as Europe as a global actor, citizenship or the exit from the economic crisis. As announced in the Innovation Union Communication, the programme will also support the European Forum on forward looking activities, research in social innovation as well as innovation policies.

Overall, while this programme aims at supporting the EU Research and Innovation strategy, it also seeks to strengthen the European Research Area (ERA) in the field of socio-economic sciences and humanities.

As regards international cooperation, SSH – since 2009 – has aimed to establish a common research agenda on problems shared with other continents or subcontinents. Cooperation with Third countries (and in particular with International Cooperation Partner Countries) is encouraged within all Societal Challenges (the programme's topics for large-scale integrated projects) as well as through specific actions dedicated to international cooperation (SICA).

08 08 : Cooperation – Socioeconomic sciences and the humanities		
SPECIFIC OBJECTIVE 1	Enhance the generation of new knowledge in all top priority areas in 'Socio-economic sciences and the humanities' with practical relevance at EU level	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Coverage of topics being granted priority in the Specific Programme ⁷⁰	88%	100% by 2013
Projects that achieved <u>all</u> or <u>most</u> of their objectives...	93% (based on 15 finished projects ⁷¹)	90% by 2013
of which projects that achieved <u>all</u> their objectives	53%	75% by 2013
SPECIFIC OBJECTIVE 2	Promote the use and dissemination of research results in the area 'Socio-economic sciences and the humanities'	
Result indicators	Latest known result (Dec. 2011)	Target (result)
EU financial contribution to industry ⁷²	3,8% ⁷³	3% by 2013
Industrial penetration in the projects	32% ⁷³	30% by 2013

⁷⁰ This indicator covers the topics published in the annual calls for proposals launched under the specific programme Cooperation of the Seventh Framework Programme. The last calls will be launched in 2012.

⁷¹ The number includes finished projects funded through all types of funding schemes, i.e. Coordination and Support Actions, Collaborative Projects, Networks of excellence and other.

⁷² Industry corresponds to "private for profit" category which may include consultancies. It should be noted that industrial/SMEs participation is marginal in SSH research, due to the nature of this activity.

⁷³ The results are calculated on the basis of ongoing projects - 159 on 1 December 2011.

EU financial contribution to SMEs ⁷⁴	5.1% ⁷³	15% ⁷⁵ by 2013
SMEs penetration in the projects	29% ⁷³	30% by 2013
Projects with publications in peer reviewed journals	75% (based on 12 finished projects ⁷⁶)	50% by 2013
SPECIFIC OBJECTIVE 3	Disseminate results coming from socio-economic sciences & humanities funded projects, including foresight projects, to policy-makers	
Result indicators	Latest known result (Nov. 2011)	Target (result)
Projects producing specific outputs disseminated to policy makers	80% (based on 15 finished projects ⁷⁷)	75% by 2013
Main outputs for 2012		

Main expenditure-related outputs ⁷⁸	Budget line	2012	
		Output (no.)	EUR million ⁷⁹
Proposals retained for funding in the area of:			
Growth, employment and competitiveness in a knowledge society – the European case		4	14,600
Combining economic, social and environmental objectives in a European perspective		3	14,700
Major trends in society and their implications		4	18,400
Europe and the world		2	10,200
The Citizen in the European Union	08.08.01	4	13,600
Socio-economic and scientific indicators		1	2,700
Foresight activities		1	2,700
Specific Cooperation Actions dedicated to international cooperation		4	7,100
ERANET		1	1,500
Others			6,554
Total	08.08		92,054

⁷⁴ It should be noted that industrial/SMEs participation is marginal in SSH research, due to the nature of this activity.

⁷⁵ 15% refers to a legal global target for the Cooperation Specific Programme (the Decision no 1982/2006/EC establishing FP7 provides that at least 15% of the Cooperation Programme's total budget shall be allocated to SMEs) and is not a target for every activity under this SP. On 1 December 2011, 14,9% of the EU financial contribution under the Cooperation Programme (including Information and Communication Technologies, Space and Security Themes) was going to SMEs.

⁷⁶ Only the projects funded through the funding schemes "Collaborative Projects" and "Networks of Excellence" are taken into account.

⁷⁷ The number includes finished projects funded through all types of funding schemes, i.e. Coordination and Support Actions, Collaborative Projects, Networks of excellence and other.

⁷⁸ The figures for 2012 are only an estimate, as the exact number of proposals will only be known once the evaluation has taken place.

⁷⁹ For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

08 09 COOPERATION – RISK-SHARING FINANCE FACILITY (EIB)

Attracting a major increase in private finance and closing a market gap in investing in R&D and Innovation is one of the commitments made in the Europe 2020 Flagship Initiative "Innovation Union" adopted on 6 October 2010. Among the key financial instruments to be put in place at European level to encourage more investment and financing in Research and Innovation are risk-sharing loans to finance higher-risk research and innovation projects.

The Risk-Sharing Finance Facility (RSFF), launched in 2007, is such a financial instrument providing loan finance to private and public entities investing in research, development, demonstration and innovation (RDI). Jointly developed between the EU and the EIB, the RSFF is operated by the EIB. The EU supports the EIB in its activities by providing partial risk coverage from FP7 for its loans which meet FP7 strategic objectives. The RSFF provides its added value by supporting riskier investments in RDI for which capital markets usually cannot make available sufficient funding due to the risk and uncertainty involved. Thus, the RSFF has a catalytic effect and can stimulate and support private investment in RDI.

The RSFF has been evaluated by a group of independent experts (IEG) in 2010.⁸⁰ The IEG report was highly positive about the first phase of the RSFF, highlighting that the RSFF helped drastically to expand the financing of RDI and has achieved very considerable results, even beyond initial expectations. The IEG also mentioned that improvements are possible for still under-represented beneficiaries (SMEs and research infrastructures) through introducing change of risk-sharing. For the period 2011-2013, the Commission has endorsed these recommendations in its Response to the FP7 and RSFF Interim-Evaluation Reports⁸¹.

The European Council on 4 February 2011⁸² invited the Commission to present proposals by end-2011 for scaling-up the RSFF and for assessing how best to meet the needs of fast-growing innovative companies. On 9 March 2011⁸³, the Competitiveness Council acknowledged the RSFF success and called upon the Commission, in liaison with the EIB, to urgently improving the take-up for SMEs and research infrastructures in particular. The European Parliament has also called for an expansion of the RSFF and for diversifying the risk-sharing structures (including via a portfolio and first-loss piece approach).

Taking into account high demand for RSFF loans until now and the new projects in the pipeline, the RSFF may reach its lending limits before 2013. In this context, an Amendment N° 4 to the EU/EIB RSFF Cooperation Agreement has been adopted by the Commission and jointly signed by the EU and the EIB on 5 December 2011. Amendment N° 4 mainly aims to tackle these issues and political requests by:

1. changing the risk-sharing mechanism for the whole RSFF from a project-by-project to a Portfolio First-Loss Piece (PFLP) approach with the EU assuming a higher risk, and overcoming technical restrictions of the current risk-sharing methodology;
2. clarifying the definition of eligible entities of the research infrastructures to target any entity participating to the achievements of the "Research Infrastructure" Programme (e.g. not only research infrastructures, but also suppliers and entities commercialising their outputs);
3. creating three portfolios: for standard RSFF operations (compartment 1); for SME and small mid-cap companies (RSI)⁸⁴, implemented by the EIF, as an EIB financial intermediary (compartment 2); and for research infrastructures (compartment 3).

These changes will not increase the share of the EU contribution covering the administrative costs of the EIB and/or its financial intermediary(ies) (including EIF). These costs remain limited to a

⁸⁰ <http://ec.europa.eu/research/evaluations>.

⁸¹ COM(2011) 52 final – 9 February 2011.

⁸² EUCO 2/11, 4 February 2011 Conclusions, page 8, point 22.

⁸³ Final Council conclusions 6932/11.

⁸⁴ RSI: Risk-Sharing Instrument.

maximum of 4% which may be increased by additional, success-related 2% (6% in total as a maximum), subject to the achievement of performance indicators. Moreover, as the EU contribution to the RSFF including the RSI is foreseen in Annex IV to the 2012 Work Programme "Cooperation", Amendment N° 4 has no financial impact on the RSFF budget.

