Management Plan 2015

Directorate-General for Research and Innovation

Message from the Director-General

The EU is emerging from the worst economic and financial crisis since the Second World War. The economic recovery is still fragile, however, and the agenda of reform and smart consolidation will need to be continued.

Against this challenging background, the new Commission took office on 1 November 2014, with a new Commissioner in charge of the Research, Science and Innovation portfolio, Mr Carlos Moedas.

Commission President Mr Jean-Claude Juncker underlined in his Political Guidelines for the new Commission that promoting jobs and growth will remain at the heart of the new political agenda.

Research, science and innovation are core pillars of the Europe 2020 strategy and among the priority areas for additional investment through the Jobs, Growth, and Investment Package that Mr Juncker has committed himself to. DG Research and Innovation will contribute first and foremost to the Jobs, Growth and Investment priority of this package but it can also make an enormous contribution to the achievement of other priorities of the Junker agenda, such as a Digital Single Market, a Resilient Energy Union, a Strengthened Industrial Base and a Stronger Global Actor.

DG Research and Innovation will do so by taking initiatives that boost research and innovation in Europe and optimise its impact, in particular those initiatives that improve the framework conditions for research and innovation in Europe and that increase the level and quality of research and innovation investment.

DG Research and Innovation will continue to promote the reforms needed at national level to unlock the potential of research and innovation policy and investments, in particular through proposals for Country-Specific Recommendations in the framework of the European Semester, which constitutes the main tool for coordinating economic policy and implementing Europe 2020 at national level. The Policy Support Facility, to be launched in 2015, will help Member States implement those recommendations.

In order to establish the right framework conditions, DG Research and Innovation will continue to implement the Innovation Union flagship initiative, which aims at removing barriers and creating the conditions for innovation to flourish in the EU. In 2015, DG Research and Innovation, as a major contribution to the priority on “A new boost for jobs, growth and investment”, will present a Communication to improve the framework conditions for research, science and innovation.

At the same time DG Research and Innovation will continue to pursue the full completion of the European Research Area (ERA). DG Research and Innovation will continue to support both Member States and research stakeholders when implementing the necessary key reforms and key actions. By mid-2015, Member States will prepare an ERA Roadmap at European level, in close cooperation with the Commission.

The jobs and growth strategy also requires increased and better investment in research and innovation at regional, national and EU level. In 2015, the Innovation Investment Package that was launched in July 2014, which focuses on the competitiveness of key EU industrial sectors and that involves substantial amounts of private and public funding leveraged through Horizon 2020, the Directorate-General's funding programme, will be rolled out.

The other parts of Horizon 2020 will also be implemented effectively through calls for proposals and activities based on the Work Programme 2014-2015, with a budget of €15

billion (in current prices). In 2015, the Work Programme 2016-2017 will be adopted as a result of a comprehensive strategic programming process.

Horizon 2020 will focus on delivery and impact of research, with a greater participation of the private sector and a special attention on SMEs, with a view of reinforcing our industrial leadership. It will also mobilise innovative financial instruments, and maximise synergies with the implementation of the European Structural and investments funds at national and regional level.

DG Research and Innovation itself has arrived at an important crossroads in its history. The implementation of FP7 is reaching a peak and an ex-post evaluation of FP7 will be completed by the end of 2015. The implementation of important parts of Horizon 2020 is being delegated to Executive Agencies. In parallel, DG Research and Innovation is strengthening its policy capabilities. All of this has to be managed in the context of substantial staff cuts resulting not only from the delegation of activities to Executive Agencies but also from the broader Commission staff reduction target.

DG Research and Innovation is continuously redeploying resources to changing workloads and priorities in order to guarantee business continuity in the management of the FP7 legacy and of the parts of Horizon 2020 that are managed in-house and in the development of policy activities while at the same time delivering on the staff cuts objectives. It will continue its efforts during 2015 in order to implement the necessary strategy to close the gap between the current mix of skills and competences necessary to scientific project management and future policy oriented profiles.

In order to measure the progress made by the EU towards an innovation economy and the contribution of Horizon 2020 to this, five Key Performance 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 to be defined at a later stage, based on country-specific progress of Member States);
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 taking a strategic programming approach.

2. EUROPEAN COMMISSION'S STRATEGIC PRIORITIES: EUROPE 2020

2.1. Europe 2020 Priorities and Flagship Initiatives

The European Commission's strategic priorities are elaborated in Europe 2020, the European Union's ten-year growth strategy, launched in 2010. It addresses ways to strengthen our growth model and create the conditions necessary for a smarter, more sustainable and more inclusive growth. The strategy was conceived as a partnership between the EU and its Member States.

To catalyse progress at EU level, the Commission set out 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, digital economy, youth, resource efficiency, industrial policy, employment and poverty.

Four years after launching the Europe 2020 strategy, the Commission published the Communication "Taking stock of the Europe 2020 strategy for smart, sustainable and inclusive growth"[1] in order to take stock of the Europe 2020 strategy, taking into account the financial and economic crisis of recent years and the EU's response to it. Given the enormity of the change that the EU, its Member States, cities and regions have undergone as a result of the crisis, the Commission considered it necessary to launch an EU-wide consultation of all stakeholders on the lessons to be learned and on the main factors that should shape the next stages of the EU's post-crisis growth strategy for 2015-2020. Following the consultation and based on the priorities set by the President Mr Jean-Claude Juncker the Commission will make proposals for the pursuit of the strategy early in 2015.

2.2. Europe 2020 headline targets

The strategy set out five interrelated headline targets for the EU to achieve by 2020 in the areas of employment, research and development, climate change and energy, education and fight against poverty and social exclusion.

Europe 2020 headline targets	Latest known result	Target for 2020
Employment	68.4% (2013)[2]	75% of the 20-64 year-olds to be employed
Research and Innovation	2.02% (2013)[2]	3% of the EU's GDP to be invested in R&D
	101.6 (2012)[3] – (Reference: 100 in 2010)[4]	Innovation indicator - *To be defined at a later stage based on country-specific progress of Member States with respect to the whole of the indicator and its four components*
Climate change and energy sustainability	17.86% (2012)[2]	Greenhouse gas emissions 20% lower than in 1990
	14.1% (2012)[2]	20% of energy from renewables
	12.1% (2012)[2] (final energy consumption)	20% increase in energy efficiency
Education	12.0% (2013)[2]	Reducing the rates of early school leaving to below 10%
	36.9% (2013)[2]	At least 40% of 30-34 year-olds completing third level education
Fighting poverty and social exclusion	1.69 less than in 2005 (EU-28, 2013)[2]	At least 20 million fewer people in or at risk of poverty and social exclusion

[1] COM(2014)130 of 19/3/2014.
[2] Source: Eurostat.
[3] This is a composite indicator with five sub-indicators. The source of data is Eurostat (for four sub-indicators) and OECD (for the patent sub-indicator). The calculations are done by JRC for DG RTD. The results are published annually in the publication 'Innovation Union- progress at country level'.
4 COM(2013)624 of 13/9/2013.

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.

Overarching objective: To make Europe a better place to live and work, by developing and implementing R&I policy to improve Europe's competitiveness, boost its growth, create jobs, and tackle the main current and future societal challenges[5].

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 improve the framework conditions for research and innovation**

  To improve the framework conditions in order to enable the EU to become an 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.

GENERAL OBJECTIVE 1	**To improve the right framework conditions for research and innovation**	
Impact indicators	**Latest known result (2012)**	**Target (2020)**
Innovation Indicator (Reference: 100 in 2010)[4]	101.6 (2012)[6]	*To be defined at a later stage, based on country-specific progress of Member States with respect to the whole of the indicator and its four components*

[5] The overarching objective has been revised following the revised Mission Statement of DG RTD (Ares(2014)2949600 - 09/09/2014).

[6] Source: Commission calculations.

GENERAL OBJECTIVE 2		To increase investment in research and innovation	
Impact indicators		**Latest known result**	**Target for 2020**
Gross expenditure on R&D as a percentage of GDP[2]	Public expenditure	2.02% (2013)[2] Public exp.: 0.72% Private exp.: 1.31%	3% Public exp.: 1% Private exp.: 2%
	Private expenditure		*Europe 2020 headline target*

3.3. Influence of external factors

There are other players and external factors that are likely to influence the achievement of the Objectives. This is particularly true for the objectives related to the completion of the European Research Area (ERA) and 3% R&D intensity in the EU, the achievement of which depends also on actions taken at Member State level.

Specifically, ERA is based on the 28 national research systems of the Member States. It is vital that Member States and regions build up their own research systems, based on their own strengths. The most effective and pragmatic approach for the completion of ERA is a reinforced ERA partnership between Member States, the Commission and research stakeholder organisations, where appropriate.

The achievement of the 3% target of the R&D intensity depends also on actions undertaken by various stakeholders at Member States level. In this case, the private sector is a very important player, with the latest data showing that business enterprise sector in most Member States spends more than the public sector.

