Management Plan 2014

Directorate-General for Research and Innovation

Message from the Director-General

Signs of economic recovery are finally beginning to appear in the European Union after five years of economic crisis. But they are fragile and we must continue the agenda of reforms and smart fiscal consolidation.

Promoting growth and jobs will remain at the heart of the European Commission's work programme for 2014.

DG Research and Innovation will continue to promote the reforms needed at national level to unlock the growth potential of research and innovation policy and investments, in particular through proposals for country-specific recommendations in the framework of the European Semester.

DG Research and Innovation will also continue to ensure the implementation of the Innovation Union commitments, aimed at putting in place the right framework conditions for research and innovation in Europe.

Closely linked to this exercice is the work to ensure the completion of the European Research Area (ERA) in 2014, as called for by the European Council. This will require further policy and structural reforms and can only be successful if there is a full commitment of Member States and stakeholder organisations.

In 2014, DG Research and Innovation will develop, in collaboration with DG Economic and Financial Affairs, a Commission Communication focussed on the role of research and innovation as new sources of growth. This Communication will assess how the innovation economy promotes competitiveness and will provide an evidence base for identifying priority investments alongside the necessary structural reforms.

The growth and jobs strategy also requires increased investment in research and innovation at regional, national and EU level. The DG will directly contribute to this priority by ensuring an effective implementation of the first wave of calls for proposals of Horizon 2020, with EUR 15 billion (in current prices) for the first two years. Horizon 2020 has been designed to support top quality research and innovation to optimise the impact of these funds on the EU's growth potential.

The set of partnerships proposed through the Innovation Investment Package are an essential element of Horizon 2020. This package of public-private and public-public partnerships would represent an investment of EUR 22 billion over the next seven years. At the time of writing, negotiations are proceeding fast and an adoption by the budgetary authority in the first quarter of the year is in sight.

To be in a position to take up all these challenges, DG Research and Innovation has revised its structure to match the available resources with the new challenges and put a renewed focus on policy activities like the analysis of national policies, programming and foresight.

This evolution coincides with the delegation of the implementation of most of the Horizon 2020 programmes to Executive Agencies. At the same time, the DG will keep its role as coordinator of the overall programming of the Horizon 2020 implementation and continues to be in charge of the management of ongoing FP7 projects.

In order to measure the progress made by the EU towards an innovation economy and the contribution of Horizon 2020 to this, the following five indicators will be given special attention:

1. 3% of the EU's GDP to be invested in R&D (Europe 2020 headline target: 3% by 2020);
2. The EU Innovation Indicator (target under discussion in the context of the European Semester);
3. Progress in the implementation of the Innovation Union commitments (target: full implementation by 2020);
4. Share of funds allocated to SMEs in the Horizon 2020 societal challenges and in the enabling and industrial technologies (target: 20% by 2020)
5. Share of grants signed with a time-to-grant within 240 days (Target by 2020: 100%)

Robert-Jan Smits

Director-General

DG Research and Innovation

1. DG RESEARCH AND INNOVATION'S MISSION STATEMENT

The Directorate-General for Research and Innovation defines and implements European Research and Innovation (R&I) policy with a view to achieving the goals of the Europe 2020 strategy and its key flagship initiative, the Innovation Union.

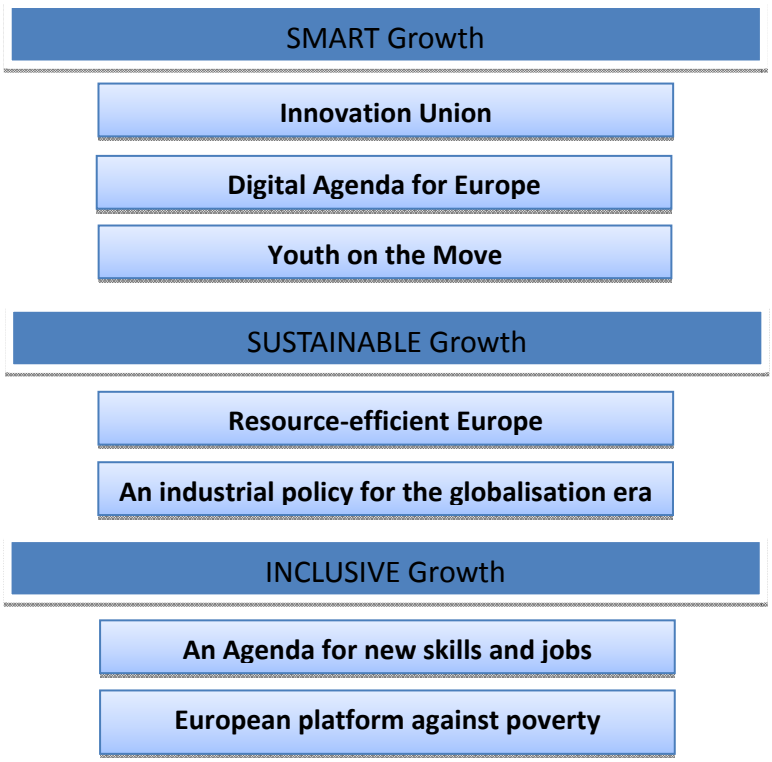
To do so, the DG contributes to the European Semester by analysing national R&I policies, by assessing their strengths and weaknesses, and by formulating country specific recommendations where necessary. It monitors and contributes to the realisation of the Innovation Union flagship initiative and the completion of the European Research Area. It funds excellent Research and Innovation through Framework Programmes based on strategic programming.

2. EUROPEAN COMMISSION'S STRATEGIC PRIORITIES: EUROPE 2020

2.1. Europe 2020 Priorities and Flagship Initiatives

The European Commission's strategic priorities are contained in Europe 2020, the European Union's ten-year growth strategy. It addresses ways to strengthen our growth model and create the conditions necessary for a smarter, more sustainable and more inclusive growth.

The strategy includes seven 'flagship initiatives' providing a framework through which the EU and national authorities mutually reinforce their efforts in areas supporting the Europe 2020 priorities: innovation, the digital economy, youth, resource efficiency, industrial policy, employment and poverty.



2.2. Europe 2020 headline targets

In this framework, five headline targets have been set for the EU to achieve by the end of the decade. These cover employment; research, development and innovation; climate and energy; education; and poverty reduction and social inclusion.

Europe 2020 headline targets	Latest known result	Target for 2020
Employment	68.5% (2012)	75% of the 20-64 year-olds to be employed
Research and Innovation	2.06% (2012)	3% of the EU's GDP to be invested in R&D
	104.4 (2011) – Reference 100 in 2010	Innovation indicator - *Pending decision in the context of the European Semester*
Climate change and energy sustainability	17% (2011)	Greenhouse gas emissions 20% lower than in 1990
	13% (2011)	20% of energy from renewables
	11.2% (2011) (final energy consumption)	20% increase in energy efficiency
Education	12.8% (2012)	Reducing the rates of early school leaving to below 10%
	35.8% (2012)	At least 40% of 30-34 year-olds completing third level education
Fighting poverty and social exclusion	0.5 million more than in 2005 (2012)	At least 20 million fewer people in or at risk of poverty and social exclusion

3. DG RESEARCH AND INNOVATION'S GENERAL OBJECTIVES

3.1. Introduction

The objectives pursued by the Directorate-General for Research and Innovation are based on the research and innovation components of the EU 2020 Strategy.

First of all, an overarching objective that encapsulates the objectives of the Innovation Union flagship initiative and provides a direct link with the priorities of the Europe 2020 Strategy, i.e. to improve Europe's competitiveness, boost growth and create jobs to make Europe a better place to live and work.

Overarching objective: to boost research and innovation in the EU and optimise its impact

This overarching objective is pursued by the DG through two General Objectives, the responsibility of which is shared with other Commission DGs and with the Member States:

- **General Objective 1: to establish the right framework conditions for research and innovation**

  To set up the framework conditions necessary to enable the EU to become a more vibrant, innovation-based economy by contributing to recommendations addressed to the EU Member States for improving their R&I systems and policies, by implementing the Innovation Union agenda and by contributing to the completion of the European Research Area.

- **General Objective 2: to increase investment in research and innovation**

  To support and facilitate progress by the Member States towards the objective of dedicating 3% of the EU GDP to R&D. At EU level, to ensure an efficient and effective implementation of Horizon 2020, the EU framework programme for research and innovation.

3.2. Progress indicators

The General Objectives of the European Commission's services are accompanied by impact indicators, which measure long-term changes in EU society. The achievement of the targets for the impact indicators below is mainly the responsibility of the Member States, with the Commission playing the role of catalyst and facilitator.

<table>
<tr><th colspan="2">GENERAL OBJECTIVE 1</th><th colspan="2">To establish the right policy framework for research and innovation</th></tr>
<tr><th colspan="2">Impact indicators</th><th>Latest known result</th><th>Target for 2020</th></tr>
<tr><td colspan="2">Innovation Indicator (reference 100 in 2010)[1]</td><td>104.4 (2011)</td><td>Pending decision in the context of the European Semester</td></tr>
<tr><th colspan="2">GENERAL OBJECTIVE 2</th><th colspan="2">To increase investment in research and innovation</th></tr>
<tr><th colspan="2">Impact indicators</th><th>Latest known result</th><th>Target for 2020</th></tr>
<tr><td rowspan="2">Gross expenditure on R&D as a percentage of GDP[2]</td><td>Public expenditure</td><td rowspan="2">2.06% (2012)
Public exp: 0.76%
Private exp: 1.3%</td><td rowspan="2">3%
Public exp: 1%
Private exp: 2%

Europe 2020 headline target</td></tr>
<tr><td>Private expenditure</td></tr>
</table>

1 Source: Commission calculations.
2 Source: Eurostat.

4. DG RESEARCH AND INNOVATION'S SPECIFIC OBJECTIVES AND ABB ACTIVITIES

4.1. Specific Objectives: Overall introduction

To make progress towards these two General Objectives, DG Research and Innovation carries out activities which directly pursue a set of 5 Specific Objectives.

General Objective 1: to establish the right framework conditions for research and innovation

Specific Objective 1: to contribute to the European Semester, in particular through country-specific recommendations

In collaboration with other Commission services, DG Research and Innovation takes part in the annual European Semester exercise. Its objective is to support Member States in improving their national research and innovation systems, in particular through country-specific recommendations.

Specific Objective 2: to implement the Innovation Union commitments

The Innovation Union flagship initiative is the European Union's strategy to create an innovation-friendly environment in which researchers and entrepreneurs can enjoy the best conditions to innovate. DG Research and Innovation plays a leading role in its overall implementation and leads some of its most important initiatives.

Specific Objective 3: to contribute to the completion of the European Research Area

As set out in Article 179 of the Treaty on the Functioning of the EU (TFEU), the Union has the objective of achieving a European research area in which researchers, scientific knowledge and technology circulate freely. DG Research and Innovation supports the efforts of Member States and research organisations to implement the policies and the reforms needed to achieve this objective.