08 09: Cooperation — Risk-sharing finance facility (EIB)		
SPECIFIC OBJECTIVE 1	Support additional investment in European Research, Development and Innovation (RDI) through a financing facility with risk-sharing components (RSFF)	
Result indicators	Latest known result (end June 2011)	Target (result)
Volume of RSFF supported loans and guarantees provided to European research and technological and demonstration and innovation projects (amount of approved loans by the EIB)	€ 8,776.5 million	Up to € 8 billion of approved loans by 2013
Volume of RSFF supported loans and guarantees provided to European research and technological and demonstration and innovation projects (amount of signed loans by the EIB)	€ 6,688.3 million	Up to € 8 billion of signed loans by 2013
Volume of FP7 contribution used to support RSFF loans and guarantees provided to European research and technological and demonstration and innovation projects	€ 590.4 million ^{85 86}	Up to €800 million of FP7 contribution by 2013 to cover expected and unexpected losses related to RSFF operations
SPECIFIC OBJECTIVE 2	Promote access to higher-risk finance for RDI projects in Members States and Associated Countries	
Result indicators	Latest known result (end June 2011)	Target (result)
Coverage of Member States and Associated Countries by RSFF loans and guarantees	RSFF loans supporting RDI projects in 20 countries (18 MS and 2 Associated Countries)	Full geographical coverage of all EU-Member States and Associated Countries by RSFF loans and guarantees by 2013
Main outputs for 2012		

Main expenditure-related outputs	Budget line	2012	
		Output (no.)	EUR million
Commission Decision/Agreement with EIB ⁸⁷	08.09.01	1	197,276
Total	08.09.01		197,276

⁸⁵ Primary credits including interest, not including EFTA and Third Country appropriations – since 2007

⁸⁶ This amount represents 100% of the budget availability for the period 2007-2011, in compliance with the two step-approach as required by the European Parliament and the Council of the European Union in the FP7 basic acts. Indeed, the EU financial contribution is broken down in two parts: a first tranche of € 500 million (out of which € 400 million from SP Cooperation) for the period 2007-2010; a second tranche, subject to the result of an interim evaluation in 2010, of € 500 million (out of which € 400 million from SP Cooperation) for the period 2011-2013.

⁸⁷ One agreement for the whole 7th Framework Programme and for both Cooperation and Capacities Specific Programmes. Subject to the agreement of the Council and the European Parliament for the second tranche of the EU financial contribution.

08 10 IDEAS

The 'Ideas' programme seeks to reinforce excellence, dynamism and creativity in European research by financing 'frontier research', i.e. highest quality research at the frontiers of knowledge that brings about new opportunities for scientific and technological advance, and is instrumental in producing new knowledge leading to future applications and markets.

In this way, it helps attract the world's best researchers to Europe, encourages industrial research investment, and strengthens EU capacity to generate new knowledge that will feed back into the economy and society. The added value of the 'Ideas' Programme is its European-wide competitive funding structure and capability to draw on a wider pool of talents and ideas than would not be possible for any national scheme.

The 'Ideas' Programme is implemented by the European Research Council (ERC). Since its inception in 2007, the ERC has already become a recognised success of the FP7 programme having established itself as an indispensable component of the European Research Area with a high reputation for the quality and efficiency of its operations. ERC has reached an extraordinary level of prominence on the European and international stage and achieved to increase confidence and enthusiasm in EU research⁸⁸.

The 2012 'Ideas' Work Programme includes four funding schemes: "ERC Starting Grants" and "Advanced Grants", "Proof of Concept" and "Synergy Grants". The latter is to be introduced in 2012 to enable small groups of researchers to bring together complementary skills, knowledge, and resources, in order to jointly address research problems at the frontier of knowledge going beyond what the individual researchers could achieve alone.

The fundamental principle for all ERC activities is that of stimulating investigator-initiated frontier research across all fields of research, on the sole basis of excellence. Within this principle, the ERC two major objectives for 2012 are to increase the number of women scientists among its grantees and raise substantially the number of excellent researchers from outside Europe who wish to work in an EU Member State or Associated Country.

08 10 : Ideas		
SPECIFIC OBJECTIVE 1	Enhance the generation of excellent, innovative ideas in frontier research in Europe	
Result indicators	Latest known result (October 2011)	Target (result)
Number of international prizes and awards by grant holders ⁸⁹	36 ERC grantees who won prestigious research prizes	200 by 2020
Number of scientific publications by grant holders	3,396 journal articles from ERC funded projects from Thomson Reuters' Web of Knowledge ⁹⁰	~40-60.000 by 2020
Main outputs for 2012		
- 3-yearly evaluation of the ERC Executive Agency		

⁸⁸ European Research Council Task Force. Final Report 12 July 2011. The document can be found in <http://erc.europa.eu/future-erc>.

⁸⁹ For this indicator, only prizes awarded after the ERC Grant are taken into consideration. Also noteworthy is the fact that ERC counts among its grantees: 3 Nobel prize winners and 3 Field Medallists.

⁹⁰ Thomson Reuters' Web of Knowledge is a bibliographic system which index about 23,000 peer-reviewed and high impact scholarly journals. Articles from ERC funded projects are identified as those which explicitly acknowledge ERC funding

Main expenditure-related outputs delivered by the ERC Executive Agency since its autonomy in 2009	Budget line	2012	
		Output ⁹¹ (no.)	EUR million ⁹²
Proposals retained for funding in the area of:			
ERC Starting Grants (StG)	08.10.01	520	729.98
Advanced Grants (AdG)		309	679.98
Synergy Grant (SyG)		10	150
Proof of Concept (PoC)		80	10
Other activities			
a) Support to Monitoring and Evaluation Strategy		2 calls	0.45
b) Support to Scientific Council ⁹³		n/a	0.69
Evaluation, monitoring and review costs		2 contracts	7
Total	08.10.01		1,578.1⁹⁴

⁹¹ The figures are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

⁹² For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

⁹³ This line includes "ERC Scientific Council Standing Identification Committee" (15 000 EUR) which will be directly implemented by the Commission services (DG Research and Innovation), "Support to the Chair and Vice-Chairs" (300 000 EUR) as well as "Honoraria and meeting expenses for Scientific Council Members" (375 000 EUR).

⁹⁴ The Budget figures given in this table are rounded to two decimal points.

08 12 CAPACITIES – RESEARCH INFRASTRUCTURES

Top-class scientific and technological development depends on instruments, installations and facilities to carry out basic and applied research and to attract young people to science.

The existence of recognised world-level infrastructures allows Europe to remain at the forefront and to compete with the US and Japan in particular. While Member States remain central in the development and financing of infrastructures, EU plays a catalysing and leveraging role by helping to ensure wider and more efficient access to, and use of, the infrastructures existing in the different Member States. The Union actions also stimulate the coordinated development and networking of these infrastructures, and foster the emergence of new research infrastructures of pan-European interest within a medium to long-term vision.

The implementation of the Innovation Union Flagship Initiative is impossible without Europe's scientists having access to world-class research facilities. High-quality research infrastructures also serve as magnets for attracting talented researchers, individual users and suppliers. They are similar to knowledge factories, within the context of the knowledge society. As such, they are one of the key pillars of the European Research Area.

The 2012 'Research Infrastructures' Work Programme will dedicate most of its funding to the existing research infrastructures in all fields of science and technology, including e-Infrastructures, and to facilitating the access of research teams from all over the EU to these infrastructures. The funding will also be devoted to new research infrastructures of pan-European interest needed by the European scientific community in all fields of science and technology. In particular, the support will be provided for:

- Design Studies: to contribute to conceptual design studies for new research infrastructures, that demonstrate a clear European dimension and interest;
- Construction of critical new infrastructures (or major upgrades of existing ones) by building primarily upon the work conducted by the European Strategy Forum on Research Infrastructures (ESFRI).

The planned actions will help overcome the fragmentation of efforts and will contribute to the development of technological capacity, scientific performance and innovative advantage in Europe.