Moreover, the achievement of DG Research and Innovation's objectives depends critically on the sufficient availability of commitment and payment appropriations for programmes implementation.

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 five Specific Objectives.

General Objective 1: To improve the 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.

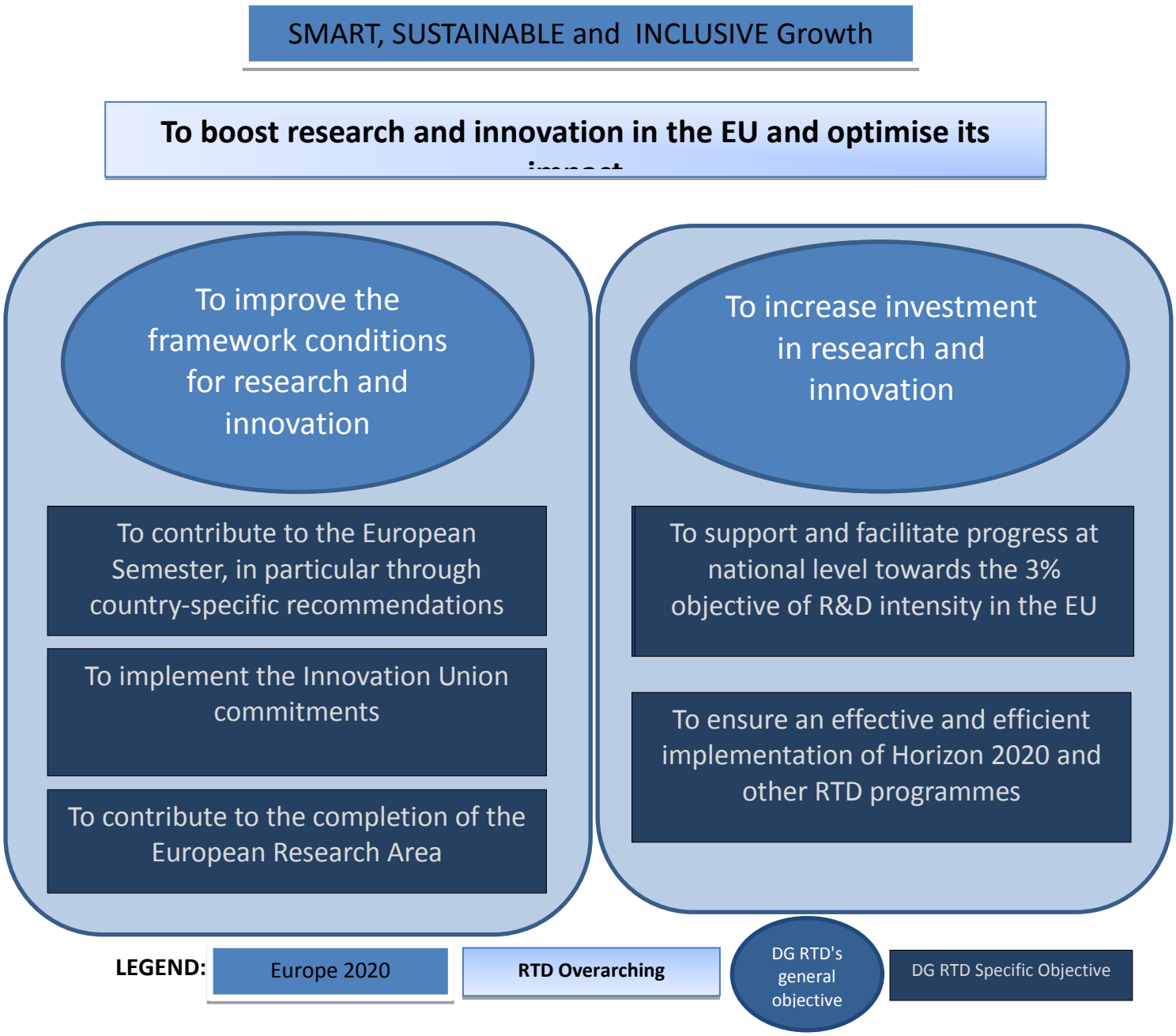
Specific Objective 5: To ensure an effective and efficient implementation of Horizon 2020 and other RTD programmes

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. Moreover, two additional objectives are being pursued, namely to spread excellence and widen participation and to promote efficient cooperation between science and society.

Starting with Horizon 2020 Work-Programme 2014-2015 and in view of the transition of DG Research and Innovation towards a more policy oriented Directorate, most project management activities are delegated to the Research Executive Agency (REA), the European Research Council Executive Agency (ERCEA), the Innovation and Networks Executive Agency (INEA) and the Executive Agency for SMEs (EASME).

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, ITER 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 is responsible for as regards their implementation (Horizon 2020, the Euratom Framework Programme, the ITER 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 Research and Innovation's mission, it focuses on objectives, and many of these objectives cut across different activities. However, when discussing each specific objective the related ABB codes are also indicated.

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 and other RTD programmes; - To implement the Innovation Union commitments; - To contribute to the completion of the European Research Area.

Financial resources 2015 (€) in commitment appropriations				**Human resources 2015**		
Operational expenditure	Administrative expenditure (managed by the service)		Total	Establishment plan posts	External personnel	Total
	(1) Heading 5 appropriations	(2) Other budget lines				
5.267.283.219	404.726	278.964.726	5.546.652.671	499	200	699

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 and other RTD programmes; - To implement the Innovation Union commitments.

Financial resources 2015 (€) in commitment appropriations				**Human resources 2015**		
Operational expenditure	Administrative expenditure (managed by the service)		Total	Establishment plan posts	External personnel	Total
	(1) Heading 5 appropriations	(2) Other budget lines				
176.801.600		13.482.000	190.283.600	55	8	63

ABB activity: 08 04 – ITER	
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	ITER 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 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 and other RTD programmes; - To implement the Innovation Union commitments.

Financial resources 2015 (€) in commitment appropriations				**Human resources 2015**		
Operational expenditure	Administrative expenditure (managed by the service)		Total	Establishment plan posts	External personnel	Total
	(1) Heading 5 appropriations	(2) Other budget lines				
882.215.057		9.708.943	891.924.000	43	2	45

ABB activity: 08 05 – Research Fund for Coal and Steel	
EU competence	Protocol (No 37) on the financial consequences of the expiry of the ECSC (European Coal and Steel Community) Treaty and on the Research Fund for Coal and Steel to the Treaty on the Functioning of the European Union.
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 and other RTD programmes.

Financial resources 2015[7] (€) in commitment appropriations			**Human resources 2015**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
p.m.	p.m.	p.m.	11	10	21

[7] 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 focused 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 2015 (€) in commitment appropriations			**Human resources 2015**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
-	-	-	94	55	149

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 and other RTD programmes; - To implement the Innovation Union commitments.				
Financial resources 2015 (€) in commitment appropriations			**Human resources 2015**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
-	-	-	46	43	89

4.3. Specific Objectives one by one

IMPORTANT NOTES

- The source for all the indicators, unless otherwise specified, is SESAM (the European Commission online reporting tool for FP7 projects)/CORDA (Common Research Data Warehouse).
- 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

Policy activities	Innovation Union and European Research Area (AWBL 04)

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 focuses 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 improve the framework conditions for research and innovation		
Specific objective: To contribute to the European Semester, in particular through Country-Specific Recommendations		☐ Programme-based ☒ Non programme-based
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 (2014)	Milestone (2016)	Target (2020)
69%[8]	Above 80%	Above 80%

[8] Number of Member States for which DG Research & Innovation proposed a R&I CSR in 2014: 16, Number of Member States for which the Commission adopted a R&I CSR in 2014 among those proposed by DG Research & Innovation: 11.

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

Country	2012[9]	2013[10]	2014[11]
Austria			
Belgium			
Bulgaria			
Croatia			
Cyprus		Not covered[10]	Not covered[11]
Czech Republic			
Denmark			
Estonia			
Finland			
France			
Germany			
Hungary			
Ireland	Not covered[9]	Not covered[10]	
Italy			
Latvia			
Lithuania			
Luxembourg			
Malta			
Netherlands			
Poland			
Portugal	Not covered[9]	Not covered[10]	
Romania	Not covered[9]		
Slovakia			
Slovenia			
Spain			
Sweden			
United Kingdom			

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

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

11 Country-specific recommendations for 2014-2015 proposed by the Commission on 2 June 2014. Cyprus and Greece should implement commitments under EU/MF financial assistance programme. Recommendations for Portugal are conditioned by exit from the programme.

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.

The Commission proposal for the post-crisis Europe 2020 strategy, expected early in 2015, might have an impact on its flagship initiatives as well, including the Innovation Union.

2.1 Implementing 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

Policy activities	Innovation Union and European Research Area (AWBL 04)

As regards the last focus area, DG Research and Innovation has developed economic analyses and indicators to underpin R&I policy assessment and development at EU, national and regional levels.