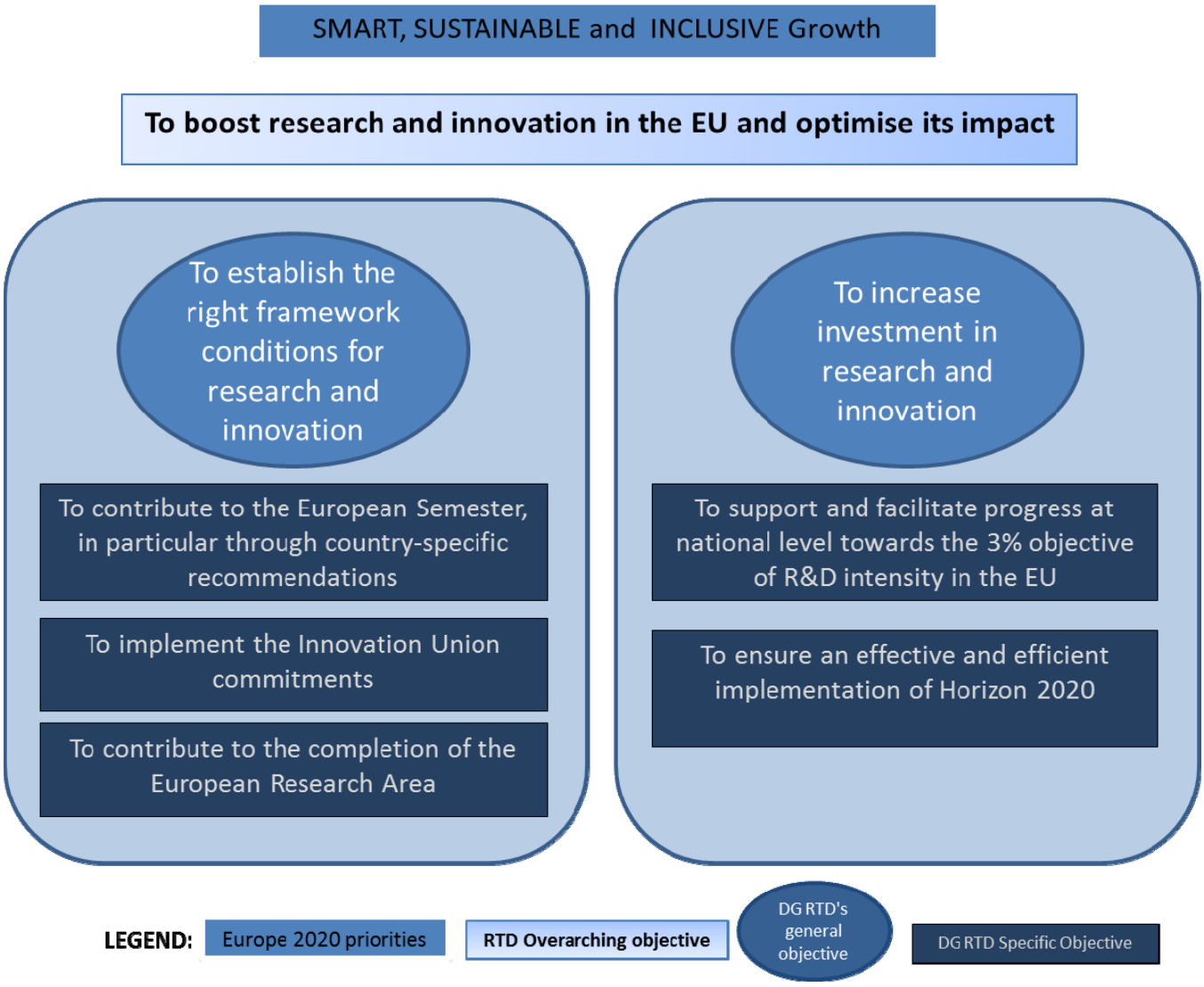
General Objective 2: to increase investment in research and innovation

Specific Objective 4: to support and facilitate progress at national level towards the 3% objective of R&D intensity in the EU

The Europe 2020 headline target of dedicating 3% of the EU GDP to research and development translates into national targets for the Member States. The European Commission monitors the implementation of these targets and supports Member States in making the right choices to increase the R&D investment in both the public and private sectors.

Specific Objective 5: to ensure an effective and efficient implementation of Horizon 2020

Horizon 2020 is the EU Framework Programme for Research and Innovation. With a budget of nearly €80 billion (in current prices) for the period 2014-2020, it provides a major opportunity for boosting innovation and growth in the EU. It will focus on three major areas: excellent science, industrial leadership and societal challenges. Complementing Horizon 2020 are three other spending programmes, which will also contribute to the EU research and innovation policy in specific fields: the Euratom Framework Programme, the ITER Programme and the Research Fund for Coal and Steel.



4.2. DG Research and Innovation's ABB activities

In the European Commission, each Directorate-General uses a set of Activity-Based Budgeting (ABB) codes, which correspond to activities with or without budget allocations. The DG's ABB codes correspond to the four spending programmes it manages (Horizon 2020, the Euratom Framework Programme, the ITER Programme and the Research Fund for Coal and Steel) and to its policy priorities (Innovation Union, European Research Area and international cooperation). The ABB codes presented in this section have not been used to

structure this Management Plan. In order to provide a more strategic view of DG RTD's mission, it focusses on objectives, and many of these objectives cut across different activities.

ABB activity: 08 02 – Horizon 2020	
EU competence	Article 182(1) TFEU.
EU added-value	Horizon 2020 focuses on objectives and activities that cannot be efficiently accomplished by Member States acting alone. It seeks to reduce fragmentation in the EU research landscape, to avoid duplication and to exploit synergies between the research made by the Member States and by the private sector. In addition, EU-level intervention has the potential to generate the critical mass and economies of scale needed to achieve new results, to cover a wider scope and to take on the high risk of novel approaches.
Main components of the EU intervention	Horizon 2020 is the EU spending programme for research and innovation.
Responsibilities of the Commission	The Commission is responsible for the implementation of Horizon 2020 in accordance with the EU financial regulation. The Commission makes use of indirect management to entrust part of the implementation of Horizon 2020 to other funding bodies.
Intervention logic	1. The Commission provides support to research and innovation activities through grants or financial instruments. 2. This support allows public and private actors in the research community, acting together or individually, to create new scientific content, new ideas and new solutions (the Commission also remunerates directly the creators of such outputs through prizes). 3. This output can be either freely shared to contribute to scientific advance or become an asset for the actors involved in its creation. 4. Through the valorisation of this asset, new products and services are created (the Commission also stimulates the creation of such products and services through procurement). 5. Through market mechanisms, these new products and services contribute to enhance the competitiveness of the EU economy.
Contribution to DG RTD specific objectives	- To ensure an effective and efficient implementation of Horizon 2020. - To implement the Innovation Union commitments. - To contribute to the completion of the European Research Area.

Financial resources 2014 (€) in commitment appropriations			**Human resources 2014**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
4.993.823.448	169.237.438	5.163.060.887	554	256	810

ABB activity: 08 03 – Euratom Framework Programme	
EU competence	Article 7(1) of the Treaty establishing the European Atomic Energy Community (Euratom).
EU added-value	Euratom is well positioned to provide added value through exploiting synergies between research efforts of the Member States and of the private sector, thereby avoiding duplication and retaining critical mass in key areas. The Euratom Framework Programme also takes on the high risk and long-term R&D programme in fusion energy, thereby sharing the risk and generating a breadth of scope and economies of scale that could not otherwise be achieved.
Main components of the EU intervention	The Euratom Framework Programme is the EU spending programme for research and innovation in the nuclear research field.
Responsibilities of the Commission	The Commission is responsible for the implementation of the Euratom Programme in accordance with the EU financial regulation. The Commission makes use of indirect management to entrust part of the implementation of the Euratom Framework Programme to other funding bodies.
Intervention logic	1. The Commission provides support to research and innovation activities through grants or financial instruments. 2. This support allows public and private actors in the research community, acting together or individually, to create new scientific content, new ideas and new solutions (the Commission also remunerates directly the creators of such outputs through prizes). 3. This output can be either freely shared to contribute to scientific advance or become an asset for the actors involved in its creation. 4. Through the valorisation of this asset, new products and services are created (the Commission also stimulates the creation of such products and services through procurement). 5. Through market mechanisms, these new products and services contribute to enhance the competitiveness of the EU economy.
Contribution to DG RTD specific objectives	- To ensure an effective and efficient implementation of Horizon 2020. - To implement the Innovation Union commitments.

Financial resources 2014 (€) in commitment appropriations			**Human resources 2014**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
158.594.600	16.952.000	175.546.600	61	14	75

ABB activity: 08 04 – ITER Programme	
EU competence	Article 47(3, 4) of the Treaty establishing the European Atomic Energy Community and International Agreement on the establishment of the ITER International Fusion Energy Organization for the Joint Implementation of the ITER Project.
EU added-value	The scale required for the construction of a large-scale research infrastructure like ITER is unprecedented and requires collaboration at global level, as well as at EU level. The contribution of Euratom to the construction of ITER provides the critical mass and economies of scale required to build and operate this infrastructure.
Main components of the EU intervention	The ITER Programme provides the contribution of the European Atomic Energy Community ('Euratom') to the ITER Organization (IO) and to the Broader Approach activities with Japan; it also prepares and coordinates a programme of activities in preparation for the construction of a demonstration fusion reactor and related facilities.
Responsibilities of the Commission	The Commission makes use of indirect management to entrust the implementation of the ITER Programme to the European Joint Undertaking for ITER and the Development of Fusion Energy (F4E). The Commission represents Euratom in the governing bodies of both the IO and F4E.
Intervention logic	1. The Commission provides the Euratom contribution from the EU budget to the Joint Undertaking Fusion for Energy (F4E) annually. 2. F4E funds the construction of the ITER facility using the Euratom contribution and the contributions from European states through procurement, mostly to private companies. 3. Companies and institutions funded by F4E contribute to the construction of ITER under the leadership of the IO and in coordination with actors funded by the other parties to the ITER Agreement.
Contribution to DG RTD specific objectives	- To ensure an effective and efficient implementation of Horizon 2020. - To implement the Innovation Union commitments.

Financial resources 2014 (€) in commitment appropriations			**Human resources 2014**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
720.917.805	7.107.000	728.024.805	44	3	47

ABB activity: 08 05 – Research Fund for Coal and Steel	
EU competence	Protocol, annexed to the Treaty establishing the European Community, on the financial consequences of the expiry of the European Coal and Steel Community Treaty and on the Research Fund for Coal and Steel.
EU added-value	Intervention at EU level is the best-suited to ensure the best use for the revenues from the reserves of the European Coal and Steel Community, which expired in 2002. These revenues are used for research in the coal and steel sectors.
Main components of the EU intervention	The Research Fund for Coal and Steel is the EU spending programme for research and innovation in the fields of coal and steel.
Responsibilities of the Commission	The Commission is responsible for the implementation of the Research Fund for Coal and Steel in accordance with the EU financial regulation.
Intervention logic	1. The Commission provides support to research and innovation activities through grants. 2. This support allows public and private actors in the research community, acting together or individually, to create new scientific content, new ideas and new solutions. 3. This output can be either freely shared to contribute to scientific advance or become an asset for the actors involved in its creation. 4. Through the valorisation of this asset, new products and services are created. 5. Through market mechanisms, these new products and services contribute to enhance the competitiveness of the EU economy.
Contribution to DG RTD specific objectives	- To ensure an effective and efficient implementation of Horizon 2020.

Financial resources 2014* (€) in commitment appropriations			**Human resources 2014**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
p.m.	p.m.	p.m.	13	11	24

* This activity is not financed by the EU budget, but by a fund created from the revenues generated from the assets of the now extinct European Coal and Steel Community (ECSC), which were transferred to the European Union in 2002.

ABB activity: AWBL 04 – Innovation Union and European Research Area	
EU competence	Innovation Union: Articles 173(1) and 180 TFEU. European Research Area: Article 179 TFEU.
EU added-value	Innovation Union: The sort of changes needed in the existing framework conditions in order to unleash innovation in the EU cannot be achieved by Member States acting alone. European Research Area (ERA): The objective of the ERA is to remediate the fragmentation of national and regional research systems, which leads to costly duplication and overlaps. This objective cannot be achieved by Member States acting alone.
Main components of the EU intervention	Innovation Union and European Research Area: both initiatives are focussed on the changes needed to improve the framework conditions for research and innovation in the EU and use a wide range of instruments.
Responsibilities of the Commission	The Commission is responsible for the implementation of the Innovation Union commitments and of the European Research Area actions, in collaboration with the EU Member States and the research community.
Contribution to DG RTD specific objectives	- To implement the Innovation Union commitments. - To contribute to the completion of the European Research Area.