08 12 : Capacities — Research infrastructures		
SPECIFIC OBJECTIVE 1	Optimise the access to research infrastructures in Europe	
Result indicators	Latest known result	Target (result)
Number of international scientific users having benefited from access to Research Infrastructures	5400 ⁹⁵	Minimum of 30000 users having direct access by 2013
Percentage of European research infrastructures having more than 50% of foreign users	32% in 2006 ⁹⁶	>32 % by 2013
Percentage of users satisfied with services offered by research infrastructures participating in Integrating Activities ⁹⁷ (good to very good overall appreciation)	98%	>97 %

⁹⁵ Data from the first submitted periodic reports covering the period 2009-2010 (First FP7 Grant Agreements providing transnational access started in 2009)

⁹⁶ Key Figures 2008, p.121 – origin: Survey report available at http://ec.europa.eu/research/infrastructures/pdf/survey-report-july-2007_en.pdf. New data will not be available before 2012.

⁹⁷ Integrating activities aim to ensure that European researchers may have access to the best research infrastructures to conduct their research. Integrating activities also aim at structuring better, on a European scale, the way research infrastructures operate, and at fostering their joint development in terms of capacity and performance.

SPECIFIC OBJECTIVE 2		Encourage the creation of new research infrastructures of pan-European interest	
Result indicators	Latest known result (2011)	Target (result)	
Number of European research infrastructures identified in the ESFRI ⁹⁸ roadmap which have proceeded into the preparatory phase	45	51 by 2013	
Number of European research infrastructures identified in the ESFRI ³ roadmap for which an agreement for the construction has been signed	12	28 by 2013	
Main outputs for 2012			
<ul style="list-style-type: none"> - Commission Decision concerning the setting up of the European Social Survey Upgrade (ESS) as a European Research Infrastructure Consortium (ERIC) - Commission Decision concerning the setting up of the ECRIN-ERIC (European Clinical Research Infrastructures Network) - Commission Decision concerning the setting up of the LIFEWATCH ERIC - Commission Decision concerning the setting up of the EUROARGO ERIC - Commission Decision concerning the setting up of the Biobanking and Biomolecular Resources Research Infrastructure (BBMRI) as a European Research Infrastructure Consortium (ERIC) - Commission Decision setting up the ICOS-ERIC (ICOS: integrated carbon observation system) - Commission Decision concerning the setting up of the Council of European Social Science Data Archives (CESSDA) as a European Research Infrastructure Consortium (ERIC) - Commission Decision concerning the setting up of the Digital Research Infrastructure for the Arts and Humanities ERIC ("DARIAH ERIC") - Commission Decision concerning the setting up of the European Advanced Translational Research Infrastructure in Medicine ERIC ("EATRIS ERIC") - Commission Decision concerning the setting up of the Distributed Central European Research Infrastructure ERIC ("C ERIC") 			

Main expenditure-related outputs⁹⁹	Budget line	2012	
		Output (no.)	EUR million ¹⁰⁰
Proposals retained for funding in the area of:			
Integrating Activities	08.12.01	3	20,153
Construction projects		6	27,250
Support measures		3	2,000
Other activities			0,643
Total	08.12.01		50,046

⁹⁸ European Strategy Forum on Research Infrastructures (ESFRI) is a strategic instrument to develop the scientific integration of Europe and to strengthen its international outreach. ESFRI supports a coherent and strategy-led approach to policy-making on research infrastructures in Europe, and facilitates multilateral initiatives leading to the better use and development of research infrastructures, at EU and international levels.

⁹⁹ The figures are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

¹⁰⁰ For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

08 13 CAPACITIES – RESEARCH FOR THE BENEFIT OF SMEs

Strengthening the innovation capacity of small and medium-sized enterprises (SMEs) in Europe and their contribution to the development of new technology based products and markets is crucial for the EU economy, which depend on SMEs for more than two thirds of its GDP. SMEs however experience difficulties to bridge the gap between research results and market introduction of new products and services as demonstrated by the impact assessments concluded early 2010.

The contribution to the Europe 2020 strategy is provided by supporting SMEs' access to research and innovation funding, their internationalization and by taking account of their innovation needs which will help equip this large economic sector to be more competitive and will in turn strengthen the industrial base of the EU. Also fully incorporating SMEs into the European research and innovation strategy and systematically monitoring their participation will contribute to the completion of the European Research Area.

All Member States have actions relevant to SMEs, but often they do not encourage and support transnational research cooperation and technology transfer. Actions at EU level are necessary to complement and enhance the impact of actions undertaken at national and regional level.

In line with the Innovation Union's goals, the 2012 Work Programme 'Research for the benefit of SMEs' aims to enhance the research and innovation capacities of European SMEs that have little or no research capacity themselves to enable innovative ideas to become products and services with a clear future market potential. The objective is that the participating SMEs become more competitive and their capacity to collaborate with the 'research community' is enhanced, thus forging closer industry-academia links. A strong emphasis is therefore placed on the economic impact of the project results achieved by the SMEs themselves. The economic benefits for the SMEs are crucial in such projects.

The Research for the benefit of small and medium-sized enterprises is being implemented by the Research Executive Agency (REA) with exception of the Eurostars actions and other policy-support activities.

08 13 : Capacities — Research for the benefit of small and medium-sized enterprises (SMEs)		
SPECIFIC OBJECTIVE 1	Support SMEs in carrying out or outsourcing research and technological development	
Result indicators	Latest known result (2011)	Target (result)
Number ¹⁰¹ of SMEs/SME Associations investing in RTD through FP7 SME specific measures	2314 ¹⁰²	4000 by 2013
Total budget spent by SMEs on outsourcing research, innovation and demonstration activities to RTD performers ¹⁰³ in FP7 SME specific measures	609 million €	1 billion € by 2013
Main outputs for 2012		
- 3-yearly evaluation of the REA		

¹⁰¹ When the same SME participates in several projects, it is counted only once.

¹⁰² The results are based on signed contracts: 557 as of 1 December 2011.

¹⁰³ RTD performers are research service providers, i.e. universities and research centres.

Main expenditure-related outputs	Budget line	2012	
		Output (no.)	EUR million ¹⁰⁴
Proposals retained for funding in the area of:			
- Research for SME Associations	08.13.01	35	68,000
- Research for SMEs		130	124,559
Coordination and support actions		2	2,000
Yearly transfer agreement for Eurostars Art. 185 of the TFEU)		1	19,000
Demonstration activities (pilot action)		25	20,000
Others			5,058
Total	08.13.01		238,617

¹⁰⁴ For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

08 14 CAPACITIES – REGIONS OF KNOWLEDGE

The "Regions of Knowledge" initiative in FP7 enables European regions to strengthen their capacity for investing in and carrying out research activities maximising the potential for a successful involvement of regional actors in European research projects. A stronger research capacity contributes to the creation of growth and jobs in the regions and to reinforced support to the Europe 2020 priority of turning EU into a smart economy based on knowledge and innovation.

The programme promotes the development of world class clusters in EU, also fostering trans-national cluster cooperation in the field of research. Such research-driven clusters, made up of legal entities conducting research, business entities (in particular SMEs) and regional/local authorities, are conducive to an innovative and creative ecosystem where academia and business work together and turn excellent research results into new products, services and processes.

In addition, cooperation between leading innovation regions and those in catching-up Member States will be enhanced, as laid down in the Communication on Innovation Union Flagship Initiative.

The 2012 Work Programme is closely linked to the priorities set out in the Europe 2020 strategy and its flagship initiatives, notably the 'Innovation Union', 'A digital agenda for Europe' and 'Resource efficient Europe'. The 'Regions of Knowledge' actions will promote synergies between regional research and innovation policies, primarily by supporting the development of regional research agendas and Joint Action Plans (JAP) which regional authorities can integrate into their economic development strategy as a basis for increased and more focused use of the Structural Funds and other regional development instruments.

In addition, in 2012, an emphasis will be put on actions aiming at:

- improving integration of business entities, research actors and institutions in regional economies,
- boosting the competitiveness of the regional research-driven clusters via dedicated internationalisation measures.