The main tools in place are:

- The 'State of the Innovation Union' issued in 2011, 2012 and 2014 offers an 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 Competitiveness Report', issued in 2011 and 2013;
- The 'Innovation Union progress at country level' report, issued in 2011 and 2014;
- The Innovation Union Scoreboard annually monitors Member States' broader progress through its 25 indicators covering 8 dimensions of innovation.

To ensure monitoring of public sector innovation, the pilot European Public Sector Innovation Scoreboard (EPSIS) was published in June 2013. It developed 22 indicators to measure public sector innovation in dimensions such as human resources, quality of public services, innovation capacity, drivers and barriers of public sector innovation, innovators in public administration, effects on business performance, government procurement. It is planned that another European Public Sector Innovation Scoreboard will be published in 2015.

Relevant general objective: To establish the right framework conditions for research and innovation		
Specific objective: To implement the Innovation Union commitments	☐ Programme-based ☒ Non programme-based	
Result indicator: Number of Innovation Union commitments on track or achieved[12]		
Baseline (2010)	Milestone (2015)	Target (2020)
0	34/34 (with some further steps to be taken for full implementation)	34/34
Planned evaluations 1. "Innovation Union – Commitment 21 knowledge transfer study": The aim of this study is to provide support in the development and implementation of commitment 21 of the Innovation Union (planned to be achieved in 2015).		

Commitment number	**Commitment title**	**Progress made by 2014 and further steps to be taken for the full implementation**[13]
Strengthening the knowledge base and reducing fragmentation		
1	Put in place national strategies to train enough researchers	• Some MS still to put in place such strategies
2-A	Test feasibility of independent university ranking	

[12] The Innovation Union was placed at the heart of the Europe 2020 strategy in 2010 with the aim to foster Europe's capacity to innovate. In order to implement it, the European Commission proposed 34 commitments in the "Innovation Union" Communication (COM(2010) 546 of 6/10/2010), which was endorsed by the European Council in February 2011.

[13] Green: On Track. Source: "State of the Innovation Union – Taking stock 2010-2014", Commission Staff Working Document accompanying the document "Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions", "Research and innovation as sources of renewed growth", COM(2014) 339.

2-B	Create business-academia "Knowledge Alliances"	
3	Propose an integrated framework for e-Skills	
4	Propose an ERA framework and supporting measures	• Some MS still to align their systems to ERA principles • Pan-European Pension Fund expected to be operational in 2015
5	Construct the priority European Research Infrastructures	• Goal is 60% by 2015
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 Centre	
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 Research, development and innovation (R&D&I)	
Getting good ideas to the market		
14	Deliver the EU Patent	• Implementing rules to be defined by the Select Committee by the end of 2014 • 13 Member States have to ratify the Unitary Patent Court agreement for it to enter into force (2 ratifications so far) • Implementing rules for the Unitary Patent Court are being discussed within the Preparatory Committee. It is expected to start working in 2015

15	Screen the Regulatory framework in key areas	
16	Speed-up and modernise standard-setting	
17.1	Set aside dedicated national procurement budgets for innovation	Commitment not taken up by the Council
17.2	Set up an EU-level support mechanism and facilitate joint procurement	• Member States to transpose directives facilitating the procurement of innovation
18	Present an eco-innovation action plan	
19.1	Establish a European Creative Industries Alliance	
19.1	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	
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	• New Scientific Visa to take effect in 2016, after transposition by Member States
31	Propose common EU/MS priorities and approaches for scientific cooperation with third countries	• On-going work of the Strategic Forum for International Cooperation to identify common priorities and implement joint

		actions. Roadmaps to be completed • Ongoing dialogues with third countries and world regions
32	Roll out global research infrastructures	• Report on list of existing infrastructures and priorities expected in 2015
Reforming research and innovation systems		
33	Self-assess national research and innovation systems and identify challenges and reforms	
Measuring Progress		
34.1	Develop an innovation headline indicator	done in 2013
34.2	Monitor progress using the Innovation Union Scoreboard	

2.3. Main DG RTD initiatives contributing to the 2015 Catalogue (to be completed on the basis of SG guidelines)

- Communication to improve the framework conditions for research, science and innovation.

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 practices between Member States. Following the conclusions of the European Council of 04 February 2011, the Commission intended 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[14]. Together with the ERA Communication in July 2012 the Commission signed a Joint Statement with organisations representing key research organisations and research funding bodies (namely, the European University Association (EUA), the European Association of Research and Technology Organisations (EARTO), the League of European Research Universities (LERU), Nordforsk, and Science Europe (SE). EUA together with EARTO, LERU and NORDFORSK have also signed individual Memoranda of Understanding with the European Commission in which they commit to providing a report on the implementation of their actions.

According to the Communication on the European Research Area – Progress Report 2014[15] the conditions for the completion of ERA are now in place. However, the completion of ERA, much like the internal market, is a gradual process and further implementation efforts are needed. Commitment on the part of all ERA actors will be a key factor in speeding up the pace of implementation of ERA which currently varies at Member State, research funding and research performing levels. The ERA Roadmap at European level will be developed by the Council in cooperation with the Commission by mid-2015. It will contain guidelines and key measures in order to address the remaining bottlenecks. It will be instrumental in guiding ERA implementation nationally, while acknowledging diversity of national research systems. Different options might be considered to foster the development of ERA, including the legislative options if need be, based on the ERA-related provisions in the TFEU. In addition, the Commission will launch a debate with Member States on the best possible level of coordination and alignment of national research strategies and pooling of funding in the domains of the societal challenges in order to increase impact at EU level. In order to deliver essential sustainable European Research Infrastructures, there is a need for further synchronisation of national and European roadmaps on research infrastructures and the related pooling of funding. Finally, international cooperation should be enhanced as a cross-cutting priority of the ERA actions.

14 COM(2012)392 of 17 July 2012.
15 COM(2014)575 of 15 September 2014.

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 funding allocated competitively is rising among Member States. Considering the divergence of 28 national research systems, a key challenge for the ERA is to achieve greater coherence between them. A majority of Member States increasingly apply the core principles of international peer review.

Institutional funding of research performing organisations based on performance and/or institutional assessments is generally increasing; however, striking differences between Member States remain.

3.2. Transnational cooperation

Policy activities	Innovation Union and European Research Area (AWBL 04)
ABB 08 02 - Horizon 2020	Horizon 2020 cross-cutting issues: "Funding for Public-Public Partnerships", "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 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.

The idea behind Public-to-Public Partnerships (P2Ps) is that Member States and Associated Countries are in the lead and contribute most of the funding from national sources. Horizon 2020 is incentivising transnational cooperation of research teams among the Member States and Associated Countries and Horizon 2020 funding aims to leverage national funding for transnational cooperation. It also strengthens transnational coordination of national research programmes through the different categories of Public-Public Partnerships:

- ERA-NET Cofund 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;
- P2Ps 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 renewed in April 2014, for a total EU contribution of up to €1.270 million:
    - 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 for Research and Innovation (EMPIR) (EU contribution up to €300 million);

- The BONUS initiative which integrates the Baltic Sea research system into a durable, cooperative, interdisciplinary and focused multinational programme in support of the regions sustainable development. The current initiative will run until 2017. Its renewal might be considered depending on the results of the interim evaluation in 2014 (EU contribution under FP7 up to 50 million for the entire duration of BONUS, 2010-2017).

- Joint Programming Initiatives (JPIs), public-public partnerships based on Article 181 of the TFEU initiated by Member States, play a key role in jointly addressing major societal challenges, namely:

  - Neurodegenerative Disease Research (JPND)
  - Antimicrobial Resistance (JPI AMR)
  - Agriculture, Food Security and Climate Change (FACCE-JPI)
  - Healthy Diet for a Health Life (JPI HDHL)
  - Healthy and Productive Seas and Oceans (JPI Oceans)
  - JPI Climate
  - Water Challenges for a Changing World (Water JPI)
  - Cultural Heritage and Global Change (JPI on Cultural Heritage)
  - Urban Europe

  Besides these nine JPIs for which DG Research and Innovation is chef de file, the Directorate-General is also involved in the JPI “More years, better lives” for which DG CNECT is chef de file.

  Some of these JPIs 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 selected activities by using the available instruments in support of Public-Public Partnerships.

Relevant general objective: To improve the framework conditions for research and innovation			
Horizon 2020 cross-cutting issue: "Funding for Public-Public Partnerships"	☒ Programme-based (Horizon 2020) ☐ Non programme-based		
Result indicator: Total amount of funds leveraged through Art. 185 initiatives[16]			
	Baseline (2011)	Milestone (2017)[17]	Target (2020)[17]
EDCTP 2	New approach[18]	100%	100%
EMPIR	100%	100%	100%
Eurostars 2	370%[19]	300%	300%

Main outputs in 2015		
Description	Indicator	Target
Actions launched under the three initiatives	Total public funding (Union and Participating States)	€395 million

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 CNECT (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. The 2016 ESFRI Roadmap

[16] The indicator under this cross-cutting issue has been rephrased in DG RTD MP 2015 (as compared to the DG RTD MP 2014) for reasons of conformity with the final list of Cross-Cutting Horizon 2020 Monitoring Indicators which has been agreed upon by the Research family DGs. It is expressed as a percentage of total amount of funds leveraged through each Art. 185 initiative (total contribution made by the participating States), divided by the EU contribution.