Financial resources 2014 (€) in commitment appropriations			**Human resources 2014**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
-	-	-	95	44	139

ABB activity: AWBL 05 – International Cooperation					
EU competence	Article 180(b) of the Treaty on the Functioning of the European Union; Article 101 of the Treaty establishing the European Atomic Energy Community.				
EU added-value	Both the Member States and the European Union are involved in research and innovation cooperation activities with non-EU countries. Joining forces will help increase the impact of the pursued activities, optimise the use of available resources and avoid duplication of efforts.				
Main components of the EU intervention	In the framework of the EU external action, research and innovation policy dialogues are held with third countries and regions. In the framework of the EU research and innovation programmes, collaboration is promoted with third countries and regions.				
Responsibilities of the Commission	The Commission is responsible for the research and innovation components of the EU external action and, in particular, for the implementation of the international cooperation policy in EU research and innovation programmes.				
Contribution to DG RTD specific objectives	- To ensure an effective and efficient implementation of Horizon 2020. - To implement the Innovation Union commitments.				
Financial resources 2014 **(€) in commitment appropriations**			**Human resources 2014**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
-	-	-	54	41	95

4.3. Specific Objectives one by one

IMPORTANT NOTES

- The source for all the indicators, unless otherwise specified, is the Horizon 2020 common IT system.
- Indicators under Horizon 2020 do not cover Euratom activities, which are covered by indicators under the Euratom Framework Programme.

SPECIFIC OBJECTIVE 1

TO CONTRIBUTE TO THE EUROPEAN SEMESTER, IN PARTICULAR THROUGH COUNTRY-SPECIFIC RECOMMENDATIONS

Each European Semester, the European Commission analyses the fiscal and structural reform policies of every Member State, provides recommendations, and monitors their implementation. In the second phase of the annual cycle, known as the National Semester, Member States implement the policies they have agreed upon.

The European Semester begins with the publication of the Annual Growth Survey, in which the Commission sets out the key economic policy priorities for the year to come. DG Research and Innovation contributes to this output for the areas under its responsibility, based on the permanent monitoring of Member States' R&I policies, the performance of their R&I systems and their contribution to growth and jobs. EU leaders consider the report in March and agree on a common direction. In April, Member States report to the Commission on the specific policies they are implementing and intend to adopt in order to boost growth and jobs.

The Commission then assesses the Member States' plans. DG Research and Innovation focusses specifically on R&I policies and contributes to the country-specific recommendations (CSRs) the Commission makes to each Member State, accompanied by Staff Working Documents that justify the CSRs and provide an analysis of the R&I situations at national level.

These policy recommendations are discussed between Member States' ministers in June, endorsed by EU leaders in July, and incorporated by governments into their national budgets and other reform plans during the National Semester.

Relevant general objective: To establish the right framework conditions for research and innovation		
Specific objective: To contribute to the European Semester, in particular through Country-Specific Recommendations	☒ Spending programme ☐ Non-spending	
Output indicator: Number of Member States for which the Commission adopted a R&I CSR / Number of Member States for which DG Research & Innovation proposed a R&I CSR (percentage)		
Baseline (2012-2013 average)	Milestone (2016)	Target (2020)
92%	Above 80%	Above 80%

Informative table: Country-Specific Recommendations proposed by the Commission in the field of Research and Innovation

Country	2012-2013*	2013-2014**
Austria		
Belgium		
Bulgaria		
Croatia		
Cyprus		Not covered**
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Hungary		
Italy		
Latvia		
Lithuania		
Luxembourg		
Malta		
Netherlands		
Poland		
Romania	Not covered*	
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		

* See COM(2012)299. Greece, Ireland, Portugal and Romania should implement existing commitments under EU/IMF financial assistance programmes.

** See COM(2013) 350. Cyprus, Greece, Ireland and Portugal should implement commitments under EU/IMF financial assistance programmes.

SPECIFIC OBJECTIVE 2

TO IMPLEMENT THE INNOVATION UNION COMMITMENTS

The Innovation Union flagship Initiative provides the framework for most of DG Research and Innovation's activities. It aims to create the best conditions for Europe's researchers and entrepreneurs to innovate. For this purpose, it seeks to remove any obstacles that prevent innovators from translating ideas into new products and services that can be sold on world markets. The main focus is to ensure progress in the implementation of the Innovation Union's commitments.

2.1 Implementing and monitoring the Innovation Union commitments

The European Commission develops the initiatives set out by the Innovation Union, assists Member States in reforming their innovation systems, promotes the exchange of best practices and monitors progress. DG Research and Innovation plays a central role in this process: in addition to coordinating all initiatives, it leads some of the most important ones, in particular those related to Horizon 2020.

The Innovation Union initiatives are structured on the basis of 7 major focus areas:

- strengthening the knowledge base and reducing fragmentation;
- getting good ideas to the market;
- maximising social and territorial cohesion;
- pooling forces to achieve breakthroughs: European Innovation Partnerships;
- leveraging our policies externally;
- reforming research and innovation systems;
- measuring progress in the Innovation Union.

2.2. Monitoring the implementation of the Innovation Union commitments

As regards the last focus area, DG Research and Innovation is developing economic analyses and indicators to underpin R&I policy assessment and development at EU, national and regional levels. The Innovation Union Competitiveness Report is one of the main products of this activity. The State of the Innovation Union Report provides an annual update of the progress at Member State- and EU-levels towards achieving the Innovation Union's commitments, as set out in the Innovation Union communication of 2010 (COM(2010)546). Progress is assessed and discussed every two years at the Innovation Convention.

The Innovation Union Scoreboard annually monitors Member States' broader progress through its 25 indicators covering 8 dimensions of innovation. A European Public Sector Innovation Scoreboard may also be regularly published, based on a pilot experience in 2013.

Relevant general objective: To establish the right framework conditions for research and innovation		
Progress on the Innovation Union commitments	☐ Spending programme ☒ Non-spending	
Result indicator: Number of Innovation Union commitments on track or achieved		
Baseline (2010)	Milestone (2012)	Target (2020)
0	28/33	33/33

Commitment number	Commitment title	Progress by 2012*
Strengthening the knowledge base and reducing fragmentation		
1	Put in place national strategies to train enough researchers	
2-A	Test feasibility of independent university ranking	
2-B	Create business-academia "Knowledge Alliances"	
3	Propose an integrated framework for e-Skills	
4	Propose an ERA framework and supporting measures	
5	Construct the priority European Research Infrastructures	
6	Simplify and focus future EU Research and Innovation Programmes on the Innovation Union	
7	Ensure stronger involvement of SMEs in future EU Research and Innovation Programmes	
8-A	Strengthen the science base for policy-making through the Joint Research Center	
8-B	Set up a Forum on Forward Looking Activities	
9	Set out the EIT Strategic Agenda	
Enhancing access to finance for innovative companies		
10	Put in place EU-level financial instruments to attract private finance	
11	Ensure cross-border operation of venture capital funds	
12	Strengthen cross-border matching of innovative firms with investors	
13	Review State Aid Framework of R&D&I	
Getting good ideas to the market		
14	Deliver the EU Patent	
15	Screen the Regulatory framework in key areas	
16	Speed-up and modernise standard-setting	
17-A	Set aside dedicated national procurement budgets for innovation	

17-B	Set up an EU-level support mechanism and facilitate joint procurement	
18	Present an eco-innovation action plan	
19-A	Establish a European Creative Industries Alliance	
19-B	Set up a European Design Leadership Board	
20	Promote open access and support smart research information services	
21	Facilitate collaborative research and knowledge transfer	
22	Develop a European knowledge market for patents and licensing	
23	Safeguard against the use of IPRs for anti-competitive purposes	
Maximising social and territorial cohesion		
24-25	Improve the use of Structural Funds for research and innovation	
26	Launch a Social Innovation Pilot and promote social innovation in the European Social Fund	
27	Support a research programme on public sector and social innovation, and pilot a European Public Sector Innovation Scoreboard	
28	Consult social partners on interaction between the knowledge economy and the labour market	Not taken up
Pooling forces to achieve breakthroughs: European Innovation Partnerships		
29	Present proposals for European Innovation Partnerships	
Leveraging our policies externally		
30	Put in place integrated policies to attract global talent	
31	Propose common EU/MS priorities and approaches for scientific cooperation with third countries	
32	Roll out global research infrastructures	
Reforming research and innovation systems		
33	Self-assess national research and innovation systems and identify challenges and reforms	
Measuring Progress		
34-A	Develop an innovation headline indicator	2013
34-B	Monitor progress using the Innovation Union Scoreboard	

* Green: On Track – Red: Delayed. Source: State of the Innovation Union 2012 - Accelerating change (COM(2013)149).

2.3. Main 2014 Initiatives

- Communication on Research and Innovation as new sources of growth (DG ECFIN co-responsible), with accompanying Staff Working Document - Innovation Union progress report (CWP 2014).
- Second Innovation Convention.

SPECIFIC OBJECTIVE 3

TO CONTRIBUTE TO THE COMPLETION OF THE EUROPEAN RESEARCH AREA

The objective of the European Research Area (ERA) is to create the conditions needed to optimise the contribution of research to European growth and job creation. Notably, ERA aims at ensuring that no barriers remain for the free circulation of researchers, scientific knowledge and technology in the EU.

The Commission contributes to ERA through Horizon 2020 which, next to national public research funding available in Member States, is an important financial pillar for delivering ERA. It is also the Commission's responsibility to contribute to the overall ERA policy debate and implementation and to support mutual learning and the exchange of good practice between Member States. Following the conclusions of the European Council of 04 February 2011, the Commission plans to create, by 2014, all the conditions necessary for the Member States and other stakeholders to complete the ERA.

Every year, the Commission issues the ERA Monitoring Mechanism, which assesses progress in the implementation by Member States, research stakeholder organisations and the Commission of the set of ERA actions identified in the ERA Communication of July 2012[3].

3.1 Effectiveness of national research systems

Competitive research funding and performance based institutional assessments contribute to the efficiency of public money invested in research and should be at the core of research funding decisions in the European Union, applying international peer-review principles.

In the framework of Horizon 2020, competitive funding and international peer expertise are the core principles of funding allocation. The share of competitive funding and of performance-based institutional funding is also rising among Member States, while a majority of Member States increasingly apply the core principles of international peer review and several employ foreign peer reviewers to seek greater independence in evaluations.

3.2. Transnational cooperation

Policy activities	Innovation Union and European Research Area (AWBL 04)
ABB 08 02 - Horizon 2020	Cross-cutting issues: "Funding for Public-Public Partnerships" and "Contribution to the realisation of the European Research Area"

Europe needs critical mass to efficiently address grand challenges and to make the best use of available resources in Europe. Joint activities allow the mobility of cross-border

[3] COM(2012)392 of 17 July 2012.

complementarities to avoid unnecessary duplication of efforts, to exploit synergies and to carry out large scale research that cannot be addressed by a single country.