08 14 : Capacities — Regions of knowledge		
SPECIFIC OBJECTIVE 1	Strengthen the research potential of European regions, in particular by encouraging and supporting the development of regional “research-driven clusters”	
Result indicators	Latest known result (2011)	Target (result)
Number of regions ¹⁰⁵ concerned by the support of existing clusters	130 regions	140 regions by 2013
Number of business entities ¹⁰⁶ involved in selected projects	230 business entities	245 business entities by 2013
Main outputs for 2012		

¹⁰⁵ According to the 'Regions of Knowledge' Work Programme, the delineation of the regions is left to the self definition of the applicants and therefore is not necessarily based on Nomenclature of Territorial Units for Statistics (NUTS).

¹⁰⁶ Business entities correspond to large enterprises and SMEs as defined in the EC recommendation 2003/361/CE of 6 May 2003, OJ L 124/36, 20/05/2003).

Main expenditure-related outputs ¹⁰⁷	Budget line	2012	
		Output (no.)	EUR million ¹⁰⁸
Proposals retained for funding in the area of :			
Transnational cooperation of clusters	08 14 01	9	18.004
JPI Urban Europe		1	2.00
Total	08 14 01		20,004

¹⁰⁷ The figures for 2012 are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

¹⁰⁸ The EFTA contribution is not included.

08 15 CAPACITIES – RESEARCH POTENTIAL

'Research Potential' is a facilitator for the European Research Area (ERA). Its purpose is to stimulate the most competitive research institutions established in the European Union's economically weak regions (those qualifying for convergence funding) and in its outermost regions.

The activities supported under "Research Potential" aim to enable the best scientific entities in these regions to enhance their excellence and participate successfully in European and international research projects. They tackle a variety of challenges such as brain gain through networking with other European world class research actors and industry, upgrading of relevant RTD equipment and recruiting experienced researchers. The wider goal is to mobilise these institutions so that they can make a dynamic contribution to local and European sustainable socio-economic development. In this way, 'Research Potential' provides a valuable contribution to the realisation of the objectives of Europe 2020 Strategy by strengthening knowledge and innovation for a high-employment economy.

In 2012, building on past experience, the 'Research Potential' activity will focus on excellent research entities of significant scientific size with high potential to innovate and considering innovation as a key issue in their actual research strategy. The enhancement of their research potential will be realised in close cooperation with European outstanding research 'partnering organisations' in the same science and technology domain or in a complementary field, and, when appropriate, with industry and SMEs from the local, national or European landscape.

08 15 : Capacities — Research potential		
SPECIFIC OBJECTIVE 1	Stimulating the realisation of the full research potential of the enlarged Union	
Result indicators	Latest known result (Nov. 2011)	Target (result)
Number of research centres in EU's convergence and outermost regions ¹⁰⁹ supported	140	160 centres by 2013
Main outputs for 2012		

Main expenditure-related outputs ¹¹⁰	Budget line	2012	
		Output (no.)	EUR million ¹¹¹
Proposals retained for funding in the area of:			
Research Potential ¹¹²	08.15.01	20	64,98
WIRE 3 conference		1	0,25
Others			1,116
Total	08.15.01		66,363

¹⁰⁹ In the context of EU Cohesion Policy 2007-2013, 'convergence region's are those regions having per capita gross domestic product (GDP) less than 75% of the average GDP of the EU-25 (Commission Decision C(2006)3475 of 4th August 2006 and Commission Decision C(2007) 1283 of 26 March 2007 amending Decision 2006/595/EC as concerns Bulgaria and Romania. The outermost regions, defined by Article 349 of the Lisbon Treaty are: Guadeloupe, French Guiana, Martinique, Reunion, Saint-Barthélemy, Saint Martin, the Azores, Madeira and Canary Islands.

¹¹⁰ The figures are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

¹¹¹ For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

¹¹² REGPOT: Unlocking and developing the research potential of research entities established in the EU's Convergence regions and Outermost regions - FP7-REPOT-2011-1.

08 16 CAPACITIES – SCIENCE IN SOCIETY

In the Europe 2020 Communication, the Commission has defined and listed the societal challenges that the European Union is currently confronted with. To enable the EU to tackle these challenges in an effective manner, it needs to ensure that the relevant players in society (mainly researchers, research organisations, civil society, industry and policy makers) are actively working towards providing adequate responses to these social challenges. In this way, society's long-term needs could be met. Societal engagement is therefore a necessary condition to addressing major European challenges and all social actors have a joint responsibility to work towards this goal.

All stakeholders have to act responsibly to that end, i.e. to foresee, where possible, how their actions fit into the broader picture, what the consequences and the social, environmental and economic impacts will be. As proven in the past, irresponsible research and innovation can exist when stakeholders do not pay sufficient attention to the consequences of their actions (or inaction) or when responsibilities are not clearly distributed between them.

As the 2010 Eurobarometer on Life Sciences and Biotechnology¹¹³ demonstrated, Europeans are in favour of responsible research and innovation, with appropriate regulation to balance the market. People wish also to be involved in decisions regarding new technologies when cultural, social and ethical values are at stake. They also requests to benefit of a clear framework where the responsibilities of each societal actor are well defined and which makes trust between actors possible.

To bring an answer to these expectations, the Science in Society (SiS) activity has been developing a framework for Responsible Research and Innovation (RRI) since 2010 and will continue this strategy with the 2012 Work Programme by capitalising on the results obtained so far in FP7. 2012 SiS Work Programme also aims at contributing to the achievement of the European Research Area with three Recommendations (Gender, Open Access and Responsible Research and Innovation)

In this context, the SiS 2012 Work Programme will privilege the following axes:

- Shaping a comprehensive governance model for RRI by developing guidance for innovators in order to take into account ethical, health, safety, environmental and human rights considerations in a transparent way;
- Engaging all along the innovation process research organisations, industry, civil society and policy makers on societal challenges by promoting problem-oriented, interdisciplinary and participatory approaches through a Mobilisation and Mutual Learning Action Plan;
- Fostering open research by encouraging researchers and research and innovation policy makers to ensure more transparency in their activities, make research outputs (publications and data) more widely accessible;
- Achieving gender equity in research and innovation by encouraging a more gender-aware management in research and innovation; and Bringing innovation to the classroom through new Inquiry-Based Science Education techniques.

¹¹³ 2010 Eurobarometer on Life Sciences and Biotechnology (nr.73.1).

08 16 : Capacities — Science in society (SIS)		
SPECIFIC OBJECTIVE 1	Ensure that EU funded proposals comply with fundamental ethical principles	
Result indicators	Latest known result (Nov. 2011)	Target (result)
Percentage of proposals passing the ethical review the first time	97.4 % in 2011	100% by 2013
SPECIFIC OBJECTIVE 2	Promote a more open governance of scientific research, involving societal actors and organisations in research policy	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Number of members registered in SINAPSE ¹¹⁴	15 739 members 1 441 organisations	15 000 members by 2013 1 400 organisations by 2013
Percentage of FP7 projects engaging with societal actors beyond the research community ¹¹⁵	72% (based on 150 finished projects)	70% by 2013
Percentage of publications originated from FP7 projects for which open access is provided ¹¹⁶	38% (based on 37 finished projects)	70% by 2013
SPECIFIC OBJECTIVE 3	Strengthen gender dimension in projects financed by the FP7	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Percentage of FP7 projects for which gender equality actions ¹¹⁷ were carried out	27% (based on 150 finished projects)	40% by 2013
Percentage of FP7 projects for which gender dimension was taken into account in the research content ¹¹⁸	22% (based on 45 finished projects)	25% by 2013
Main outputs for 2012		

¹¹⁴ SINAPSE (Scientific information and expertise for policy support in Europe) is an e-network whose basic aim is to make better use of expertise in policy-making and facilitate the emergence of new forms of governance by offering the possibility to easily involve a wide range of research actors (<http://ec.europa.eu/sinapse>).

¹¹⁵ The projects funded through all funding schemes under the following research areas: Cooperation: Health; Food, agriculture and biotechnology; Nanosciences, nanotechnologies, materials and new production technologies; Energy; Environment; Transport, Socio-economic sciences and the humanities; Capacities: Research infrastructures, Science in society; Regions of knowledge, Research Potential; EURATOM – nuclear fission and radiation protection, are taken into account.