[17] Values are calculated on the basis of the contributions from the Union and the necessary minimum from Participating States to the programme (excluding contributions from third parties to the programme or individual actions). The final value might be higher in case the Participating States make additional contributions to the initiatives (e.g. EDCTP2: current indicative commitment is factor 2,4 higher than the minimum contribution).

[18] A baseline for the FP6 initiative EDCTP is not provided as the mechanism for identifying contributions from Participating States for EDCTP2 is different. Under Horizon 2020, it will only take into account the activities clearly identified in the annual work plans approved by the Commission.

[19] The Participating States of Eurostars have increased their contribution to the initiative over its duration beyond the legally required commitment to ensure funding for a higher number of proposals, thus increasing the leverage effect.

update process was launched in September 2014 with the aim to be completed by the end of 2015. In this framework, DG Research and Innovation supports Member States and Associated Countries in coordinating their efforts to identify new European research infrastructures to be included in the ESFRI Roadmap as well as to fully implement and ensure sustainability of operations of the infrastructures which entered the Roadmap in previous years.

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 access to research infrastructures throughout Europe.

Relevant general objective: To improve the framework conditions for research and innovation		
Horizon 2020 cross-cutting issue: "Contribution to the realisation of the European Research Area"	☒ Programme-based (Horizon 2020) ☐ Non programme-based	
Result indicator: Number of national research infrastructures networked[20,21]		
Baseline (FP7-2013)	Milestone (2018)	Target (2020)
800	500	900

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");

[20] In the sense of being made accessible to all researchers in Europe and beyond through Union support.
[21] The indicator under this cross-cutting issue has been revised in DG RTD MP 2015 (as compared to the DG RTD MP 2014) for reasons of conformity with the final list of Cross-Cutting Horizon 2020 Monitoring Indicators which has been agreed upon by the Research family DGs.

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 through the RESAVER initiative.

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.

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

<table>
<tr><td colspan="3">Relevant general objective: To improve the framework conditions for research and innovation</td></tr>
<tr><td colspan="2">Horizon 2020 cross-cutting issue: “Contribution to the realisation of the European Research Area”</td><td>☒ Programme-based
☐ Non programme-based</td></tr>
<tr><td colspan="3">Output indicator: Annual number of research positions advertised on 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>
</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.

Relevant general objective: To improve the framework conditions for research and innovation		
Horizon 2020 cross-cutting issue: "Gender"	☒ Programme-based (Horizon 2020) ☐ Non programme-based	
Output indicator: Percentage of projects (DG RTD) taking into account the gender dimension in research and innovation content[16]		
Baseline (FP7-2013)	Milestone (2017)	Target (2020)
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 issue: "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 CNECT.

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 improve the framework conditions for research and innovation		
Horizon 2020 cross-cutting issue: "Contribution to the realisation of the European Research Area"	☒ Programme-based (Horizon 2020) ☐ Non programme-based	
Result indicator: Share of Open access articles published in peer reviewed journals[16]		
Baseline	Milestone (2016)	Target (2020)
New approach	100%	100%

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 review of the Europe 2020 strategy and the resulting post-crisis priorities might have an impact on the EU headline targets too.

The main conditions for success are 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 provides 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			☐ Programme-based ☒ Non programme-based	
EU/Member State	**2009**	**2013**	**Trend**	**EU/National target (2020)[22]**
EU	**2.01%**	2.02		**3%**
Austria	2.71%	2.81%		3.76%
Belgium	2.03%	2.28%		3%
Bulgaria	0.53%	0.65%		1.5%
Croatia	0.85%	0.81%		1.4%
Cyprus	0.49%	0.48%		0.5%
Czech Republic	1.35%	1.91%		1%[23]
Denmark	3.16%[24]	3.05%		3%
Estonia	1.41%	1.74%		3%
Finland	3.94%	3.32%		4%
France	2.27%	2.23%		3%
Germany	2.82%	2.94%		3%
Greece	n.a.	0.78%	n.a.	1.21%
Hungary	1.17%	1.41%		1.8%
Ireland	1.69%	Not available		2%[25]
Italy	1.26%	1.25%		1.53%
Latvia	0.46%	0.6%		1.5%
Lithuania	0.84%	0.95%		1.9%
Luxembourg	1.74%	1.16%		2.3%
Malta	0.53%	0.85%		2%
Netherlands	1.82%	1.98%		2.5%
Poland	0.67%	0.87%		1.7%
Portugal	1.64%	1.36%		3%
Romania	0.47%	0.39%		2%
Slovakia	0.48%	0.83%		1%
Slovenia	1.85%	2.59%		3%
Spain	1.39%	1.24%		2%
Sweden	3.62%	3.21%		4%
United Kingdom	1.82%	1.63%		No target

■ Decline ■ Increase ■ Stable

[22] As set by Member States in their National Reform Programmes.
[23] Public sector only.
[24] Definition differs.
[25] Approximately (target: 2.5% as a share of GNP).

SPECIFIC OBJECTIVE 5

TO ENSURE AN EFFECTIVE AND EFFICIENT IMPLEMENTATION OF HORIZON 2020 AND OTHER RTD PROGRAMMES

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. It will focus on three major areas: excellent science (Section 5.1), industrial leadership (5.2) and societal challenges (5.3). Two additional objectives pursued are to spread excellence and widen participation (5.4) and to promote efficient cooperation between science and society (5.5). Another focus is the Horizon 2020 cross-cutting issues (5.6).

For this Specific Objective, this Management Plan uses the performance indicators in the legal basis of Horizon 2020[26]. The indicators "publications peer-reviewed high impact journals" and "patent applications" under industrial leadership and societal challenges were deemed to be particularly pertinent, as they allow assessment of the scientific excellence and the exploitable innovation potential respectively of EU-funded research projects in a given field. The only exception is made for indicators for which no meaningful data can be expected before 2019 (such as “Patents awarded" in relation to industrial leadership and societal challenges and “Growth and job creation in participating SMEs”).

Moreover, the legal basis of Horizon 2020 identifies 14 cross-cutting issues[27] and establishes targets for some of them. This Management Plan includes indicators linked to the cross-cutting issues that are related to the activities of the Directorate-General Research and Innovation, including all the targets set in the legal text.

Three additional objectives are related to effective and efficient implementation of the Euratom Framework Programme (5.7), ITER (5.8) and the Research Fund for Coal and Steel (5.9).

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 15 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 focuses its funding on excellent research across the board.

[26] Annex II of Council Decision 2013/743/EU of 3 December 2013 establishing the specific programme implementing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decisions 2006/971/EC, 2006/972/EC, 2006/973/EC, 2006/974/EC and 2006/975/EC.

[27] Annex III of Council Decision 2013/743/EU.

Relevant general objective: To increase investment in research and innovation			
Specific Objective: To ensure an effective and efficient implementation of Horizon 2020 and other RTD programmes	☒ Programme-based (Horizon 2020) ☐ Non programme-based		
Result indicator:	Publications in peer-reviewed high impact journals 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	5,353	~2,000	~6,500 *On the basis of FP7 results*
Enabling and Industrial technologies	1,215	~360	~1,600 *On the basis of FP7 results*
Total	6,568	~2,400	~8,100

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 researchers with excellent ideas in different phases of their careers. This is done through "starting grants", "consolidator grants" and "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).

<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: Excellent science – European Research Council – strengthening frontier research</td><td>☒ Programme-based (Horizon 2020)
☐ Non programme-based</td></tr>
<tr><td colspan="3">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[28])</td></tr>
<tr><td>EU Baseline (2010)</td><td>Milestone (2018)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">New approach</td><td rowspan="2">1.5</td><td>1.8</td></tr>
<tr><td>The target "doubles" the performance of EU based researchers in the top percentile of world highly cited articles. It is based on the challenging assumption that the ERC supported researchers are at the top of the class and should perform 100% better than an average researcher from EU, with respect to the record in the world top 1% of highly cited articles.</td></tr>
<tr><td colspan="3">Main outputs in 2015</td></tr>
<tr><td>Description</td><td>Indicator</td><td>Target</td></tr>
<tr><td rowspan="2">Grants awarded in 2015 further to selection of proposals</td><td>% of proposals selected of ERC 2014 calls awarded in 2015</td><td>100%</td></tr>
<tr><td>% of proposals selected of ERC ‘Proof of Concept’ (PoC) 2015 call awarded in 2015</td><td>35%</td></tr>
</table>

[28] 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 CNECT (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 CNECT (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 – strengthening European research infrastructures, including e-infrastructures	☒ Programme-based (Horizon 2020) ☐ Non programme-based	
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[29] *On the basis of FP7 results and of Horizon 2020 focus within this priority*

[29] 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[30]		
	DG RTD (08 02 02 01)	DG CNECT (09 04 02 01)	DG GROW (02 04 02 01)
	32.22%	56.88%	10.91%

Horizon 2020 contributes to boosting Europe's industrial leadership through research, technological development, demonstration and innovation in the following key enabling and industrial technologies: nanotechnologies; advanced materials; biotechnology; advanced manufacturing and processing; micro- and nano-electronics and photonics as well as in information and communication technologies; and space.