Horizon 2020 is the most powerful instrument supporting transnational cooperation of research teams among the Member States and Associated Countries. Importantly, it also strengthens transnational coordination of national research programmes through the different categories of Public-Public Partnerships:

- ERA-NET actions support the implementation of individual joint calls for proposal with co-funding from the EU that lead to transnational research and/or innovation projects, and other joint activities;
- Partnerships undertaken on the basis of Article 185 of the TFEU for the joint implementation of national research programmes. DG Research and Innovation is expected to oversee four such partnerships, three of which were proposed for renewal in 2013, for a total EU contribution of up to €1.270 million (Commission proposal):
  - European and Developing Countries Clinical Trials Partnership (EDCTP 2) - Societal Challenge Health (EU contribution up to €683 million);
  - Eurostars 2, dedicated to R&D performing SMEs (EU contribution up to €287 million);
  - The European Metrology Programme Research & Innovation (EMPIR) (EU contribution up to €300 million);
  - The BONUS Article 185 initiative; its renewal might be considered depending on the results of the interim evaluation in 2014.
- Joint Programming Initiatives, initiated by Member States, play a key role in jointly addressing ten major societal challenges. Some of these are linked to the Horizon 2020 Societal Challenges. The Commission will assist all of them in the development of their Strategic Research Agendas (SRAs) and Implementation Plans, through coordination and support measures. The Commission might invest (together with Member States) in those which are best suited for additional Public-Public Partnerships.

<table>
<tr><td colspan="4">Relevant general objective: To establish the right framework conditions for research and innovation</td></tr>
<tr><td colspan="3">Horizon 2020 cross-cutting issue: “Funding for Public-Public Partnerships”</td><td>☒ Spending programme
☐ Non-spending</td></tr>
<tr><td colspan="4">Result indicator: Share of participating European states' public funds in the specific sector aligned through Article 185 initiatives[4]</td></tr>
<tr><td></td><td>Baseline (2011)</td><td>Milestone (2017)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">EDCTP</td><td rowspan="2">30%</td><td rowspan="2">40%</td><td>≥50%</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
</table>

[4] For Eurostars 2, see section 2.2.3 Innovation in SMEs

EMPIR	50%	50%	60% *On the basis of FP7 results*
Result indicator: Total public funding per year allocated to transnational calls for proposals in the framework of ERA-NET actions			
Baseline (2013)	Milestone (2016)	Target (2020)	
€450	€500 Million	€750 Million *On the basis of FP7 results*	
Main output in 2014			
Description	Indicator	Target	
Adoption by Council and Parliament of the proposals to renew the Art. 185 initiatives EDCTP and EMPIR	Date of adoption	Adoption by the end of 2014	

3.3. Research infrastructures

Policy activities	Innovation Union and European Research Area (AWBL 04)	
ABB 08 02 - Horizon 2020	Excellent science - Research infrastructures	
	DG RTD (ABB 08 02 01 03)	DG C-NECT (09 04 01 02)
	63.68%	36.32%

The existence of recognised world-level research infrastructures allows Europe to remain at the forefront of top-class scientific and technological development and innovation.

DG Research and Innovation actively participates in the European Strategy Forum on Research Infrastructures (ESFRI), which supports the development of a European policy for research infrastructures. In particular, the ESFRI roadmap identifies new pan-European research infrastructures or major upgrades to existing ones. In this framework, DG Research and Innovation helps Member States to coordinate in order to confirm financial commitments for the construction and operation of ESFRI infrastructures.

The European Research Infrastructure Consortium (ERIC) is an EU-level legal instrument to facilitate the joint establishment and operation of research infrastructures of European interest. An ERIC qualifies as an international organisation, which implies exemptions on VAT rules and public procurement directives. The ERIC status is awarded by Commission Decision.

A Charter of Access will be developed in cooperation with stakeholders. It will set out common standards and harmonised access rules and conditions for the use of research infrastructures.

Relevant general objective: To establish the right framework conditions for research and innovation		
Horizon 2020 cross-cutting issue "Contribution to the realisation of the European Research Area"	☒ Spending programme ☐ Non-spending	
Result indicator: Share of the ESFRI roadmap priority research infrastructures which have been implemented		
Baseline (2010)	Milestone (2015)	Target (2020)
20%	60%	To be defined[5]
Result indicator: Number of European Research Infrastructure Consortia (ERIC) established		
Baseline (2010)	Milestone (2015)	Target (2020)
0	15	30 *On the basis of FP7 results*

3.4 Open labour market for researchers

Policy activities	Innovation Union and European Research Area (AWBL 04)
ABB 08 02 - Horizon 2020	Horizon 2020 cross-cutting issues: "Contribution to the realisation of the European Research Area"; "Science and Society"

A genuinely open and attractive European labour market for researchers is an essential factor for the completion of the ERA. Open, transparent and merit-based recruitment ensures that research systems are able to select from the widest possible pool of talent, thereby generating excellence and fostering mobility.

"EURAXESS - Researchers in Motion" is an initiative on researchers' mobility and careers inside and outside academia, with four pillars. It publishes vacant posts ("jobs"); provides relocation assistance and overcomes administrative and practical barriers ("services"); promotes good employment and working conditions for researchers ("rights"); and provides a forum for networking researchers outside Europe ("links").

The "European Charter for Researchers" and the "Code of Conduct for the Recruitment of Researchers" aim to promote attractive research careers, with open, transparent and merit-based recruitment. DG Research and Innovation also supports stakeholders in the establishment of a pan-European supplementary pension fund for researchers.

The "principles for innovative doctoral training" provide research institutions with guidance to improve doctoral training programmes. DG Research and Innovation collaborates with DG Education and Culture to promote them in EU Programmes.

[5] On the basis of the next prioritisation of the ESFRI roadmap infrastructures, due in 2014.

In addition, DG Research and Innovation collaborates with DG Home Affairs and DG Employment on the elaboration of legal instruments affecting the mobility of researchers.

<table>
<tr><td colspan="3">Relevant general objective: To establish the right framework conditions for research and innovation</td></tr>
<tr><td colspan="2">H2020 cross-cutting issues: “Contribution to the realisation of the European Research Area”</td><td>☒ Spending programme
☐ Non-spending</td></tr>
<tr><td colspan="3">Output indicator: Annual number of research positions advertised in Euraxess Jobs</td></tr>
<tr><td>Baseline (2012)</td><td>Milestone (2016)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">36,500</td><td rowspan="2">45,000</td><td>60,000</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td colspan="3">Output indicator: Number of organisations that have been awarded the HR Excellence in Research logo</td></tr>
<tr><td>Baseline (2013)</td><td>Milestone (2016)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">150</td><td rowspan="2">200</td><td>300</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
</table>

3.5 Gender equality and mainstreaming in research

Policy activities	Innovation Union and European Research Area (AWBL 04)
ABB 08 02 - Horizon 2020	Horizon 2020 cross-cutting issues: “Contribution to the realisation of the European Research Area”; “Gender“

European research still suffers from a substantial loss, and inefficient use, of highly-skilled women, and from a lack of gender dimension in research content. If the number of female PhD graduates has grown significantly in recent years in practically all sectors, women in research remain a minority and the number of women heads of institutions in the higher education sector is very low.

Gender equality is being promoted as a cross-cutting issue in Horizon 2020. In particular, gender balance and gender expertise are taken into account in evaluation panels and other bodies. A balanced participation of men and women is being encouraged in Horizon 2020 projects and Horizon 2020 promotes the integration of the gender dimension/analysis in the content of research and innovation.

<table>
<tr><td colspan="3">Relevant general objective: To establish the right framework conditions for research and innovation</td></tr>
<tr><td colspan="2">Horizon 2020 cross-cutting issue: “Gender”</td><td>☒ Spending programme
☐ Non-spending</td></tr>
<tr><td colspan="3">Output indicator: Share of Horizon 2020-DG RTD projects taking into account the gender dimension in research and innovation content</td></tr>
<tr><td>Baseline (FP7-2013)</td><td>Milestone (2017)</td><td>Target (2020)</td></tr>
</table>

15%	20%	30% *On the basis of FP7 results*

3.6 Optimal circulation and transfer of scientific knowledge

Policy activities	Innovation Union and European Research Area (AWBL 04)
ABB 08 02 -Horizon 2020	Horizon 2020 cross-cutting issues: "Contribution to the realisation of the European Research Area"

Publicly funded knowledge must be available for researchers and the private sector, to enhance the knowledge base, diminish regional discrepancies and promote innovative solutions to societal challenges. Unrestricted access to publications is backed by a growing number of universities, research centres and funding agencies across Europe.

DG Research and Innovation works with Member States for the joint development of the best strategies to improve access to scientific knowledge in order to boost the impact of scientific research and Europe's innovation capacity. A first recommendation "on access to and preservation of scientific information" was issued in July 2012, jointly with DG C-NECT.

Horizon 2020 has established open access to scientific publications as a general principle for all research activities. The access can be immediate upon publication or delayed for a certain period. Horizon 2020 will also promote open access to research data using a flexible approach in the form of a limited pilot action, taking into account differences among scientific areas and among participants.

Under the activity Science with and for Society, Horizon 2020 supports initiatives to develop the accessibility and the use of publicly-funded research results.

Relevant general objective: To establish the right framework conditions for research and innovation		
H2020 cross-cutting issues: "Contribution to the realisation of the European Research Area"	☒ Spending programme ☐ Non-spending	
Result indicator: Share of publications originating from Horizon 2020 projects for which open access is provided		
Baseline	Milestone (2016)	Target (2020)
New approach	100%	100%

3.7. Main 2014 Initiatives

- ERA Progress Report 2014.
- Report on the Interim Evaluation of Article 185 Initiative BONUS.
- Prioritisation by ESFRI of the ESFRI roadmap of research infrastructures.

SPECIFIC OBJECTIVE 4

TO SUPPORT AND FACILITATE PROGRESS AT NATIONAL LEVEL TOWARDS THE 3% OBJECTIVE OF R&D INTENSITY IN THE EU

Europe needs more and better investment in research and innovation to support the competitiveness of its industry and to upgrade its research and innovation system. Public and private investment in R&D is crucial to secure economic growth for Europe; thus the crucial role of the objective of dedicating 3% of the EU GDP to research and development.

4.1 The Europe 2020 Strategy and its five headline targets

The five EU headline targets are at the core of the Europe 2020 Strategy. They define where the EU wants to be by 2020, they steer the Europe 2020 process and are translated into national targets. They represent the direction the EU should take and provide a concrete means to measure the success of the strategy. The targets are backed up by concrete proposals, in particular through flagship initiatives such as the Innovation Union.

The main conditions for success is a real ownership by European leaders and institutions, as well as a coordinated response based on a partnership approach. While the European Council and the Member States have full ownership and are the focal point, the Commission monitors progress towards the targets, facilitates policy exchange and makes the necessary proposals to steer action to advance the EU flagship initiatives. The European Parliament acts as a driving force to mobilise citizens and as co-legislator on key initiatives.

4.2 The R&D intensity 3% target

One of the three Europe 2020 priorities is to develop an economy based on knowledge and innovation (smart growth). The related EU headline target is to dedicate 3% of the EU GDP to research and development. There is a clear need to improve the conditions for private R&D in the EU and many of the measures proposed in the Europe 2020 strategy aim to do this.

To ensure that each Member State tailors the Europe 2020 strategy to its particular situation, the 3% target is translated into national targets and trajectories to reflect each Member State's situation and the level of ambition it is able to reach as part of a wider EU effort to meet the target. Every year, in the framework of the European Semester, the Commission assesses the progress that has been made at EU and national levels towards meeting the 3% target and then presents country-specific recommendations. DG Research and Innovation plays a leading role in this process, providing input for recommendations in the areas of research and innovation.

It is also clear that taking research, development and innovation together gives us a broader perspective, one that is more relevant to business operations and to productivity drivers. For this reason, while keeping the 3% target, the Commission has also developed the Innovation Indicator in a process led by DG Research and Innovation.

Disclaimer: Impact indicators like the one below measure long-term changes in EU society. The achievement of the related targets is mainly the responsibility of the Member States, with the Commission playing the role of catalyst and facilitator.