¹¹⁶ Only the projects funded through the funding schemes "Collaborative Projects" and "Networks of Excellence" under the following research areas: Cooperation: Health, Energy, Environment, Socio-economic sciences and the humanities; Capacities: Research infrastructures, Science in society, are taken into account. These areas correspond to the scope of Open Access Pilot initiative. In the Pilot, beneficiaries commit to ensure open access to articles resulting from research funded in the above mentioned areas. The pilot will run until the end of FP7.

¹¹⁷ The following actions may have been carried out: ex. design and implement an equal opportunity policy; set targets to achieve a gender balance in the workforce; actions to improve work-life balance; organise conferences and workshops on gender. The research areas taken into account are those mentioned in footnote ¹⁰⁸;

¹¹⁸ Only the projects funded through the funding schemes "Collaborative Projects" and "Networks of Excellence" under the research areas mentioned in footnote ¹⁰⁸ are taken into account.

Main expenditure-related output ¹¹⁹	Budget line	2012	
		Output (no)	EUR million ¹²⁰
Proposals retained for funding in the area of:	08.16.01		
Shaping governance for Responsible research and innovation		4	5,500
Engaging all along the innovation process research organisation, industry, civil society and policy-makers on societal challenges		3	12,000
Fostering open research		1	1,500
Achieving gender equality in research and innovation		3	5,500
Bringing innovation to the classroom		5	18,000
Others (incl. Grant to named beneficiaries, public procurement, expert groups, evaluation)			
Total	08.16.01		44,644

¹²⁰ The EFTA contribution is not included.

08 17 CAPACITIES – ACTIVITIES OF INTERNATIONAL COOPERATION

The Capacities Programme will continue to promote a greater openness of FP7 to international partners, developing research policy understanding and the closer involvement of international partners where mutual benefit can be determined. This emphasis on mutual benefit, together with an active policy of seeking reciprocal access to international research programmes, will provide a contribution towards the Europe 2020 flagship initiative 'Innovation Union' through global knowledge sourcing and a greater coherence and a more efficient realisation of Europe's interests.

The 2012 Work Programme of the International Cooperation activities of the Capacities Programme will ensure continuous support to the development of bi-regional and bilateral cooperation through the launch of new INCO-NET and BILAT projects. The INCO-NET call covers Sub-Saharan Africa, Latin America and the Caribbean region, the □ Mediterranean Partner Countries and South East Asian Countries. The BILAT call covers Australia, Brazil, China, India, New Zealand, Russia, South Africa, South Korea, United States of America, Argentina, Chile, Jordan, Mexico, Morocco and Ukraine. The new projects will support the development of more strategic and result-oriented partnerships in the context of bilateral agreements or bi-regional policy cooperation frameworks and focus on addressing societal challenges and, where appropriate, key enabling technologies of common interest. They will build on the experiences and results of previous and ongoing projects of this programme and will take into account and promote complementarities with activities carried out under other EU programmes notably those related to external policies.

The activities of the 2012 Work Programme will also enhance the cooperation of EU Member States and Associated Countries with third countries and contribute to the implementation of the initiatives of the Strategic Forum for International Cooperation.

In order to encourage an effective international scientific cooperation strategy at European level, coordination of EU with national and regional policies and programmes of Member States and Associated States is essential to fulfil the commitments made in the S&T bi-regional and bi-lateral dialogues.

Actions will be carried out by consortia of participants from the Member States, Associated Countries and targeted third countries, promoting synergies between national and multinational S&T cooperation and international relations policies of the EU Member States. Such collaboration will also support the wider remit of European research policy as well as external policies, trade and industry-related policies. The production and use of scientific knowledge will be a vital element for the establishment and reinforcement of the Union's relations with third countries, on a bilateral, bi-regional or global scale.

08 17 : Capacities — International cooperation activities		
SPECIFIC OBJECTIVE 1	Increase cooperation between researchers in Europe and in third countries	
Result indicators	Latest known result (2011)	Target (result)
Participation of 3 rd countries in the 7 th Framework Programme	6.6%	6,6% by 2013
SPECIFIC OBJECTIVE 2	Strengthen coordination of Member States/Associated States policies and activities in the field of international cooperation	
Result indicators	Latest known result (2011)	Target (result)
Number of joint calls between Member States/Associated Countries and third countries research programmes in FP7 international cooperation ERA-NET projects ¹²¹	8	11 by 2013
Amount of joint trans-national funding mobilised for international cooperation in FP7 international cooperation ERA-NET projects	21 M€	25 M€ by 2013
Main outputs for 2012		
<ul style="list-style-type: none"> - Communication on enhancing and focussing international cooperation in Research and Innovation - Renewal of S&T cooperation agreement between the EU and Brazil - Association of Serbia to the Euratom Framework Programme for nuclear research and training activities (2012-2013) - Association of Serbia to the Euratom Framework Programme for nuclear research and training activities (2012-2013) (Council decision on Conclusions) - Association of Switzerland to the Euratom Framework Programme for nuclear research 2012-2013 (Recommendation for Decision authorising the opening of negotiations and negotiating Directives) - Association of Switzerland to the Euratom Framework Programme for nuclear research (2012-2013) (Council decision on Conclusions) - Association of Switzerland to Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020) (Recommendation for Decision authorising the opening of negotiations and negotiating Directives) - Extension of the Agreement for scientific and technological cooperation between the European Community and the Government of the United States of America (Council decision on Conclusions) 		

¹²¹ These calls are joint pilot calls implemented in the frame of the 5 ongoing International Cooperation ERA-NET projects i.e. New Indigo, Black Sea ERANET, KORANET, ERA-NET RUS and SEA ERANET PLUS.

Main expenditure-related output	Budget line	2012	
		Output (no)	EUR million ¹²²
Proposals retained for funding in the area of:			
Coordination platform (INCO-NET)	08.17.01	4	16,000
Bilateral coordination for the enhancement and development of S&T Partnership (BILAT)		15	15,000
Others			0,984
Total	08.17.01		31,984

¹²² The EFTA contribution is not included.

08 18 CAPACITIES – RISK-SHARING FINANCE FACILITY (EIB)

Attracting a major increase in private finance and closing the market gap in investing in Research and Innovation is one of the commitments made in the Europe 2020 Flagship Initiative "Innovation Union" adopted on 6 October 2010. Among key EU financial instruments aimed to encourage more investment and financing in Research and Innovation are risk-sharing loans to finance higher-risk research and innovation projects.

The Risk-Sharing Finance Facility (RSFF), launched in mid-2007, is such a financial instrument providing loan finance to private and public entities investing in research, development, demonstration and innovation (RDI). Jointly developed between the EU and the EIB, the RSFF is operated by the EIB. The EU supports the EIB in its activities by providing partial risk coverage from FP7 for its loans which meet FP7 strategic objectives. The RSFF provides its added value by supporting riskier investments in RDI for which capital markets usually cannot make available sufficient funding due to the risk and uncertainty involved. Thus, the RSFF has a catalytic effect and can stimulate and support private investment in RDI.

The RSFF also targets investments related to the implementation of Research Infrastructure (RI) projects, notably those which are in the particular interest of the EU like the RI included in the ESFRI list (European Roadmap for Research Infrastructures). Such RI can be supported by RSFF loans to provide additional finance complementing grant funding from EU and/or national sources as well as other third party contributions. RSFF loans could be used to accelerate the implementation of RI by ensuring the total financing needed.

The RSFF has been evaluated by a group of independent experts (IEG) in 2010.¹²³ The IEG report was highly positive about the first phase of the RSFF, highlighting that the RSFF helped drastically to expand the financing of RDI and has achieved very considerable results, even beyond initial expectations. The IEG also mentioned that improvements are possible for still under-represented beneficiaries (SMEs and research infrastructures) through introducing change of risk-sharing. For the period 2011-2013, the Commission has endorsed these recommendations in its Response to the FP7 and RSFF Interim Evaluation Reports¹²⁴.