DG Research and Innovation focuses on the first four of the key enabling technologies above, with the following objectives:

- To fill knowledge gaps to unblock innovation;
- To ensure progress in technological development, in general by completing the scale of technology-readiness levels (or bridging the 'valley of death');
- To demonstrate capacity to make and deliver innovative products, systems, processes and services;
- To integrate individual technologies, especially with regard to 'cross-cutting KETs' which have the potential to lead to disruptive innovation and new products;
- To prove feasibility and added value using industrial pilots;
- To support innovative SMEs to complete and become part of emerging industrial value chains;
- To facilitate market uptake of research results using large-scale demonstrators.

The activities entail a strong private-sector involvement in R&D and innovation activities, including SMEs which are crucial in all value chains.

As part of these activities in Horizon 2020, 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): Factories of the Future (FoF), Energy-efficient Buildings (EeB), and Sustainable Process Industry through Resource and Energy efficiency (SPIRE).

Strategic international cooperation is encouraged with leading international partners in areas of mutual interest and benefit.

[30] The management of the "SME instrument" as part of the specific objective "Leadership in enabling and industrial technologies" and of "Societal Challenges" is delegated to the Executive Agency for Small and Medium-Sized Enterprises.

Relevant general objective: To increase investment in research and innovation			
Horizon 2020 Specific Objective: Industrial leadership – Boosting Europe's industrial leadership through research, technological development, demonstration and innovation in the following enabling and industrial technologies (nanotechnologies, advanced materials, biotechnology, advanced manufacturing and processing)		☒ Programme-based (Horizon 2020) ☐ Non programme-based	
Result indicator: Patent applications in the different enabling and industrial technologies (Horizon 2020-DG RTD)			
	Baseline (FP7- October 2013)	Milestone (2018)	Target (2020)
Total (biotechnology, nanotechnologies, advanced materials and advanced manufacturing and processing (NMBP)[31]	141	~50	~220 *On the basis of FP7 results*

Main outputs in 2015		
Description	Indicator	Target
Development of high-quality work-programme	Coverage of published topics (Work-programme 2015)	100%
Launch of calls for proposals and budget committed (for Work-programme 2015)	Number of calls and budget committed	5 calls €496.06 million

Planned evaluations

1. Ex post evaluation and impact assessment of funding in the NMP thematic area - FP7 Specific Programme "Cooperation": The study to analyse the appropriateness and impact of the NMP-FP7 programme, regarding the European societal and economic policies and needs (planned to be achieved in 2015);
2. Mapping the regional embeddedness of the FP7 NMP programme: Analyse how the R&D and innovation funded by the FP7 NMP theme are embedded on regional or local levels, and which networks the participants are part of (planned to be achieved in 2015);
3. Study on skills related to KETs: The study aims to provide the European Commission with an understanding/analysis and recommendations on the Skills in the NMP(+B) area, both from the Horizon 2020 programme and from the policy perspectives (planned to be achieved in 2015);
4. Analysis of patenting activity of FP7 NMP projects: This study is analysing patent data to identify the output and socio-economic impact of R&D funded under the FP7 NMP theme (planned to be achieved in 2015);
5. Analysis of Smart Specialisation Strategies in nanotechnologies, advanced manufacturing and

[31] Biotechnology is currently more closely linked to the NMP part than before, when they were managed by two different Directorates in DG RTD. They also share a single budget line, and in the future there will also be some cross-cutting topics involving biotechnology and nanotechnologies. For these reasons, it is more appropriate to present the baseline, milestone and target as an aggregated figure instead of separate figures.

process technologies: This study is looking at the synergies of the NMBP part with related activities in EU regions (planned to be achieved in 2015).

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 Research and Innovation (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 focuses on early-stage venture capital funds and other potential sources of equity finance (new instrument).

It also contributes to the implementation of the SME Initiative (together with COSME), the European Structural and Investment Funds (ESIF) allocated to Member States and the EIB Group (EIB and EIF).

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Industrial leadership - Enhancing access to risk finance for investing in research and innovation	☒ Programme-based (Horizon 2020) ☐ Non programme-based	
Result indicator: Total investments mobilised via debt financing and Venture Capital investments[32]		
Baseline (2013)	Milestone (2017)	Target (2020)
New approach	€ 8 billion[33]	€ 25 billion[33]
Output indicator: Number of organisations funded		
Baseline (2013)	Milestone (2017)	Target (2020)
New approach	2,000[33]	5,000[33]
Result indicator: Amount of funds leveraged[34]		
Baseline (2013)	Milestone (2016)	Target (2020)
New approach	€ 15 billion[33]	€35 billion[33]

[32] Leverage effect.
[33] The targets and milestones depend on the demand and the type of operations involved.
[34] Multiplier effect.

Main outputs in 2015		
Description	Indicator	Target
Continued implementation of the InnoVFin debt financial products launched from June 2014 under the Debt Facility (i.e. InnoVFin Large Projects, InnoVFin	Total investments mobilised via debt financing and Venture Capital investments (€) – Leverage effect	€3 billion
Signatures of first SME Initiative funding agreements with interested	Number of Funding Agreements	2
Launch of new financial instruments pilots to support access to finance	Number of new pilots	2

5.2.3 Innovation in SMEs

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

"Innovation in SME" has two parts. The first part refers to the SME instrument which has no budget relevant activities, with topics being financed from the societal challenges and "Leadership in enabling and industrial technologies" (LEIT) areas.

The second part is implemented through Eurostars, a Public-Public Partnership which has promoted R&D-performing SMEs. 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.

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Industrial leadership - Increasing innovation in SMEs	☒ Programme-based (Horizon 2020) ☐ Non programme-based	
Result indicator: Number of SMEs participating in Eurostars projects selected for funding (by the Commission)		
Baseline (FP7 – 2013)	Milestone (2017)	Target (2020)
1,810	2,000	4,100 *On the basis of FP7 results and the budget proposed by the Commission*

Main outputs in 2015		
Description	Indicator	Target
First signatures of agreements for selected projects from the first cut off dates	Number of SMEs supported	300-350

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).

5.3.1 Health

Horizon 2020	Societal challenges - Health[30]	
	DG RTD (08 02 03 01)	DG CNECT (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 supports two major partnerships:

- The Innovative Medicines Initiative 2 (IMI2, EU contribution up to €1,638), a public-private partnership based on Article 187 TFEU on joint undertakings through which the EU, together with industry, invests in solutions to major health challenges;
- The European and Developing Countries Clinical Trials Partnership (EDCTP2, EU contribution up to €683 million), a public-public partnership based on Article 185 TFEU for the joint implementation of national research programmes. The EDCTP2 is a partnership between European Union Member States and sub-Saharan African countries and contributes to the achievement of the Millennium Development Goals to

which the EU is committed. It supports clinical trials to combat three major poverty-related diseases (i.e. HIV/AIDS, tuberculosis and malaria).

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).

Moreover, in the field of health DG Research and Innovation participates in two Joint Programming Initiatives (public-public partnerships based on Article 181 TFEU) on Neurodegenerative Disease Research (JPND) and on Antimicrobial Resistance (jpiamr)[35].

<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 – Improving the lifelong health and wellbeing of all</td><td>☒ Programme-based (Horizon 2020)
☐ Non programme-based</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">3,966</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 outputs in 2015</td></tr>
<tr><td>Description</td><td>Indicator</td><td>Target</td></tr>
<tr><td>Development of high-quality work-programme</td><td>Coverage of published topics (Work-programme 2015)</td><td>100%</td></tr>
<tr><td>Launch of calls for proposals and budget committed (for Work-programme 2015)</td><td>Number of calls and budget committed</td><td>3 calls
€478 million</td></tr>
<tr><td colspan="3"><u>Planned evaluations</u>
1. Ex-post evaluation of the Health theme in FP7: The work started in autumn 2014 (planned to be achieved in 2016);
2. Evaluation of Health research under FP6 and FP7, in-depth Case studies: The work will start in early 2015 (planned to be achieved in 2016).</td></tr>
</table>

[35] For more information, please refer to Specific Objective 3, "To contribute to the Completion of the European Research Area", and in particular "Transnational cooperation".