Relevant general objective: To increase investment in research and innovation				
Impact indicator: Member States' progress towards their national targets contributing to the 3% objective of R&D intensity in the EU			☐ Spending programme ☒ Non-spending	
EU/Member State	**2009**	**2012**	**Trend**	**EU/National target (2020)***
EU	**2.01%**	**2.06%**		**3%**
Austria	2.71%	2.84%		3.76%
Belgium	2.03%	2.24%		3%
Bulgaria	0.53%	0.64%		1.5%
Croatia	0.85%	0.75%		1.5%
Cyprus	0.49%	0.47%		0.5%
Czech Republic	1.35%	1.88%		1%**
Denmark	3.16%***	2.99%		3%
Estonia	1.41%	2.18%		3%
Finland	3.94%	3.55%		4%
France	2.27%	2.26%		3%
Germany	2.82%	2.92%		3%
Greece	n.a.	0.69%	n.a.	0.67%
Hungary	1.17%	1.3%		1.8%
Ireland	1.69%	1.72%		2%****
Italy	1.26%	1.27%		1.53%
Latvia	0.46%	0.66%		1.5%
Lithuania	0.84%	0.9%		1.9%
Luxembourg	1.74%	1.51% (2010)		2.3%
Malta	0.53%	0.84%		0.67%
Netherlands	1.82%	2.16%		2.5%
Poland	0.67%	0.9%		1.7%
Portugal	1.64%	1.5%		2.7%
Romania	0.47%	0.42%		2%
Slovakia	0.48%	0.82%		1%
Slovenia	1.85%	2.8%		3%
Spain	1.39%	1.3%		3%
Sweden	3.62%	3.41%		4%
United Kingdom	1.82%	1.72%		No target*

* As set by Member States in their National Reform Programmes in April 2011

** Public sector only

*** Definition differs

**** Approximately (target: 2.5% as a share of GNP)

SPECIFIC OBJECTIVE 5

TO ENSURE AN EFFECTIVE AND EFFICIENT IMPLEMENTATION OF HORIZON 2020

The objective is to implement Horizon 2020, the EU Framework Programme for Research and Innovation, in an effective and efficient manner. With a budget of nearly €80 billion (in current prices) for the period 2014-2020, it represents a major opportunity for boosting innovation and growth in the EU in the EU. It will focus on three major areas: excellent science (Section 5.1), industrial leadership (5.2) and societal challenges (5.3). Another focus are the Horizon 2020 cross-cutting issues (5.4)

Three interrelated additional objectives are to implement the Euratom Framework Programme (5.5), the ITER Programme (5.6) and the Research Fund for Coal and Steel (5.7) in an effective and efficient manner.

5.1 To strengthen the excellence of European research (ABB 08 02)

5.1.1 To support excellence all across Horizon 2020

As specified in Article 14 of the Rules for participation and dissemination in Horizon 2020, excellence is one of the three award criteria applied to evaluate the proposals submitted for Horizon 2020 funding (with the exception of European Research Council frontier research actions, where it is the sole criterion). This mechanism will ensure that Horizon 2020 focusses its funding on excellent research across the board.

<table>
<tr><td colspan="4">Relevant general objective: To increase investment in research and innovation</td></tr>
<tr><td colspan="3">Specific Objective: To reinforce the excellence of EU research</td><td>☒ Spending programme
☐ Non-spending</td></tr>
<tr><td colspan="4">Result indicator: Publications in peer-reviewed high impact journals in the Societal Challenges and in the enabling and industrial technologies (Horizon 2020-DG RTD)</td></tr>
<tr><td></td><td>Baseline
(FP7-October 2013)</td><td>Milestone (2018)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">Societal challenges</td><td rowspan="2">5,219</td><td rowspan="2">~2,100</td><td>~7,000</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td rowspan="2">Enabling and Industrial technologies</td><td rowspan="2">1,413</td><td rowspan="2">~340</td><td>~1,500</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td>Total</td><td>6,632</td><td>~2,440</td><td>~8,500</td></tr>
</table>

5.1.2 To focus funding on excellence through the European Research Council (ERC)

ABB 08 02 - Horizon 2020	Excellent science - European Research Council (08 02 01 01) - *Implementation delegated to: European Research Council Executive Agency*
	DG RTD: 100%

Horizon 2020 provides attractive long-term funding to support excellent researchers and their research teams to pursue ground-breaking, high-gain/high-risk research. This activity is implemented under the aegis of the ERC, an autonomous science-led funding body governed by an independent Scientific Council.

The ERC assists the best starting researchers with excellent ideas to make the transition to independence through "starting grants" and "consolidator grants". It also supports established researchers through "advanced grants".

In addition to these core funding schemes, the "proof of concept" funding helps ERC grant-holders to bridge the gap between their research and the earliest stage of a marketable innovation.

DG Research and Innovation supports the ERC in the implementation of these activities through a dedicated implementation structure, the ERC Executive Agency (ERCEA).

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Excellent science – European Research Council		☒ Spending programme ☐ Non-spending
Result indicator: Share of publications from ERC-funded projects which are among the top 1% highly cited per field of science (defined as an index[6])		
EU Baseline (citing year: 2010)	ERC Milestone (citing year: 2018)	ERC Target (citing year: 2020)
New approach	1.5	1.8 *On the basis of FP7 results*
Main output in 2014		
Description	Indicator	Target
Launch of calls for proposals and selection of grantees	Share of starting grant applicants who are not EU or Associated Country nationals	12%

[6] In order to ease comparison with reference values for the EU and other parts of the world published regularly in the US Science and Engineering indicators, the share of publications from the ERC will also be indicated by means of the "index of ERC highly-cited publications": a value over 1 indicates that publications from ERC-funded projects are cited at a level above what one would expect, while a value under 1 indicates citation at a level below the expected value, and a result of 1 corresponds to the expected value.

5.1.3 To foster radically new technologies (Future and Emerging Technologies)

ABB 08 02 - Horizon 2020	Excellent science - Future and Emerging Technologies	
	DG RTD (ABB 08 02 01 02)	DG C-NECT (09 04 01 01)
	p.m.	100%

Horizon 2020 supports the development of Future and Emerging Technologies (FET) using different logics of intervention. These will range from completely open, non-prescriptive support to novel ideas (FET Open) to more structured approaches, based on emerging technological areas (FET Proactive) or on challenges that require collaboration across disciplines (FET Flagships).

5.1.4 To endow Europe with world-class research infrastructures

ABB 08 02 - Horizon 2020	Excellent science - Research infrastructures	
	DG RTD (ABB 08 02 01 03)	DG C-NECT (09 04 01 02)
	63.68%	36.32%

Horizon 2020 supports a range of activities in the different phases of the development of research infrastructures of pan-European interest: preparatory, implementation and operational phases. Support will also be provided for the integration and opening of existing research infrastructures of pan-European interest.

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Excellent science - Research infrastructures	☒ Spending programme ☐ Non-spending	
Result indicator: Number of researchers who have access to research infrastructures through Union support		
Baseline (FP7-2013)	Milestone (2018)	Target (2020)
22,000	12,000	20,000[7] *On the basis of FP7 results and of H2020 focus within this priority*

[7] Although the overall budget for research infrastructures has increased in Horizon 2020 compared to FP7, the result for this indicator is expected to slightly decrease, since priority in Horizon 2020 will be given to the new emerging infrastructures as well as to targeting new communities (starting communities) whose infrastructures are usually not able to provide as large an access as the advanced communities.

5.2 To strengthen industrial leadership and competitiveness (ABB 08 02)

5.2.1 Enabling and industrial technologies

ABB 08 02 - Horizon 2020	Industrial leadership – Enabling and industrial technologies		
	DG RTD (08 02 02 01)	DG C-NECT (09 04 02 01)	DG ENTR (02 04 02 01)
	32.22%	56.88%	10.91%

Horizon 200 contributes to boosting Europe's industrial leadership through research, technological development, demonstration and innovation in the following six enabling and industrial technologies: nanotechnologies; advanced materials; biotechnology; advanced manufacturing and processing; information and communication technologies; space.

DG Research and innovation focusses on the first four of the abovementioned technological areas, with the following objectives:

- to fill knowledge gaps to unblock innovation;
- to ensure progress in technological development through the "technology-readiness levels";
- to integrate individual technologies;
- to demonstrate capacity to make and deliver innovative products, systems, processes and services;
- to prove feasibility and added value using industrial pilots;
- to facilitate market uptake of research results using large-scale demonstrators.

Strong private-sector involvement in innovation activities is a prerequisite for funding, while the involvement of small and medium-sized research teams is promoted.

In addition, DG Research and Innovation is responsible for three contractual Public-Private Partnerships (i.e. partnerships based on a contractual relationship between the Commission and the private sector) financed by Horizon 2020: Factories of the Future, Energy-efficient Buildings, and Sustainable Process Industry initiatives.

Strategic international cooperation initiatives will be pursued with leading partner countries in areas of mutual interest and benefit.

Relevant general objective: To increase investment in research and innovation			
Horizon 2020 Specific Objective: Industrial leadership – Leadership in Enabling and industrial technologies (LEIT) ☒ Spending programme ☐ Non-spending			
Result indicator: Patent applications in the different enabling and industrial technologies (Horizon 2020-DG RTD)			
	Baseline (FP7- October 2013)	Milestone (2018)	Target (2020)
Biotech	10	~9	~40 *On the basis of FP7 results*
NMK	161	~50	~210 *On the basis of FP7 results*
Total	171	~59	~250

Main output in 2014		
Description	Indicator	Target
Launch of calls for proposals and selection of proposals	Number of grant agreements (2014 Budget)	94

5.2.2 Access to risk finance

ABB 08 02 -Horizon 2020	Access to risk finance (08 02 02 02)
	DG RTD: 100%

In order to enhance access to risk finance for R&I, Horizon 2020 makes use of two financial instruments:

- the Debt Facility, which provides loans to single beneficiaries for investment in R&I (developed under FP7);
- the Equity Facility, which focusses on early-stage venture capital funds and other potential sources of equity finance (new instrument).

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Access to risk finance		☒ Spending programme ☐ Non-spending
Result indicator: Total investments mobilised via debt financing and Venture Capital investments (EUR)		
Baseline (2013)	Milestone (2017)	Target (2020)
New approach	8 billion	15 billion* **
Output indicator: Number of organisations funded		
Baseline (2013)	Milestone (2017)	Target (2020)
New approach	2.000	5.000*
Result indicator: Amount of funds leveraged (EUR)		
Baseline (2013)	Milestone (2016)	Target (2020)
New approach	15 billion	35 billion*

* Based on the current negotiations, the contribution from other financial institutions that will be made to the SME initiative, SET Plan, Equity Facility for R&I, Piloting Co-Investments by Business Angels in Innovative ICT Firms and TTFF is not available. Consequently the figures might be updated as soon as they are available.

** The target depends on the demand and the type of operations involved.

Main output in 2014		
Description	Indicator	Target
Signature of Delegation Agreements between the Commission and the Entrusted Entities (the EIB and the EIF)	Date of signature	Signature of both agreements in the first semester of 2014

5.2.3 Innovation in SMEs

ABB 08 02 -Horizon 2020	Innovation in SMEs	
	DG RTD (08 02 02 03)	DG ENTR (02 04 02 03)
	50%	50%

To support innovation in SMEs, a specific action promotes transnational, market-oriented innovation of R&D-performing SMEs. This action is implemented through Eurostars, a Public-Public Partnership which has promoted R&D-performing SMEs since 2008.

Based on Article 185 TFEU, it aims at the joint implementation of national research programmes undertaken by several Member States and targets research-intensive SMEs in any sector that can demonstrate their capability to commercially exploit project results.