The European Council on 4 February 2011¹²⁵ invited the Commission to present proposals by end-2011 for scaling-up the RSFF and for assessing how best to meet the needs of fast-growing innovative companies. On 9 March 2011¹²⁶, the Competitiveness Council acknowledged the RSFF success and called upon the Commission, in liaison with the EIB, to urgently improve the take-up for SMEs and research infrastructures in particular. The European Parliament has also called for an expansion of the RSFF and for diversifying the risk-sharing structures (including via a portfolio and first-loss piece approach).

Taking into account high demand for RSFF loans until now and the new projects in the pipeline, the RSFF may reach its lending limits before 2013. In this context, an Amendment N° 4 to the EU/EIB RSFF Cooperation Agreement has been adopted by the Commission and jointly signed by the EU and the EIB on 5 December 2011. Amendment N° 4 mainly aims to tackle these issues and political requests by:

1. changing the risk-sharing mechanism for the whole RSFF from a project-by-project to a Portfolio First-Loss Piece (PFLP) approach with the EU assuming a higher risk, and overcoming technical restrictions of the current risk-sharing methodology;
2. clarifying the definition of eligible entities of the research infrastructures to target any entity participating to the achievements of the "Research Infrastructure" Programme (e.g. not only research infrastructures, but also suppliers and entities commercialising their outputs);

¹²³ <http://ec.europa.eu/research/evaluations>.

¹²⁴ COM(2011) 52 final – 9 February 2011.

¹²⁵ EUCO 2/11, 4 February 2011 Conclusions, page 8, point 22.

¹²⁶ Final Council conclusions 6932/11.

3. creating three portfolios: for standard RSFF operations (compartment 1); for SME and small mid-cap companies (RSI)¹²⁷, implemented by the EIF, as an EIB financial intermediary (compartment 2); and for research infrastructures (compartment 3).

These changes will not increase the share of the EU contribution covering the administrative costs of the EIB and/or its financial intermediary(ies) (including EIF). These costs remain limited to a maximum of 4% which may be increased by additional, success-related 2% (6% in total as a maximum), subject to the achievement of performance indicators. Moreover, as the EU contribution to the RSFF is foreseen in Annex IV to the 2012 Work Programme "Cooperation", Amendment N° 4 has no financial impact on the RSFF budget.

It is noteworthy that the first RSFF loans for research infrastructures have been signed and should be followed by other signatures in the near future.

08 18: Capacities — Risk-sharing finance facility (EIB)		
SPECIFIC OBJECTIVE 1	Support additional investment in European Research Infrastructures through a financing facility with risk-sharing components (RSFF)	
Result indicators	Latest known result (June 2011)	Target (result)
Volume of RSFF supported loans and guarantees provided to European research infrastructures projects (amount of approved loans by the EIB)	€ 345 million	Up to € 2 billion of approved loans by 2013
Volume of RSFF supported loans and guarantees provided to European research infrastructures projects (amount of signed loans by the EIB)	€ 225 million	Up to € 2 billion of signed loans by 2013
Volume of FP7 contribution used to support RSFF loans and guarantees provided to European research infrastructures projects	€ 149.1 million ^{128 129}	Up to €200 million of FP7 contribution by 2013 for covering of expected and unexpected losses related to RSFF operations
Main outputs for 2012		

Main expenditure-related outputs	Budget line	2012	
		Output (no.)	EUR million¹³⁰
Proposals retained for funding in the area of:			
Commission Decision/Agreement with EIB ¹³¹	08.18.01	0	0,000
Total	08.18.01	0	0,000

¹²⁷ RSI: Risk-Sharing Instrument.

¹²⁸ Primary credits including interest, not including EFTA and Third Country appropriations – since 2007

¹²⁹ This amount represents 100% of the budget availability for the period 2007-2011, in compliance with the two steps approach as required by the European Parliament and the Council in the FP7 basic acts. Indeed the EU financial contribution is broken down in two parts: a first tranche of € 500 million (out of which € 100 million from SP Capacities) for the period 2007-2010; a second tranche, subject to the result of an interim evaluation in 2010, of € 500 million (out of which € 100 million from SP Capacities) for the period 2011-2013 (in 2011:€50 million, in 2012: € 0 million, in 2013: € 50 million).

¹³⁰ The EFTA contribution is not included.

¹³¹ One agreement for the whole 7th Framework Programme and for both Cooperation and Capacities Specific Programmes. Subject to the agreement of the Council and the European Parliament for the second tranche of the EU financial contribution.

08 19 CAPACITIES – COHERENT DEVELOPMENT OF RESEARCH POLICIES

This activity helps to ensure that Member States and the Union's research policies and actions are developed in a coherent, coordinated and mutually reinforcing manner, towards the shared objectives of building an Innovation Union, achieving the European Research Area (ERA), and increasing the overall R&D expenditure in the EU to 3% of GDP.

Due to the expected crucial contribution of research and innovation to Europe's future growth and jobs, the European Council tasked the Commission with developing a complementary headline indicator on innovation. This indicator, expected to be defined by the end of 2012, will report on the weight of fast-growing innovative enterprises in the economy.

Actions planned for 2012 will reflect the policy orientations set out in the Innovation Union Flagship Initiative adopted by the Commission in October 2010. In particular they will support:

- The development of EU and national research and innovation policies (ex. monitoring progress towards achieving the ERA objectives namely in the context of the European Semester; monitoring and analysis of Member States' research and innovation policies and systems);
- Initiatives to improve the business environment and make it more innovation-friendly as well as to develop business-academia collaborations and partnerships;
- The development of a solid knowledge base to reinforce the EU, national and regional research and innovation policies as well as policy coordination through mutual learning activities;
- The functioning of the European Research and Innovation Advisory Board;
- The European Forum on Forward Looking Activities, created in 2011 in order to provide a long-term perspective to EU research and innovation policy and strengthen common awareness of key challenges facing European society;
- The Innovation for Growth expert group (I4G), created in 2011 in order to provide strategic economic advice to EU research and innovation policy.

08 19 : Capacities — Support for coherent development of research policies		
SPECIFIC OBJECTIVE 1	Increase the quantity and quality of public and private R&D expenditure	
Result indicators	Latest known result	Target (result)
Public expenditure on R&D (GOVERD+HERD) as % GDP	2010: EU27: 0.76; 2009: JP: 0.71; CN: 0.46; 2008: US: 0.66	1% GDP by 2020
Business expenditure on R&D (BERD) as % GDP	2010: EU27: 1.23; 2009: JP: 2.53; CN: 1.25; 2008: US: 2.02	2% GDP by 2020
Main outputs for 2012		
<ul style="list-style-type: none"> - "State of the Innovation Union 2012 – accelerating change". Communication from the Commission to the European Parliament and the Council on the State of the Innovation Union including the establishment of a new Europe 2020 innovation headline indicator and the mainstreaming of innovation across EU policies 		

Main expenditure-related outputs ¹³²	Budget line	2012	
		Output (no.)	EUR million ¹³³
Proposals retained for funding in the area of:			
FP7-COH-2012 PROCURERS		1	1,100
Development of RDI policies in ERA context		1	1.3
Monitoring and analysis of national RDI policies		1	5.244
Support to European Research and Innovation Area Board		1	0.60
Improvement of the business environment		3	0.85
Improvement of links between business and academia		2	0.50
Support to cross-cutting aspects related to the implementation of European Innovation Partnerships	08.19.01	1	0.90
Strengthening of the evidence base and monitoring of innovation performance		2	1.08
Support to Member States policy co-ordination and mutual learning activities		2	1.20
Support to European Forum for Forward Looking Activities		1	0.28
Total	08.19.01		13.054

¹³² The figures are only an estimate, as the precise number of proposals will only be known once the evaluation has taken place.

¹³³ For each type of output, this is the total cost of the outputs produced. The EFTA contribution is not included.

08 20 EURATOM – FUSION ENERGY

Among the key challenges identified in the Commission's Communications on Europe 2020 and Energy 2020 are climate change and energy security. The European fusion research programme addresses both. Harnessing nuclear fusion as a viable energy source is a scientific and technological issue of the highest order. In the words of Energy 2020, fusion is part of the vision for “a low carbon, resource efficient and climate resilient economy by 2050”.