5.3.2 Bioeconomy

Horizon 2020	Societal challenges – Bioeconomy - *Implementation delegated to: Research Executive Agency*[30]	
	DG RTD (08 02 03 02) -	DG AGRI (05 09 03 01)
	56.65%	43.35%

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. Furthermore, via the Blue Growth Focus Area, cross-disciplinary marine and maritime research is being promoted.

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 €975 million). 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 of America 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.

Moreover, in the field of bioeconomy DG Research and Innovation participates in three Joint Programming Initiatives (public-public partnerships based on Article 181 TFEU) on Agriculture, Food Security and Climate Change (FACCE-JPI), on a Healthy Diet for a Health Life (JPI HDHL) and on Healthy and Productive Seas and Oceans (JPI Oceans)[36].

[36] For more information, please refer to Specific Objective 3, "To contribute to the Completion of the European Research Area", and in particular "Transnational cooperation".

<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 – Securing sufficient supplies of safe, healthy and high quality food and other 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 and low-carbon supply, processing and marketing chains</td><td>☒ Programme-based (Horizon 2020)
☐ Non programme-based</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">339</td><td rowspan="2">~120</td><td>~540</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">19</td><td rowspan="2">~7</td><td>~30</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td colspan="3">Main outputs in 2015</td></tr>
<tr><td>Description</td><td>Indicator</td><td>Target</td></tr>
<tr><td>Development of high-quality work-programme</td><td>Coverage of published topics (Work-programme 2015)</td><td>100%</td></tr>
<tr><td>Launch of calls for proposals and budget committed (for Work-programme 2015)</td><td>Number of calls and budget committed</td><td>3 calls
€84.5 million</td></tr>
</table>

5.3.3 Energy

ABB 08 02 - Horizon 2020	Societal challenges - Energy - *Implementation delegated to: Innovation and Networks Executive Agency*[30]	
	DG RTD (08 02 03 03) –	DG ENER (32 04 03 01)
	50%	50%

DG Research and Innovation contributes to the transition to a secure, sustainable and competitive energy system. It does so in the face of increasingly scarce resources, growing energy needs and climate change.

To this end, it stimulates the development and market uptake of competitive and affordable energy technologies and services, thereby contributing to the transition to a low carbon economy and increasing European industrial competiveness, growth and jobs. It also ensures the optimal integration of R&I in the design and implementation of energy-relevant EU policies.

DG Research and Innovation also finances the Fuel Cells and Hydrogen 2 Joint Undertaking (with an EU contribution of up to €665 million), a public-private partnership based on Article 187 TFEU (Joint Undertakings).

In addition, DG Research and Innovation contributes to international organizations and cooperation initiatives such as the US-EU Energy Council, 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 – Making the transition to a reliable, affordable, publicly accepted, sustainable and competitive energy system, aiming at reducing fossil fuel dependency, in the face of increasingly scarce resources, increasing energy needs and climate change		☒ Programme-based (Horizon 2020) ☐ Non programme-based
Output indicator: Share of the overall Energy challenge funds allocated to the following research activities: renewable energy, end-user energy-efficiency, smart grids and energy storage 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 outputs in 2015		
Description	Indicator	Target
Development of high-quality work-programme	Coverage of published topics (Work-programme 2015)	100%
Launch of calls for proposals and budget committed (for Work-programme 2015)	Number of calls and budget committed	3 calls €299 million
Communication on 'An action plan for the implementation of the Integrated Roadmap on energy technologies and innovation' *(DG ENER and DG RTD co-chef)*	Delivery of the Communication	First semester of 2015

5.3.4 Transport

ABB 08 02 - Horizon 2020	Societal challenges – Transport - *Implementation delegated to: Innovation and Networks Executive Agency*[30]	
	DG RTD (08 02 03 04)	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 focuses 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 partnership (PPP) European Green Vehicles Initiative (EGVI), supported via Horizon 2020. It also foresees the financing of the implementation of the Clean Sky 2 Joint Undertaking (EU contribution up to €1,755 million), a PPP based on Article 187 TFEU. Contribution is also foreseen to support Fuel Cell & Hydrogen 2 and Shift2Rail PPPs.

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.

Starting with Work Programme 2014-15, in view of the transition of DG Research and Innovation towards a policy oriented directorate general, project management activities will be delegated to the Innovation and Networks Executive Agency (INEA), and to the Executive Agency for SMEs (EASME) for the part concerning the Horizon 2020 SME instrument. Transport directorate will continue to manage the policy activities including the policy relevant coordination and support actions.

<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 – Achieving a European transport system that is resource-efficient, climate- and environmentally-friendly, safe and seamless for the benefit of all citizens, the economy and society</td><td>☒ Programme-based (Horizon 2020)
☐ Non programme-based</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 outputs in 2015</td></tr>
<tr><td>Description</td><td>Indicator</td><td>Target</td></tr>
<tr><td>Development of high-quality work-programme</td><td>Coverage of published topics (Work-programme 2015)</td><td>100%</td></tr>
<tr><td>Launch of calls for proposals and budget committed (for Work-programme 2015)</td><td>Number of calls and budget committed</td><td>4 calls
€154.96 million</td></tr>
</table>

5.3.5 Resource-efficient and climate change-resilient economy

ABB 08 02 - Horizon 2020	Societal challenges – Resource-efficient and climate change-resilient economy - *Implementation delegated to: Executive Agency for Competitiveness and Innovation*[30]	
	DG RTD (08 02 03 05) -	DG GROW (02 04 03 01)
	79.12%	20.88%

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 initiatives such as the intergovernmental Group on Earth Observations (GEO), the International Panel on Climate Change (IPCC), the Rio +20 – Post 2015 process and the Belmont Forum. From 2015, the involvement of DG Research and Innovation in the Belmont Forum will increase, because the Commission becomes co-chair.

Moreover, in the field of climate DG Research and Innovation participates in three Joint Programming Initiatives (public-public partnerships based on Article 181 of the TFEU), namely the JPI Climate, the Water Challenges for a Changing World (Water JPI) and the Cultural Heritage and Global Change (JPI on Cultural Heritage)[35].

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Societal challenges – Achieving a resource - and water - efficient and climate change resilient economy and society, protection and sustainable management of natural resources and ecosystems and a sustainable supply and use of raw materials, in order to meet the needs of a growing global population within the sustainable limits of the planet's natural resources and ecosystems		☒ Programme-based (Horizon 2020) ☐ Non programme-based
Output indicator: Share of EU financial contribution financing biodiversity		
Baseline (2014)	Milestone (2018)	Target (2020)
19%	20%	20% (based on the work-programme and applying the "Rio markers" approach)

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 outputs in 2015		
Description	Indicator	Target
Development of high-quality work-programme	Coverage of published topics (Work-programme 2015)	100%
Launch of calls for proposals and budget committed (for Work-programme 2015)	Number of calls and budget committed	3 calls €278 million

5.3.6 Inclusive, innovative and reflective European societies

ABB 08 02 - Horizon 2020	Societal challenges - Inclusive, innovative and reflective European societies - *Implementation delegated to: Research Executive Agency*	
	RTD (08 02 03 06)	CNECT (09 04 03 02)
	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.

<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 - Fostering a greater understanding of Europe, provide solutions and support inclusive, innovative and reflective European societies in a context of unprecedented transformations and growing global interdependencies</td><td>☒ Programme-based (Horizon 2020)
☐ Non programme-based</td></tr>
<tr><td colspan="3">Result indicator: Publications in peer-reviewed high impact journals in the area of inclusive, innovative and reflective societies (DG RTD)</td></tr>
<tr><td>Baseline (FP7 - October 2013)</td><td>Milestone (2018)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">120</td><td rowspan="2">~100</td><td>~200</td></tr>
<tr><td>On the basis of FP7 results</td></tr>
<tr><td colspan="3">Main outputs in 2015</td></tr>
<tr><td>Description</td><td>Indicator</td><td>Target</td></tr>
<tr><td>Development of high-quality work-programme</td><td>Coverage of published topics (Work-programme 2015)</td><td>100%</td></tr>
<tr><td>Launch of calls for proposals and budget committed (for Work-programme 2015)</td><td>Number of calls and budget committed</td><td>5 calls
€87.42 million</td></tr>
<tr><td colspan="3"><u>Planned evaluations</u>

1. Evaluation, monitoring and comparison of the impacts of EU funded Socio-economic sciences and Humanities (SSH) research in Europe (IMPACT-EV project, planned to be achieved in 2017).</td></tr>
</table>

5.3.7 Secure European societies

ABB 08 02 - Horizon 2020	Societal challenges - Secure European societies - *Implementation delegated to: Research Executive Agency*[30]	
	CNECT (09 04 03 03)	ENTR (02 04 03 02)
	25%	75%

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.

5.4 To spread excellence and widen participation (ABB 08 02)

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

- "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;
- "Twinning" of research institutions, which aims at significantly strengthening a defined field of research in an emerging institution through links with internationally-leading institutions;
- Establishment of "ERA Chairs", which attract outstanding researchers to research institutions with a high potential for research excellence;
- "COST" will contribute to fostering inclusive research and innovation policy by bringing together "pockets of excellence", outstanding researchers who are not yet well integrated in European and global research, also enhancing capacity building. The aim is to provide structural support to ERA, widening the European research base and promote Science and Technology (S&T) cooperation with other countries, beyond COST current membership of 31. This second component will be funded under the "Widening Participation" heading.