<table>
<tr><td colspan="3">Relevant general objective: To increase investment in research and innovation</td></tr>
<tr><td colspan="2">Horizon 2020 Specific Objective: Innovation in SMEs</td><td>☒ Spending programme
☐ Non-spending</td></tr>
<tr><td colspan="3">Result indicator: Number of SMEs participating in Eurostars projects selected for funding</td></tr>
<tr><td>Baseline (FP7 – 2013)</td><td>Milestone (2017)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">1,810</td><td rowspan="2">2,000</td><td>4,100</td></tr>
<tr><td>On the basis of FP7 results and the budget proposed by the Commission</td></tr>
<tr><td colspan="3">Main output in 2014</td></tr>
<tr><td>Description</td><td>Indicator</td><td>Target</td></tr>
<tr><td>Adoption by Council and Parliament of the proposal to renew the Art. 185 initiative Eurostars</td><td>Date of adoption</td><td>Adoption by mid-2014</td></tr>
</table>

5.3 To address societal challenges through research and innovation (ABB 08 02)

To pursue research, technological development, demonstration and innovation actions which contribute to address a host of seven societal challenges:

- to improve the lifelong health and wellbeing of all (section 5.3.1);
- to foster a sustainable European Bioeconomy (5.3.2);
- to make the transition to a safe, reliable, sustainable and competitive energy system (5.3.3);
- to achieve a European transport system that is resource-efficient, environmentally-friendly, safe and seamless (5.3.4 Transport);
- to promote sustainable development and a climate change-resilient economy (5.3.5);
- to foster inclusive, innovative and reflective European societies (5.3.6);
- to foster secure European societies (5.3.7).

Two additional objectives are being pursued: to spread excellence and widen participation (5.3.8); and to promote efficient cooperation between science and society (5.3.9).

5.3.1 Health

Horizon 2020	Societal challenges - Health	
	DG RTD (08 02 03 01)	DG C-NECT (09 04 03 01)
	85%	15%

DG Research and Innovation contributes to improving the lifelong health and wellbeing of all by funding research and innovation activities in the following fields: understanding health, wellbeing and disease; preventing, treating and managing disease; active ageing and self-management of health; methods and data; healthcare provision and integrated care.

Under this Horizon 2020 Specific Objective, DG Research and Innovation also finances two major partnerships:

- the Innovative Medicines Initiative (EU contribution up to €1,725 million – Commission proposal), a public-private partnership based on Article 187 TFEU on joint undertakings, the EU invests, together with industry, in solutions to major health challenges.
- the European and Developing Countries Clinical Trials Partnership (EDCTP, EU contribution up to €683 million - Commission proposal), a public-public partnership based on Article 185 TFEU for the joint implementation of national research programmes. The EDCTP is implemented in partnership with 47 sub-Saharan African countries and contributes to the achievement of the Millennium Development Goals, to which the EU is committed.

DG Research and Innovation contributes to international research initiatives, such as the Human Frontier Science Programme (HFSP), the International Rare Diseases Research

Consortium (IRDiRC), the International Initiative for Traumatic Brain Injury Research (InTBIR), the global research collaboration for infectious disease preparedness (GloPID-R) or the Global Alliance for Chronic Diseases (GACD).

<table>
<tr><td colspan="3">Relevant general objective: To increase investment in research and innovation</td></tr>
<tr><td colspan="3">Horizon 2020 Specific Objective: Societal challenges - Health ☒ Spending programme ☐ Non-spending</td></tr>
<tr><td colspan="3">Result indicator: Publications in peer-reviewed high impact journals in the area of health (DG RTD)</td></tr>
<tr><td>Baseline (FP7 – October 2013)</td><td>Milestone (2018)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">3,956</td><td rowspan="2">~1,400</td><td>~4,400</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td colspan="3">Result indicator: Patent applications in the area of health (DG RTD)</td></tr>
<tr><td>Baseline (FP7 – October 2013)</td><td>Milestone (2018)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">186</td><td rowspan="2">~70</td><td>~200</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td colspan="3">Main output in 2014</td></tr>
<tr><td>Description</td><td>Indicator</td><td>Target</td></tr>
<tr><td>Launch of calls for proposals and selection of proposals</td><td>Number of grant agreements (2014 Budget)</td><td>110</td></tr>
</table>

5.3.2 Bioeconomy

<table>
<tr><td rowspan="3">Horizon 2020</td><td colspan="2">Societal challenges - Bioeconomy</td></tr>
<tr><td>DG RTD (08 02 03 02) - Implementation delegated to: Research Executive Agency</td><td>DG AGRI (05 09 03 01)</td></tr>
<tr><td>56.65%</td><td>43.35%</td></tr>
</table>

DG Research and Innovation contributes to accelerating the transition to a sustainable European bioeconomy by bridging the gap between new technologies and their implementation. This implies securing sufficient supplies of safe, healthy and high-quality bio-based products, by developing productive, sustainable and resource-efficient primary production systems, fostering related ecosystem services and the recovery of biological diversity, alongside competitive, low-carbon supply, processing and marketing chains.

For this purpose, it supports research and innovation activities in the following fields: sustainable agriculture and forestry; sustainable and competitive agri-food sector for a safe and healthy diet; aquatic living resources; sustainable and competitive bio-based industries; marine and maritime research.

Under this Horizon 2020 Specific Objective, DG Research and Innovation also finances a public-private partnership based on Article 187 TFEU (EU contribution up to €1,000 million – Commission proposal). With private sector involvement, the Bio-Based Industries' Joint Technology Initiative finances activities with a strong innovation and industrial drive, aimed at delivering technological breakthroughs in the biomass-to-bioproduct value chain.

DG Research and Innovation contributes to international research initiatives, such as the Transatlantic Research Alliance, launched in May 2013 by the EU, Canada and the United States through the Galway Statement on Atlantic Ocean Cooperation, or the International Knowledge-Based Bio-Economy (KBBE) Forum between the EU, Australia, Canada and New Zealand.

<table>
<tr><td colspan="3">Relevant general objective: To increase investment in research and innovation</td></tr>
<tr><td colspan="3">Horizon 2020 Specific Objective: Societal challenges – Bioeconomy ☒ Spending programme ☐ Non-spending</td></tr>
<tr><td colspan="3">Result indicator: Publications in peer-reviewed high impact journals in the area of bioeconomy (DG RTD)</td></tr>
<tr><td>Baseline (FP7 – October 2013)</td><td>Milestone (2018)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">439</td><td rowspan="2">~240</td><td>~1,000</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td colspan="3">Result indicator: Patent applications in the area of bioeconomy (DG RTD)</td></tr>
<tr><td>Baseline (FP7 – October 2013)</td><td>Milestone (2018)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">20</td><td rowspan="2">~8</td><td>~40</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td colspan="3">Main output in 2014</td></tr>
<tr><td>Description</td><td>Indicator</td><td>Target</td></tr>
<tr><td>Launch of calls for proposals and selection of proposals</td><td>Number of grant agreements (2014 Budget)</td><td>30</td></tr>
</table>

5.3.3 Energy

ABB 08 02 - Horizon 2020	Societal challenges - Energy	
	DG RTD (08 02 03 03) – *Implementation delegated to: Innovation and Networks Executive Agency*	DG ENER (32 04 03 01)
	50%	50%

DG Research and Innovation contributes to the transition to a reliable, sustainable and competitive energy system, in the face of increasingly scarce resources, increasing energy needs and climate change.

For this purpose, it supports research and innovation activities in the following fields: reducing energy consumption and carbon footprint by smart and sustainable use; low-cost, low-carbon electricity supply; alternative fuels and mobile energy sources; a single, smart European electricity grid; new knowledge and technologies; robust decision-making and public engagement; market uptake of energy innovation.

Under this Horizon 2020 Specific Objective, DG Research and Innovation also finances the Fuel Cells and Hydrogen 2 Joint Undertaking (EU contribution up to €700 million – Commission proposal), a public-private partnership based on Article 187 TFEU (Joint Undertakings).

DG Research and Innovation contributes to bi-lateral energy cooperation initiatives such as the US-EU Energy Council and to international organizations and initiatives, such as the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA) or the Carbon Sequestration Leadership Forum (CSLF).

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Societal challenges - Energy	☒ Spending programme ☐ Non-spending	
Output indicator: Share of the overall Energy challenge funds allocated to the following research activities: renewable energy, end-user energy-efficiency, smart grids, energy storage and market uptake of energy innovation activities (DG RTD)		
Baseline	Milestone (2016)	Target (2020)
New approach	85%	85%
Result indicator: Publications in peer-reviewed high impact journals in the area of energy (DG RTD)		
Baseline (FP7 – October 2013)	Milestone (2018)	Target (2020)
119	~130	~300 *On the basis of FP7 results*
Result indicator: Patent applications in the area of energy (DG RTD)		
Baseline (FP7 – October 2013)	Milestone (2018)	Target (2020)
36	~40	~90 *On the basis of FP7 results*
Main output in 2014		
Description	Indicator	Target
Launch of calls for proposals and selection of proposals	Number of grant agreements (2014 Budget)	55

5.3.4 Transport

ABB 08 02 - Horizon 2020	Societal challenges - Transport	
	DG RTD (08 02 03 04) - *Implementation delegated to: Innovation and Networks Executive Agency*	DG MOVE (06 03 03 01)
	70%	30%

DG Research and Innovation contributes to achieving the transition to a smart, green and integrated transport system, as well as more efficient and competitive transport-related industries. For this purpose, it funds research and innovation activities in the following fields: resource-efficient transport that respects the environment; better mobility, less congestion, more safety and security; global leadership for the European transport industry; socio-economic and behavioural research and forward-looking activities for policy making.

In addition, DG Research and Innovation focusses on transport and mobility research policy activities aimed to maximise the impact of European funding through an integrated

approach covering both vehicle improvements and horizontal integration of transport system factors.

DG Research and Innovation oversees the implementation of the contractual public-private partnerships (PPP) Green Vehicles, supported via the Horizon 2020 Work Programme. It also foresees the financing of the implementation of the Clean Sky 2 Joint Undertaking (EU contribution up to €1,800 million – Commission proposal), a PPP based on Article 187 TFEU.

DG Research and Innovation makes a specific effort to develop research cooperation with selected international partners to address common challenges in the field of aeronautics and will contribute to bi-lateral transport cooperation initiatives such as the EU-China Urbanisation Partnership.

<table>
<tr><td colspan="3">Relevant general objective: To increase investment in research and innovation</td></tr>
<tr><td colspan="2">Horizon 2020 Specific Objective: Societal challenges - Transport</td><td>☒ Spending programme
☐ Non-spending</td></tr>
<tr><td colspan="3">Result indicator: Publications in peer-reviewed high impact journals in the area of transport (DG RTD)</td></tr>
<tr><td>Baseline (FP7 – October 2013)</td><td>Milestone (2018)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">58</td><td rowspan="2">~30</td><td>~90</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td colspan="3">Result indicator: Patent applications in the area of transport (DG RTD)</td></tr>
<tr><td>Baseline (FP7 – October 2013)</td><td>Milestone (2018)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">31</td><td rowspan="2">~15</td><td>~50</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td colspan="3">Main output in 2014</td></tr>
<tr><td>Description</td><td>Indicator</td><td>Target</td></tr>
<tr><td>Launch of calls for proposals and selection of proposals</td><td>Number of grant agreements (2014 Budget)</td><td>65</td></tr>
</table>

5.3.5 Resource-efficient and climate change-resilient economy

<table>
<tr><td rowspan="2">ABB 08 02 - Horizon 2020</td><td colspan="2">Societal challenges – Resource-efficient and climate change-resilient economy</td></tr>
<tr><td>DG RTD (08 02 03 05) -</td><td>DG ENTR (02 04 03 01)</td></tr>
</table>

Implementation delegated to: Executive Agency

	for Competitiveness and Innovation	
	79.12%	21.88%

DG Research and Innovation contributes to achieving a resource-efficient and climate change-resilient economy by funding research and innovation activities in the following fields: fighting and adapting to climate change; protecting the environment, sustainably managing natural resources, water, biodiversity and ecosystems; sustainable supply of non-energy and non-agricultural raw materials; green economy and society through eco-innovation; comprehensive and sustained global environmental observation and information systems; cultural heritage.