Owing to the scale of fusion research and the need for expertise in a wide range of disciplines, the European fusion programme has been for many years a joint effort by Euratom, the EU Member States and Switzerland.

In 2012, the European fusion research programme will continue to provide funding for the construction of ITER. As ITER's host, Europe has the greater responsibility for its success. It will supply the highest proportion of its technical components, almost half, while the six other countries (China, India, Japan, Korea, Russia, and the USA) will provide the rest.

To ensure that Europe will be in position to reap the full scientific and industrial benefits from ITER's construction and exploitation and that it remains world leader in fusion research, adequate funding should be provided in 2012 for the collective scientific exploitation of the Joint European Torus and the fusion research laboratories (Associations). All these require the Commission's strong involvement, both in the governance and oversight of cost containment within ITER and in steering the research programmes carried out in Member States' laboratories to ensure that they remain focussed on the essential objectives.

08 20 : Euratom — Fusion energy		
SPECIFIC OBJECTIVE	Ensure timely and cost controlled progress in the construction of ITER, prepare for its future operation, and lay the foundations for future demonstration power plants.	
Result indicators	Latest known result	Target (result)
Degree of realisation of ITER (number of milestones met by Joint Undertaking Fusion for Energy, F4E)	15 milestones completed as of September 2011 (out of 126 planned for 2009-2019)	100% of milestones met by F4E by 2019. First Plasma in November 2020. The start of Deuterium-Tritium operation is planned for March 2027
Number of scientific publications on JET	70 submissions of manuscripts for publication in journals (data for 2008) more recent data to be provided	About 60 ¹³⁴ submissions of manuscripts for publication in journals resulting from about 100 days of JET operation
% of R&D work under EFDA ¹³⁵ Task Agreements completed on time ¹³⁶	80%	85% by 2013
% of R&D work under Contracts of Association completed on time ²	85%	85% by 2013
Number of fusion researchers and engineers trained for the needs of ITER and the	Since the start of FP7, Goal Oriented Training projects of 3 year duration and Fusion	At least 150 researchers/engineers obtaining high-level skills and/or

¹³⁴ Target is lower for 2012 due to the JET shutdown in 2009 for major enhancements.

¹³⁵ EFDA stands for European Fusion Development Agreement.

¹³⁶ = due date + 3 months (to allow for reporting).

programme	Researcher Fellowships (2 years) have been launched for a total of 111 researchers and engineers, corresponding to 304 PPY ¹³⁷ of training	academic qualifications by 2013
Level of researcher mobility in fusion R&D	Every year, more than 100 PPY of work at other laboratories by more than 800 researchers under the fusion Mobility Agreement	Maintain the level of mobility at more than 100 PPY in 2013
Main outputs for 2012		
<ul style="list-style-type: none"> - Commission Decision on the amendment n°8 to the "JET Implementing Agreement" (JIA) - Commission Decision approving the conclusion of the Power Plant Physics and Technology Implementing Agreement under EFDA - Commission Decision modifying the Annex to Commission Decision of 31.08.2007 (C(2007)4042) and Annex I to Commission Decision of 16.08.2007 (C(2007)3859) - Rules on industrial policy, for the European Joint Undertaking for ITER - Amendment of a Council decision establishing the European Joint Undertaking for ITER 		

Main expenditure-related outputs	Budget line	2012	
		Output (no.)	EUR million
Construction of ITER	08.20.02	1	1.067,900
Support for the European fusion research laboratories including training projects and fellowships	08.20.01	26	56,374
Support for the collective scientific exploitation of the Joint European Torus (JET)		30-40	pm ¹³⁸
Support for the mobility of researchers		1	4,000
Others ¹³⁹			1,000
Total	08 20		1.129,274

¹³⁷ PPY stands for person per year.

¹³⁸ Pro memoria.

¹³⁹ Includes costs of preparatory studies (by appropriate procurement procedure) and evaluations.

08 21 EURATOM – NUCLEAR FISSION AND RADIATION PROTECTION

Nuclear research activities co-funded by the Euratom Framework Programme (2012 - 2013) contribute to the implementation of Europe 2020 and Energy 2020 strategies. The Euratom Programme is instrumental in extending Europe's leadership in this field of research and innovation, and in particular contributes to maintaining a high level of safety with special focus on any necessary research emerging following the analysis of the Fukushima accident. This research plays also a key role in developing and maintaining nuclear competencies, fostering radiation protection and advancing medical uses of radiation.

The Euratom Framework Programme aims to strengthen research and innovation in the nuclear field and coordinate Member States' research efforts, thereby avoiding duplication, retaining critical mass in key areas and ensuring that public funding is used in an optimal way. To attain these goals, the Programme provides a financial catalyst which triggers further investments and joint programming in key topics as part of national and corporate research and innovation programmes.

In 2012, in the area of nuclear systems and safety, Euratom projects will contribute to the pre-conceptual design and related activities for advanced nuclear systems, insofar as this effort remains exclusively focused on safety. In the waste management domain, Euratom will continue supporting joint research activities on deep geological disposal as part of the strategy to ensure the operation of the first repositories in the EU by 2020-25. In the area of radiation protection, joint research activities will address concerns European citizens may have on the possible long-term health effects of low radiation doses, especially from the use of radiation in medical diagnostic and therapeutic techniques. Optimisation of the risk-benefit relationship will enable the EU medical imaging industry to gain an important advance.

08 21 : Euratom — Nuclear fission and radiation protection		
SPECIFIC OBJECTIVE 1	Generate new knowledge in all top priority areas in nuclear fission and radiation protection	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Coverage of topics being granted priority in the Specific Programme ¹⁴⁰	100% ¹⁴¹	100% by 2013
Projects that achieved <u>all</u> or <u>most</u> of their objectives...	100% (based on 6 finished projects ¹⁴²)	90% by 2013
of which projects that achieved <u>all</u> their objectives	83%	75% by 2013
SPECIFIC OBJECTIVE 2	Promote transformation of research results into industrial applications and/or increased protection of man and the environment	
Result indicators	Latest known result (Dec. 2011)	Target (result)
Projects with publications in peer reviewed journals	Data not yet available ¹⁴³	50% by 2013
Projects which generate patent applications or other types of intellectual property rights ¹⁴⁴	Data not yet available ¹⁴³	10% by 2013

¹⁴⁰ This indicator covers the topics published in the annual calls for proposals launched under the 'Euratom nuclear fission and radiation protection' Theme of the Seventh Framework Programme. The last calls will be launched in 2012.

¹⁴¹ For the past 2-3 years the focus has been on 'bottom-up' topics each covering a large part of the Euratom Specific Programme: geological disposal, nuclear systems & safety, and radiation protection.

¹⁴² The number includes finished projects funded through all types of funding schemes, i.e. Coordination and Support Actions, Collaborative Projects, Networks of excellence and other.

¹⁴³ The sample of finished projects funded through the funding schemes "Collaborative Projects" and "Networks of Excellence" is not representative enough (1 project on 1 December 2011).

EU financial contribution to industry ¹⁴⁵	17,8% ¹⁴⁶	20% by 2013
Industrial penetration in the projects ¹⁴⁷	79% ¹⁴⁶	75% by 2013
EU financial contribution to SMEs ¹⁴⁸	5,5% ¹⁴⁶	15% by 2013
SMEs penetration in the projects	54% ¹⁴⁶	50% by 2013
Main outputs for 2012		

Main expenditure-related outputs	Budget line	2012	
		Output (no.)	EUR million
Proposals retained for funding in the area of:	08.21.01		
Geological disposal of radioactive waste		Max. 2	9,000
Reactor Systems (includes nuclear safety & waste management as part of fuel cycle – i.e. P&T)		Max. 6	20,000
Radiation Protection		Max. 3	15,000
Human Resources, mobility and training; infrastructures; regional dimension; cooperation with 3 rd Countries		Max. 7	9,400
Others ¹⁴⁹		Max. 3	0,70
Total	08.21.01		54,1

¹⁴⁴ In the field of Nuclear Fission and Radiation Protection, the intellectual property acquired during the project implementation could result in patent applications not only during the lifetime of the project and Euratom Framework Programme, but also in the 10-15 years after the end of the project.