DG Research and Innovation is also responsible for the Policy Support Facility (PSF) which, as stated in the Horizon 2020 legal basis, is foreseen to improve the design, implementation and evaluation of research and innovation policies and specifically to offer expert advice to public authorities. The PSF would provide leading expertise and guidance to help Member States implement reforms to their research and innovation strategies, programmes and

institutional arrangements, following the priority axes for reforms outlined in the June 2014 Communication on "Research and innovation as sources of renewed growth". In particular, the PSF will offer the following range of services:

- Enhanced Peer Reviews of countries R&I systems;
- Tailored support to specific reforms;
- In-depth mutual learning on specific topics between interested countries;
- An online PSF library of country and policy relevant information.

Moreover, DG Research and Innovation participates in one Joint Programming Initiative (public-public partnership based on Article 181 TFEU) on Urban Europe.

<table>
<tr><td colspan="3">Relevant general objective: To improve the framework conditions for research and innovation</td></tr>
<tr><td colspan="2">Horizon 2020 Specific Objective: Spreading excellence and widening participation -– fully exploiting the potential of Europe's talent pool and to ensure that the benefits of an innovation-led economy are both maximised and widely distributed across the Union in accordance with the principle of excellence</td><td>☒ Programme-based (Horizon 2020)
☐ Non programme-based</td></tr>
<tr><td colspan="3">Result indicator: Evolution of the publications in high impact journals in the given research field[37]</td></tr>
<tr><td>Baseline</td><td>Milestone</td><td>Target</td></tr>
<tr><td>New approach</td><td>To be defined on the basis of Horizon 2020 interim evaluation in 2017</td><td>To be defined on the basis of Horizon 2020 interim evaluation in 2017</td></tr>
<tr><td colspan="3">Main outputs in 2015</td></tr>
<tr><td>Description</td><td>Indicator</td><td>Target</td></tr>
<tr><td>Development of high-quality work-programme</td><td>Coverage of published topics (Work-programme 2015)</td><td>100%</td></tr>
<tr><td>Launch of calls for proposals and budget committed (for Work-programme 2015)</td><td>Number of calls and budget committed</td><td>1 call
€65.27 million</td></tr>
</table>

[37] 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. The indicator is relevant to institutions participating only in Twinning and ERA-Chairs schemes.

5.5 Science with and for society (ABB 08 02)

ABB 08 02 - Horizon 2020	Science with and for society (08 02 04 01) - *Implementation delegated to: Research Executive Agency*
	DG RTD: 100%
	Horizon 2020 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.

Relevant general objective: To increase investment in research and innovation		
Horizon 2020 Specific Objective: Science with and for society - building effective cooperation between science and society, to recruit new talent for science and to pair scientific excellence with social awareness and responsibility		☒ Programme-based (Horizon 2020) ☐ Non programme-based
Output indicator: Number of institutional change actions promoted by the programme[37,38]		
Baseline (FP7-2013)	Milestone (2017)	Target (2020)
New approach	*To be defined on the basis of Horizon 2020 interim evaluation in 2017*	*To be defined on the basis of Horizon 2020 interim evaluation in 2017*
Main outputs in 2015		
Description	Indicator	Target
Development of high-quality work-programme	Coverage of published topics (Work-programme 2015)	100%
Launch of calls for proposals and budget committed (for Work-programme 2015)	Number of calls and budget committed	4 calls €45.4 million

[38] The indicator has been rephrased in DG RTD MP 2015 (as compared to the DG RTD MP 2014) for reasons of conformity with the list of Key Performance Indicators for Horizon 2020 reporting agreed upon by the Research family DGs.

Planned evaluations

1. Ex-post evaluation of Science in Society in FP7: The study will provide an assessment of the rationale, implementation (inputs and throughputs) and achievements (outputs, results) of the Science in Society Programme in FP7 (planned to be achieved in 2015);

2. Stock taking & meta-analysis of Science in Society projects throughout FP6 and FP7 (planned to be achieved in 2016).

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

5.6.1 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[30];
- 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;
- The Fast Track to innovation pilot scheme aims to reduce the time from idea to market and to increase the participation in Horizon 2020 of industry, SMEs and first-time industry applicants.

Relevant general objective: To increase investment in research and innovation			
Horizon 2020 cross-cutting issue: “SMEs' participation”		☒ Programme-based (Horizon 2020) ☐ Non programme-based	
Output indicator:	Share of EU financial contribution -DG RTD[39] 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% *Horizon 2020 mandatory target*
SMEs - total	17.2% (June 2013)	20%	20% *Horizon 2020 mandatory target*

[39] 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.

5.6.2 To support innovation and attract private participation

ABB 08 02 - Horizon 2020	Horizon 2020 cross-cutting issues: "Bridging from discovery to market application", "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.

<table>
<tr><td colspan="4">Relevant general objective(s): To increase investment in research and innovation</td></tr>
<tr><td colspan="3">Horizon 2020 cross-cutting issues: "Bridging from discovery to market application", "Private sector participation"</td><td>☒ Programme-based (Horizon 2020)
☐ Non programme-based</td></tr>
<tr><td colspan="4">Output indicator: Share of EU financial contribution – DG RTD[16] going to private for profit entities</td></tr>
<tr><td>Baseline (FP7 – October 2013)</td><td colspan="2">Milestone (2016)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">29.2%</td><td colspan="2" rowspan="2">33%</td><td>33%</td></tr>
<tr><td>On the basis of FP7 results and Horizon 2020 mandatory target for SMEs</td></tr>
<tr><td colspan="4">Result indicator: Number of joint public-private publications in enabling and industrial technologies and in the Societal Challenges (Horizon 2020-DG RTD)</td></tr>
<tr><td></td><td>Baseline</td><td>Milestone</td><td>Target (2020)</td></tr>
<tr><td>Enabling and Industrial technologies</td><td>New approach</td><td>To be defined on the basis of first results</td><td>To be defined on the basis of first results</td></tr>
<tr><td>Societal Challenges</td><td>New approach</td><td>To be defined on the basis of first results</td><td>To be defined on the basis of first results</td></tr>
<tr><td>Total</td><td>New approach</td><td>To be defined on the basis of first results</td><td>To be defined on the basis of first results</td></tr>
</table>

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	282	~130	~390 *On the basis of FP7 results*
Enabling and Industrial technologies	141	~50	~220 *On the basis of FP7 results*
Total	423	~180	~610

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	*To be defined on the basis of first results*	*To be defined on the basis of first results*
Enabling and Industrial technologies	New approach	*To be defined on the basis of first results*	*To be defined on the basis of first results*
Total	New approach	*To be defined on the basis of first results*	*To be defined on the basis of first results*

5.6.3 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 €5,033 million. DG Research and Innovation also contributes to the PPP Shift2Rail (DG MOVE chef de file):

- The Bio-Based Industries Joint Undertaking (BBI) - Societal Challenge "Food" and Enabling and industrial technologies “Biotechnology” (total EU contribution up to €975 million). This Joint Undertaking will become autonomous in 2015;
- The Innovative Medicines Initiative 2 (IMI2) - Societal Challenge "Health" (total EU contribution up to €1,638 million);
- The Fuel Cells and Hydrogen 2 Joint Undertaking FCH2) - Societal Challenges "Energy" and “Transport” (total EU contribution up to €665 million in total);

- The Clean Sky 2 Joint Undertaking - Societal Challenge "Transport" (total EU contribution up to €1755 million);
- The Shift2Rail Joint Undertaking - Societal Challenge "Transport" (total EU contribution up to €450 million).

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

<table>
<tr><td colspan="3">Relevant general objective: To increase investment in research and innovation</td></tr>
<tr><td colspan="2">Horizon 2020 cross-cutting issue: "Funding for Public-Private Partnerships"</td><td>☒ Programme-based (Horizon 2020)
☐ Non programme-based</td></tr>
<tr><td colspan="3">Result indicator: PPPs leverage: total amount of funds leveraged through Article 187 initiatives managed by DG RTD, including additional activities, divided by the EU contribution</td></tr>
<tr><td>Baseline (FP7)</td><td>Milestone (2016)</td><td>Target (2020)</td></tr>
<tr><td rowspan="2">1.00
(€2.27 billion for €2.27 billion of EU contribution from FP7)</td><td rowspan="2">0.84</td><td>1.39
(€7.013 billion for €5.033 billion of EU contribution from Horizon 2020)</td></tr>
<tr><td>On the basis of the financial contribution foreseen in the Regulation establishing each one of the PPPs</td></tr>
<tr><td colspan="3"><u>Planned evaluations</u>

1. Interim evaluation of IMI Joint Undertaking (planned to be achieved in 2017);
2. Interim evaluation of BBI Joint Undertaking (planned to be achieved in 2017);
3. Interim evaluation of Clean Sky Joint Undertaking (planned to be achieved in 2017);
4. Interim evaluation of FCH Joint Undertaking (planned to be achieved in 2017).</td></tr>
</table>

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

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

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

The activity will complete Horizon 2020 Association Agreements, and it will continue promoting the Union's international cooperation in research and innovation in the framework of the bilateral Science and Technology Agreements and Association Agreements signed with non-EU countries, as well as through policy dialogues with other countries and regions.