DG Research and Innovation supports the EU Climate Change external policies and contribute to international research initiatives such as the intergovernmental Group on Earth Observations (GEO) or the International Panel on Climate Change (IPCC).

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Societal challenges – Resource-efficient and climate change-resilient economy	☒ Spending programme ☐ Non-spending	
Result indicator: Publications in peer-reviewed high impact journals in the area of resource-efficient and climate change-resilient economy (DG RTD)		
Baseline (FP7 – October 2013)	Milestone (2018)	Target (2020)
751	~240	~1000 *On the basis of FP7 results*
Result indicator: Patent applications in the area of resource-efficient and climate change-resilient economy (DG RTD)		
Baseline (FP7 – October 2013)	Milestone (2018)	Target (2020)
10	~3	~15 *On the basis of FP7 results*
Main output in 2014		
Description	Indicator	Target
Launch of calls for proposals and selection of proposals	Number of grant agreements (2014 Budget)	54

5.3.6 Inclusive, innovative and reflective European societies

ABB 08 02 - Horizon 2020	Societal challenges - Inclusive, innovative and reflective European societies	
	RTD (08 02 03 06) - *Implementation delegated*	C-NECT (09 04 03 02)

	to: Research Executive Agency	
	73.50%	26.50%

DG Research and Innovation contributes to fostering inclusive, innovative and reflective European societies in a context of unprecedented transformations and growing global interdependencies by funding research and innovation activities in the following fields: inclusive societies; innovative societies; reflective societies; cultural heritage and European identity.

Actions are also funded in the area of international cooperation in research and innovation, in particular actions to facilitate the policy dialogue with the Union's partners.

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Societal challenges - Inclusive, innovative and reflective European societies	☒ Spending programme ☐ Non-spending	
Result indicator: Publications in peer-reviewed high impact journals in the area of inclusive, innovative and reflective societies (DG RTD)		
Baseline (FP7 - October 2013)	Milestone (2018)	Target (2020)
120	~100	~200 *On the basis of FP7 results*
Main output in 2014		
Description	Indicator	Target
Launch of calls for proposals and selection of proposals	Number of grant agreements (2014 Budget)	48

5.3.7 Secure European societies

ABB 08 02 - Horizon 2020	Societal challenges - Secure European societies	
	C-NECT (09 04 03 03)	ENTR (02 04 03 02)

Horizon 2020 supports research and innovation activities that contribute to fostering secure European societies in a context of unprecedented transformations and growing global interdependencies and threats, while strengthening the European culture of freedom and justice.

5.3.8 To spread excellence and widen participation

ABB 08 02 - Horizon 2020	Spreading excellence and widening participation (ABB 08 02 04 02) - *Implementation delegated to: Research Executive Agency*
	DG RTD: 100%
	Cross-cutting issue: "Widening the participation"

In order to spread excellence and widen participation, in other words to address the differences in the Research, Development and Innovation (RDI) performances of the Member States, Horizon 2020 funds in particular the following actions:

- the "teaming" of research institutions, with the objective of creating new (or significantly upgrading existing) centres of excellence in low-performing RDI Member States and regions;
- the "twinning" of research institutions, which aims at significantly strengthening a defined field of research in an emerging institution through links with internationally-leading institutions;
- the establishment of "ERA Chairs", which attract outstanding researchers to research institutions with a high potential for research excellence;
- a Policy Support Facility (PSF), which aims to improve the design, implementation and evaluation of national and regional research and innovation policies;

In addition, this priority is promoted all across Horizon 2020 as a cross-cutting issue.

Relevant general objective: To establish the right policy framework for research and innovation		
Horizon 2020 Specific Objective: Spreading excellence and widening participation	☒ Spending programme ☐ Non-spending	
Result indicator: Evolution of the publications in high impact journals in the relevant research fields[8]		
Baseline	Milestone	Target
New approach	*To be defined on the basis of first results*	*To be defined on the basis of first results*
Main output in 2014		
Description	Indicator	Target
Launch of a two-stage call for proposals and selection of projects for the activity "Teaming of research institutions"	Number of "Teaming" proposals selected at Stage 1 (for which the submission of a business plan is required)	7 proposals selected for Stage 2
		On the basis of FP7 pilot actions

5.3.9 Science with and for society

ABB 08 02 - Horizon 2020	Science with and for society (08 02 04 01) - *Implementation delegated to: Research Executive Agency*
	DG RTD: 100%
	Cross-cutting issues: "Contribution to the realisation of the European Research Area", "Science and Society", "Gender"

DG Research and Innovation contributes to building efficient cooperation between science and society and to pair scientific excellence with social awareness and responsibility by pursuing the following objectives:

- to encourage citizens to engage in science and to promote science-based activities;
- to increase the relevance and social acceptability of science and innovation issues;
- to develop a governance framework for the advancement of responsible research and innovation involving all stakeholders;
- to develop the ex-ante assessment of potential environmental, health and safety impacts of research and innovation activities;
- to make scientific and technological careers attractive to young students;
- to improve interactions between scientists, the general media and the public.

[8] For this specific objective no performance indicator has been defined in Annex II of the Horizon 2020 Specific Programme. It has been developed by the Commission services and it is subject to possible revision in the future.

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Science with and for society		☒ Spending programme ☐ Non-spending
Output indicator: Share of research organisations funded implementing actions to promote Responsible Research and Innovation[9].		
Baseline (FP7-2013)	Milestone (2017)	Target (2020)
New approach	50%	75%

[9] For this specific objective no performance indicator has been defined in Annex II of the Horizon 2020 Specific Programme. It has been developed by the Commission services and it is subject to possible revision in the future.

5.4 Horizon 2020 Cross-cutting issues (ABB 08 02)

5.4.1 Strategic Programming

In order to maximise the impact of EU funding and secure the highest added value, a strategic programming process ensures that Horizon 2020 responds to new scientific, technical and economic developments, covers the full research and innovation cycle and contributes significantly towards the EU's overall policy objectives.

Through this process, the implementation of Horizon 2020 is informed by foresight analysis and strategic intelligence. On this basis, resources are focussed on areas of high European added value, strong growth and innovation potential and policy relevance.

The strategic programming process ensures that the programme implementation is integrated and coherent, with increased emphasis on research and innovation priorities that are of a cross disciplinary-nature, cutting across the different societal challenges or the enabling and industrial technologies.

In addition, in order to ensure openness to new ideas and maximise the programme's reach, there is a renewed focus on open, bottom-up areas that respond to ideas from researchers and innovators, alongside the roadmap-based areas.

5.4.2 SMEs participation

ABB 08 02 -Horizon 2020	Horizon 2020 Cross-cutting issue: "SMEs participation"

In order to support innovation in SMEs all across Horizon 2020 (on top of the activities financed under the Horizon 2020 Specific Objective Innovation in SMEs), a four-fold approach is followed:

- a dedicated SME instrument is targeted at all types of SMEs with an innovation potential, in a broad sense[10];
- the Equity Facility and the SME window of the Debt Facility are implemented in coordination with the programme for the competitiveness of enterprises and SMEs (COSME) to support SMEs' R&I and growth;
- Horizon 2020 encourages and supports the increased participation of SMEs in an integrated way across all specific objectives;
- Public-private partnerships ensure an adequate representation of SMEs.

[10] Implementation delegated to the Executive Agency for Competitiveness and Innovation.

Relevant general objective: To increase investment in research and innovation			
Horizon 2020 cross-cutting issues "SMEs participation"			☒ Spending programme ☐ Non-spending
Output indicator: Share of Horizon 2020-DG RTD funds[11] allocated to SMEs; of which share of funds allocated through the SME instrument			
	Baseline	Milestone (2016)	Target (2020)
SMEs - SME instrument	New approach	5%	7% *H2020 mandatory target*
SMEs - total	17.2% (June 2013)	20%	20% *H2020 mandatory target*

5.4.3 To support innovation and attract private participation

ABB 08 02 - Horizon 2020	Horizon 2020 Cross-cutting issues: "Bridging from discovery to market application" and "private sector participation"

Substantial support is provided across Horizon 2020 for innovation activities such as prototyping, testing, demonstrating, piloting, large-scale product validation and market replication. Support to demand-side approaches will be another important feature, notably innovation procurement. Inducement prizes will also be used to spur innovation by setting a concrete, ambitious target without specifying the path to reach it.

In addition, the participation of the private sector will be promoted, as well as the collaboration between private and public actors.

Horizon 2020 activities benefit from interactions with relevant initiatives such as European Technology Platforms and European Innovation Partnerships that can link them to strategies and platforms for the exploitation and roll-out of the innovations.

Relevant general objective(s): To increase investment in research and innovation		
Horizon 2020 cross-cutting issue "bridging from discovery to market application", "private sector participation"		☒ Spending programme ☐ Non-spending
Output indicator: Share of Horizon 2020-DG RTD funds going to private for profit entities		
Baseline (FP7 – June 2013)	Milestone (2016)	Target (2020)
28%	32.8%	32.8% *On the basis of FP7 results and H2020 mandatory target for SMEs*

[11] Total combined budgets for all Horizon 2020-DG RTD specific objectives on societal challenges and the components of the specific objective "Leadership in enabling and industrial technologies" managed by RTD.

Result indicator: Number of joint public-private publications in enabling and industrial technologies and in the Societal Challenges (Horizon 2020-DG RTD)			
	Baseline	Milestone	Target (2020)
Enabling and Industrial technologies	New approach		
Societal Challenges	New approach		
Total	New approach		
Result indicator: Patent applications in the Societal Challenges and in the enabling and industrial technologies (Horizon 2020-DG RTD)			
	Baseline (FP7-October 2013)	Milestone (2018)	Target (2020)
Societal Challenges	268	~130	~390 *On the basis of FP7 results*
Enabling and Industrial technologies	171	~59	~250 *On the basis of FP7 results*
Total	449	~189	~640
Result indicator: Number of prototypes and testing activities in the Societal Challenges and in the enabling and industrial technologies (Horizon 2020-DG RTD)			
	Baseline	Milestone	Target (2020)
Societal challenges	New approach		
Enabling and Industrial technologies	New approach		
Total	New approach		

5.4.4 Public-Private Partnerships (PPPs)

ABB 08 02 -Horizon 2020	Horizon 2020 Cross-cutting issue: "funding for Public-Private Partnerships"

DG Research and Innovation is responsible for four PPPs based on Article 187 TFEU (Joint Undertakings). These partnerships leverage private investment for R&I to address major bottlenecks in their respective Horizon 2020 Societal Challenges for a total EU contribution of up to €5,225 million (Commission proposal):

- the Bio-Based Industries Joint Undertaking - Societal Challenge "Food" (EU contribution up to €1,000 million – Commission proposal);
- the Innovative Medicines Initiative 2 - Societal Challenge "Health" (EU contribution up to €1,725 million – Commission proposal);

- the Fuel Cells and Hydrogen 2 Joint Undertaking - Societal Challenge "Energy" (EU contribution up to €700 million – Commission proposal);
- the Clean Sky 2 Joint Undertaking - Societal Challenge "Transport" (EU contribution up to €1,800 million – Commission proposal).