¹⁴⁵ Industry corresponds to "private for profit" category which may include consultancies.

¹⁴⁶ The results are calculated on the basis of ongoing projects - 102 on 1 December 2011.

¹⁴⁷ Excluding projects in radiation protection, which attracts funding only from public funding agencies.

¹⁴⁸ SMEs participation in the Nuclear Fission and Radiation Protection programme is marginal.

¹⁴⁹ Includes costs of evaluation, small studies (via call for tender) and occasional subscription payments mentioned in the WP.

08 22 COMPLETION OF PREVIOUS FRAMEWORK PROGRAMMES AND OTHER ACTIVITIES

This Activity addresses the necessity to ensure the execution of the on-going actions resulting from previous Framework Programmes, mainly the Fifth and Sixth Framework Programmes and the dissemination and the exploitation of their outputs.

In 2012, the FP6 Marie Curie Actions, which represent around 4500 projects, will come to an end. Dissemination activities, raising awareness on the best practices resulting from these projects, are envisaged in the form of a high level conference, the publication of a book comprising examples of best practices and the launching of a dedicated web-site.

08 22 COMPLETION OF PREVIOUS FRAMEWORK PROGRAMMES AND OTHER ACTIVITIES		
SPECIFIC OBJECTIVE:	Enhance previous Framework Programmes outputs through exploitation and dissemination of results	
Result indicator	Latest known result (Sept. 2011)	Target (result)
Percentage of results ¹⁵⁰ published in the CORDIS database under FP6/FP5 ¹⁵¹	47%%	70% by 2013
Main outputs for 2012		

¹⁵⁰ The results do not include Marie Curie projects under FP5 since no new results are produced for these actions nor under FP6 since no results have been available so far in CORDIS. The results of all Marie Curie actions carried out under FP6 will be available early 2012 and will be taken into account in the next update of the Management Plan 2012.

¹⁵¹ The FP5 projects may have more than one results however they are counted only once in the CORDIS database.

08 23 RESEARCH PROGRAMME OF THE RESEARCH FUND FOR COAL AND STEEL

Coal and steel remain key global industrial sectors. Coal accounts for around 40% of total world electricity generation. Accounting for around 18% of world steel production, the European steel industry is now the second world leader after China, which accounts for around 35%. In addition, it is being increasingly challenged by other Asian countries.

The Research Fund for Coal and Steel (RFCS) was created in 2003, following the expiry in 2002 of the 50-year old European Coal and Steel Community (ECSC) Treaty, which initiated the process of European integration. The Fund annual budget of €55-60 million comes from interest paid on ECSC residual assets. This budget, managed separately from the Seventh Framework Programme, is used to support industrial research projects in the field of coal (27.2%) and steel (72.8%).

Thus, it contributes to the achievement of the European Research Area by supporting the competitiveness of coal mining technologies, clean coal technologies, steel production and utilisation.

08 23 : Research programme of the research fund for coal and steel		
SPECIFIC OBJECTIVE 1	Enhance the generation of new knowledge in coal and steel with practical relevance at EU level	
Result indicators	Latest known result (2010 RFCS call)	Target (result)
Percentage of selected proposals with "very good to excellent" scientific and technical approach ¹⁵²	28,9 %	40% by 2013
Percentage of selected proposals with a "very good to excellent" innovative content ¹⁵³	62,2%	40% by 2013
Percentage of selected proposals with "very good to excellent" EU added value ¹⁵⁴	46,7%	60% by 2013
SPECIFIC OBJECTIVE 2	Promote the transformation of research results into commercial and industrial applications	
Result indicators	Latest known result (2010 RFCS call)	Target (result)
Percentage of participation of industrial beneficiaries in RFCS ¹⁵⁵ projects	39,1%	40% by 2013
Main outputs in 2012		

¹⁵² See results in Coal and Steel individual evaluation form (criterion 1).

¹⁵³ See results in Coal and Steel individual evaluation form (criterion 2).

¹⁵⁴ See results in Coal and Steel individual evaluation form (criterion 5).

¹⁵⁵ Research Fund for Coal and Steel.

ACRONYMS

AC: Associated Country
AdG: Advanced Investigator Grants
AWBL: Activities Without Budget Line
CAP: Common Agriculture Policy
CFP: Common Fisheries Policy
COMM: Communication of the Commission
CORDIS: Community Research & Development Information Service
CO2: Carbon Dioxide
CWP: Commission Work Programme
DG AGRI: Directorate-General for Agricultural and Rural Development
DG ENTR: Directorate-General Enterprise and Industry
DG ENV: Directorate-General for the Environment
DG INFSO: Directorate-General Information Society and Media
DG MARE: Directorate-General for Maritime Affairs and Fisheries
DG SANCO: Directorate-General Health and Consumers
DIS: Dedicated Implementation Structure
ECSC: European Coal and Steel Community
EDCTP: European and Developing Countries Clinical Trials Partnership
EFDA: European Fusion Development Agreement
EFPIA: European Federation of Pharmaceutical Industries and Associations
EGCI: European Green Cars Initiative
EIB: European Investment Bank
ENP: European Neighbourhood Policy
EPO: European Patent Office
EPR: European Partnership for Researchers
ERA: European Research Area
ERANET: FP scheme for coordination of national and regional research programmes.
ERAWATCH: Integrated Information system for ERA
ERC: European Research Council
ERCEA: European Research Council Executive Agency
ESFRI: European Strategy Forum for Research Infrastructures
ESNII: European Sustainable Nuclear Industrial Initiative
EU: European Union
EURATOM: European Atomic Energy Community
EUREKA: Pan-European framework for research and development cooperation

EUROSTAT: Statistical Office of the European Communities
FCH JU: Fuel Cells and Hydrogen Joint Undertaking
FP: Framework Programme
FP6: Sixth Framework Programme
FP7: Seventh Framework Programme
F4E: Fusion for Energy
GDP: Gross Domestic Product
GERD: Gross Expenditure in R&D
GMO; Genetically modified organism
HIV/AIDS: Human immunodeficiency virus / Acquired immune deficiency syndrome
ICPC: International Cooperation Partner Countries
IEG: Group of Independent Experts
IMI: Innovative Medicines Initiative
IMS: Intelligent Manufacturing Systems
INCO: International Cooperation
ISG: International Study Group
ITER: International Thermonuclear Experimental Reactor
IU: Innovation Union
JAP: Joint Action Plan
JET: Joint European Torus
J(E)TI: Joint (European) Technology Initiative
JP: Joint Programming
JPI: Joint Programming Initiative
KIS: Knowledge Intensive Service
KBBE: Knowledge Based Bio-Economy
MEP: Member of the European Parliament
MS: Member State
NCP: National Contact Point
NMP: Nanoscience, Nanotechnology, Materials and New Production Technologies
NRP: National Reform Programme
OECD: Organisation for Economic Cooperation and Development
PC: Programme Committee
PCT: Patent Cooperation Treaty
pm: pro memoria
PPP: Public-Private Partnership
PPS: Purchasing Power Standards
PPY: Professional per Year

PRO: Public Research Organisation
RDI: Research, Development, Demonstration and Innovation
REA: Research Executive Agency
REGPOT: Regional Potential Project
RFCS: Research Fund for Coal and Steel
RI: Research Infrastructures
ROI: Return on Investment
RRI: Responsible Research and Innovation
RSFF: Risk-Sharing Finance Facility
RTD: Research and Technological Development
R&D: Research and Development
SCAR: Standing Committee on Agricultural Research
ScC: Scientific Council
SET: Strategic Energy Technology Plan
SFIC: Strategic Forum for international S&T cooperation
SICA: Specific International Collaboration actions
SINAPSE: Scientific Information for Policy Support in Europe
SiS: Science in Society
SME: Small and Medium-sized Enterprise
SP: Specific Programme
SPP: Strategic Planning and Programming
SRA: Strategic Research Agenda
SSH: Social Sciences and Humanities
StG: Starting Independent Researcher Grants
S&T: Science &Technology
TFUE: Treaty on the Functioning of the European Union
US(A): United States of America
WP: Work Programme