In addition, the DG is responsible for four contractual PPPs financed by Horizon 2020 (i.e. partnerships based on a contractual relationship between the Commission and the private sector): Factories of the Future, Energy-efficient Buildings, European Green Vehicle and Sustainable Process Industry initiatives.

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 cross-cutting issues "funding for Public-Private Partnerships"		☒ Spending programme ☐ Non-spending
Result indicator: PPPs leverage: total amount of funds leveraged through Article 187 initiatives managed by DG RTD, divided by the EU contribution		
Baseline (FP7)	Milestone (2016)	Target (2020)
1 (€2.27 billion for €2.27 billion of EU contribution from FP7)	0.84	1.43 (€7.47 billion for €5.22 billion of EU contribution from Horizon 2020)
Main output in 2014		
Description	Indicator	Target (2014)
Adoption by the EU Council of the proposals to renew three PPPs (Art. 187) and to establish a new one	Number of PPP proposals adopted by the EU Council	4/4

5.4.5 To engage with international partners on the basis of mutual interest

Policy activities	International Cooperation (AWBL 05)
Horizon 2020	Cross-cutting issue: "International Cooperation"

To engage in research and innovation cooperation with the EU's international partners on the basis of mutual interest and in order to support the EU's excellence and attractiveness, tackle global societal challenges and support EU external policies.

International Cooperation will be mainstreamed across Horizon 2020 through a two-fold approach:

- Entities established in third countries and international organisations will be eligible to participate in Horizon 2020 (openness);
- Targeted international cooperation activities will be developed to promote cooperation with key partner countries and regions on the basis of common interest and mutual benefit. These activities will be developed as part of a strategic planning process of

international cooperation, in particular for each Societal Challenge and for the different enabling and industrial technologies.

To implement international cooperation activities in Horizon 2020, an array of funding instruments are used, such as projects where participation of partner countries is encouraged or mandatory, coordinated calls for proposals with third countries or activities coordinated between the Union and the Member States (ERA-NETs, Article 185 initiatives…).

Under Societal Challenge 6 "Europe in a changing world - inclusive, innovative and reflective societies", activities will be financed which will support the mainstreaming approach, in particular by facilitating the policy dialogue with the Union's partners.

Within and beyond Horizon 2020, DG Research and Innovation will continue to promote the Union's international cooperation activities in research and innovation in the framework of the 20 bilateral Science and Technology Agreements signed with third countries.

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 cross-cutting issue: "International Cooperation"	☒ Spending programme ☐ Non-spending	
Output indicator: Share of third-country participants in Horizon 2020-DG RTD		
Baseline (December 2013)	Milestone (2018)	Target (2020)
5.7%	7%	10%

5.4.6 Sustainable development and climate change

ABB 08 02 -Horizon 2020	Horizon 2020 Cross-cutting issues: "Sustainable development and climate change"

Climate change and sustainable development are being promoted all across Horizon 2020 as cross-cutting issues and information on expenditure related to these issues will be monitored along the programme. Biodiversity-related expenditure is monitored in the programmable parts of Horizon 2020.

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 cross-cutting issue: "Sustainable development and climate change"	☒ Spending programme ☐ Non-spending	
Output indicator: Climate-related expenditure (Horizon 2020-DG RTD)		
Baseline	Milestone (2017)	Target (2020)
New approach	18%	>35%
Output indicator: Sustainable development-related expenditure (Horizon 2020-DG RTD)		
Baseline	Milestone (2017)	Target (2020)
New approach	60%	60%

5.4.7 Social sciences and humanities

Research in social sciences and humanities is being promoted across Horizon 2020 and, in particular, the specific objective Leadership in Enabling and Industrial Technologies and the Societal Challenges.

<table>
<tr><td colspan="3">Horizon 2020 cross-cutting issue: “Social sciences and humanities”</td><td>☒ Spending programme
☐ Non-spending</td></tr>
<tr><td colspan="4">Output indicator: Share of Horizon 2020-DG RTD Work Programme topics with a social sciences and humanities component[12]</td></tr>
<tr><td>Baseline (FP7)</td><td>Milestone (2017)</td><td colspan="2">Target (2020)</td></tr>
<tr><td rowspan="2">New approach</td><td rowspan="2">30%</td><td colspan="2">33%
On the basis of the Work Programme 2014-2015</td></tr>
</table>

[12] In the following Horizon 2020 components: Leadership in Enabling and Industrial Technologies, the Societal Challenges (except inclusive, innovative and reflective European societies), Widening Participation and Science with and for Society.

5.5. Euratom Framework Programme (ABB 08 03)

ABB 08 03 – Euratom Framework Programme	Euratom indirect actions (08 03 01 01 - Fusion and 08 03 01 02 – Fission)
	DG RTD: 100%

Euratom Framework Programme – Fission

DG Research and Innovation uses a range of instruments, such as grants and programme co-fund actions, to fund research and innovation activities within the following fields: safe operation of nuclear systems; development of solutions for the management of ultimate nuclear waste; development and sustainability of nuclear competences at Union level; radiation protection.

Horizon 2020 Euratom four Specific Objectives: Fission		☒ Spending programme ☐ Non-spending
Result indicator: Number of projects (joint research and/or coordinated actions) likely to lead to a demonstrable improvement in nuclear safety practices in Europe		
Baseline (2007-2013)	Milestone (2015)	Target (2018)
41	7	14*
Result indicator: Number of projects contributing to the development of safe long-term solutions for the management of ultimate nuclear waste		
Baseline (2007-2013)	Milestone (2015)	Target (2018)
15	5	8*
Result indicator: Training through research - number of PhD students and Post-Doc researchers supported through the Euratom fission projects		
Baseline (2007-2013)	Milestone (2015)	Target (2018)
200	500	1.000
Output indicator: Number of projects likely to have a demonstrable impact on regulatory practice regarding radiation protection and on development of medical applications of radiation		
Baseline	Milestone (2015)	Target (2018)
33	15	25*
Result indicator: Patent applications on the basis of research activities supported by the Euratom Programme (average per year)		
Baseline (2007-2013)	Milestone (2015)	Target (2018)
2-3	2-3	4

* The target figure is lower than the baseline due to the larger average size of the projects expected in the Euratom Framework Programme (2014-2018)

Euratom Research and Training Programme – Fusion

The Euratom Programme - Fusion implements and supports knowledge management and technology transfer from research to industry. In the long term, the Programme seeks to support the development of a competitive nuclear fusion industrial sector by involving the private sector and, where appropriate, SMEs, in particular through the implementation of a technology roadmap to a fusion power plant with active industrial involvement in the design and development projects.

DG Research and Innovation uses a range of instruments, and in particular a programme co-fund action, to fund research and innovation activities undertaken by members of the consortium of European fusion laboratories, with the following objectives:

- to ensure the swift start of the high-performance operation of ITER, including the use of relevant facilities (e.g. JET, the Joint European Torus);

- to lay the foundations for future fusion power plants by developing materials, technologies and conceptual design.

In addition, in order to promote innovation, special attention will be paid to the knowledge management and technology transfer of the results of the Euratom-funded research to industry.

Relevant general objective(s): To increase investment in research and innovation		
Horizon 2020 Euratom Specific Objective: To promote innovation and industrial competitiveness	☒ Spending programme ☐ Non-spending	
Result indicator: Number of publications in peer-reviewed high impact journals		
Baseline (2010)	Baseline (2010)	Baseline (2010)
800	800	800
Result indicator: Percentage of the Fusion Roadmap's milestones (2014-2018) reached by the Euratom Programme		
Baseline	Milestone	Target (2018)
New approach	New approach	90%
Result indicator: Number of spin-offs[13] from the fusion research under Euratom Programme		
Baseline (2007-2013)	Milestone (2016)	Target (2018)
4	5	10
Result indicator: Patent applications on the basis of research activities supported by the Euratom Programme (average per year)		
Baseline (2007-2013)	Milestone (2015)	Target (2018)
2-3	2-3	4
Result indicator: Number of researchers who have access to research infrastructures through Euratom support		
Baseline (2008)	Milestone (2015)	Target (2018)
Ca. 800	800	1200
Output indicator: Number of fellows and trainees in the Euratom Fusion Programme (average per year)		
Baseline (2007-2013)	Milestone (2015)	Target (2018)
27	50	50

5.6. ITER Programme (ABB 08 04)

[13] Defined as: Technology transfers from the Programme

ABB 08 04 - Horizon 2020 ITER	ITER Programme (08 04 01)
	DG RTD: 100%

Closely related to the Euratom fusion programme, ITER is an experimental fusion reactor, under construction in France, and a major step towards the demonstration of fusion as a sustainable energy source, conducted under the terms of an international agreement.

Procurement of high-tech components to industrial actors is an essential element of the project, with a large impact on industrial competitiveness and job creation. ITER presents a unique opportunity for European high-tech industry and construction companies to gain a competitive advantage in the design of the first generation of fusion power plants, in addition to the spin-off effects these state-of-the-art technologies will have on other industrial sectors.

ITER is an experimental fusion reactor, under construction in the South of France, and a major step towards the demonstration of fusion as a sustainable energy source. ITER is conducted under the terms of the international ITER Agreement, signed by the European Commission (on behalf of Euratom) and six other parties: China, India, Japan, Korea, Russia, and the USA.

DG Research and Innovation represents Euratom in the various ITER fora and oversees the implementation of the Euratom contribution to ITER by the European Joint Undertaking for ITER and the Development of Fusion Energy (Fusion for Energy, F4E).

Relevant general objective(s): To increase investment in research and innovation		
ITER Specific Objective: Construction, operation and exploitation of the ITER facilities, as well as ITER-related activities	☒ Spending programme ☐ Non-spending	
Result indicator: Measuring the progress in the European contribution to ITER construction according to the milestones of Fusion for Energy (F4E)		
Baseline (2012)	Milestone (2016)	Target (2020)
25%	74%	100%

5.7. The Research Fund for Coal and Steel (RFCS) (ABB 08 05)

ABB 08 05 - Research Fund for Coal and Steel	Research Fund for Coal and Steel (08 05 01 & 08 05 02)
	DG RTD: 100%

The RFCS supports research and innovation projects in the coal and steel sectors. These projects cover: production processes; application, utilisation and conversion of resources; safety at work; environmental protection and reducing CO_2 emissions from coal use and steel production.

Relevant general objective: To increase investment in research and innovation		
RFCS Specific Objective: To enhance the safety, efficiency and competitive edge of the EU coal and steel industries		☒ Spending programme ☐ Non-spending
Output indicator: Share of the RFCS funds going to private for profit entities		
Baseline (2013)	Milestone (2016)	Target (2020)
38.9%	40%	40% *On the basis of previous MFF (2007-2013)*

5.8 Main 2014 Initiatives

- New adhesions to the Human Frontier Science Programme Organisation.
- Progress report on the EU strategy for marine and maritime research.
- Communication on Financing Energy Technologies and Innovation.
- Communication on post-2015 priorities of the Group on Earth Observations.
- Communication on Science, Innovation and Society.
- Reply to the final evaluation of Eurostars.
- Commission Report on 2nd interim evaluations of Innovative Medicine, Clean Sky and Fuel Cells and Hydrogen JTIs.
- Association with Horizon 2020 for: Albania, Bosnia & Herzegovina, FYR Macedonia, Israel, Kosovo, Moldova Montenegro, Serbia, the Faroe Islands, and Turkey.
- Renewal of Scientific and Technological (S&T) agreements with Ukraine and India.
- Request for a negotiation mandate to amend the EU-USA S&T Agreement.
- Progress Report on the Implementation of the Strategy for International Cooperation in Research and Innovation.
- Amendment of Council Decision regarding RFCS guidelines for 2014-2020.