In this context, it will continue to identify strategic initiatives with key international partners in order to achieve scale and scope of action and ensure the EU interest.

The activity will give further emphasis to promoting collaboration on innovation, and it will address framework conditions and common principles for cooperation with international partner countries. It will strengthen synergies with Member States' international cooperation activities and with EU external policies. Finally, it will support activities to communicate on EU's excellence and competitiveness and will strengthen awareness of EU R&I programmes.

To implement international cooperation activities in Horizon 2020, an array of funding instruments are used, such as projects where participation of partner countries is open, encouraged or mandatory, coordinated calls for proposals with third countries or activities where the Union participates in the joint implementation of national R&I programmes. Under Societal Challenge 6 "Europe in a changing world - inclusive, innovative and reflective societies", horizontal actions in support of the international cooperation strategy will be financed.

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

5.6.5 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, including information on climate change related expenditure" ☒ Programme-based (Horizon 2020) ☐ Non programme-based		
Output indicator: Climate-related expenditure (Horizon 2020-DG RTD)		
Baseline	Milestone (2017)	Target (2020)
New approach	>35%	>35%

Output indicator: Sustainable development-related expenditure (Horizon 2020-DG RTD)		
Baseline	Milestone (2017)	Target (2020)
New approach	60%	60%

5.6.6 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.

Relevant general objective: To increase investment in research and innovation			
Horizon 2020 cross-cutting issue: "Social sciences and humanities"		☒ Programme-based (Horizon 2020) ☐ Non programme-based	
Output indicator:	Share of SSH partners in selected projects in all Horizon 2020 priorities and share of EU financial contribution allocated to them[21]		
	Baseline (FP7, Oct. 2014)	Milestone (2017)	Target (2020)
Share of SSH partners	New approach	3%	6%
Share of EU financial contribution allocated to them	New approach	1.25%	2.5%

5.7 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%

5.7.1 Euratom Research and Training Programme – Fission

DG Research and Innovation uses a range of instruments, such as grants and programme co-fund actions, to fund pursue nuclear research and training activities with an emphasis on continuous improvement of nuclear safety, security and radiation protection, notably to potentially contribute to the long-term decarbonisation of the energy system in a safe, efficient and secure way. This objective shall be implemented through 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.

Relevant general objective(s): To increase investment in research and innovation		
Horizon 2020 Euratom four Specific Objectives: **Fission**	☒ Programme-based (Euratom) ☐ Non programme-based	
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[40]
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[40]
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 (2007-2013)	Milestone (2015)	Target (2018)
33	15	25[40]

[40] 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).

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

5.7.2 Euratom Research and Training Programme – Fusion

The Euratom Programme supports research in magnetic confinement fusion, and related knowledge management and technology transfer from research to industry. Fusion research funded by the Euratom Programme is guided by the comprehensive goal-oriented 'Roadmap to the Realisation of Fusion Energy' agreed by the national fusion labs towards the end of 2012. Although fusion research activities carried out during Horizon 2020 will be largely focused on ensuring the success of ITER, the Euratom contribution to ITER construction[41] is no longer funded through the Euratom research programme itself. In the long term, the Euratom 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 the above mentioned 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.

Relevant general objective(s): To increase investment in research and innovation		
Horizon 2020 Euratom four Specific Objectives: Fusion ☒ Programme-based (Euratom) ☐ Non programme-based		
Result indicator: Number of publications in peer-reviewed high impact journals		
Baseline (2010)	Milestone (2016)	Target (2018)
800	800	800
Result indicator: Percentage of the Fusion Roadmap's milestones (2014-2018) reached by the Euratom Programme		
Baseline	Milestone (2016)	Target (2018)
New approach	25%	90%
Result indicator: Number of spin-offs[42] from the fusion research under Euratom Programme		
Baseline (2007-2013)	Milestone (2016)	Target (2018)
4	5	10

[41] The financing of ITER for the period 2014-2020 is covered by Council Decision 2007/198/Euratom of 13 December 2013.

[42] Defined as: technology transfers from the Programme.

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

Planned evaluations

1. Ex-post evaluation of the Euratom Framework programme (2007-2013): In accordance with article 6(2) of Council Decision (2012/93/Euratom). This evaluation will also cover Euratom contribution to the ITER project (planned to be achieved in 2015).

5.8 ITER (ABB 08 04)

ABB 08 04 - Horizon 2020 ITER	ITER (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 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.

The European Commission represents Euratom in the various ITER fora and, through DG Research and innovation services, the Commission 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**	☒ Programme-based (ITER) ☐ Non programme-based	
Result indicator: Percentage of Euratom's obligations discharged by the ITER Organization (IO) through the Joint Undertaking F4E[43]		
Baseline (2012)	Milestone (2016)	Target (2020)
6%	26%	100%
Planned evaluations 1. Ex-post evaluation of the Euratom Framework programme (2007-2013): In accordance with article 6(2) of Council Decision (2012/93/Euratom). This evaluation will also cover Euratom contribution to the ITER project (planned to be achieved in 2015).		

5.9 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.

The amendment to the Council decision 2008/376/EC regarding RFCS guidelines for 2014-2020 will be adopted in the first half of 2015.

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	☒ Programme-based (RFCS) ☐ Non programme-based	
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)*

[43] Progress in the Euratom contribution to ITER construction is measured according to credits granted by IO to F4E according to the ITER International Agreement. Data provided according to current Baseline. However, the schedule is under revision and a proposal will be submitted to the ITER Council in 2015.

5.10 Main DG RTD initiatives contributing to the 2015 Catalogue (to be completed on the basis of SG guidelines)

- Communication on “The EU as a driving force for Global Earth Observation through the Global Earth Observation System of Systems (GEOSS);

- Communication on ‘An action plan for the implementation of the Integrated Roadmap on energy technologies and innovation’ *(DG ENER together with DG RTD).*

5. DG RESEARCH AND INNOVATION'S HORIZONTAL ACTIVITIES

5.1. Policy Strategy and Coordination

ABB activity: AWBL 03 – Policy Strategy and Coordination	
Specific Objectives for 2015	Strategic Planning and Programming (SPP) 1. To ensure the efficient implementation of the Strategic Planning and Programming cycle. Strategic Programming process and Horizon 2020 work programmes for 2016-2017 2. To ensure the adoption by the Commission of the Horizon 2020 work programmes for 2016-2017. Communication 3. To ensure a high level of awareness of Horizon 2020 and of the impact of EU-funded Research and Innovation Evaluation and reporting 4. To support the better regulation agenda and the evidence-based policy-making by thorough evaluations and impact assessments and systematic stakeholder consultations.

Financial resources (€) in commitment appropriations			**Human resources**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
-	-	-	208	91	299

Strategic Planning and Programming (SPP)

"Strategic Planning and Programming" is a management process laid down by the administrative reform that took place in 2000. The annual SPP cycle consists of three main phases:

- Programming: setting objectives for the activities, defining initiatives and allocating human and financial resources to achieve them;
- Implementing the activities and initiatives programmed and monitoring the progress made towards the objectives based on predefined indicators;
- Reporting on the implementation of the activities and initiatives and on the achievement of the objectives.

In the context of the SPP cycle a number of outcomes are delivered, namely the CWP and the Catalogue, the Management Plan, the Programme Statement in the context of the preparation of the draft budget and the Annual Activity Report.

Specific Objective 1: To ensure the efficient implementation of the Strategic Planning and Programming cycle	
Indicator: Percentage of SPP cycle outcomes delivered in time	
Baseline (2014)	Target (2015)
100%	100%

Strategic Programming process and Horizon 2020 work programmes for 2016-2017

In order to maximise the impact of EU funding and secure the highest added value, a strategic programming process ensures that the implementation of 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.

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 and/or the enabling and industrial technologies.

In the context of this process, the Horizon 2020 work programmes for 2016-2017 will be prepared.

Specific Objective 2:To ensure the adoption by the Commission of the Horizon 2020 work programmes for 2016-2017	
Indicator: Number of Horizon 2020 work programmes for 2016-2017	
Baseline (31/12/2014)	Target (Q3 2015)
0	3/3

Communication

The present political support for investment in Research and Innovation is significant but the momentum needs to be sustained through a stronger communication push. The communication challenge ahead is twofold: to mobilise recipients of EU funding and help them communicate the results of their work in a broader societal context and to develop a context-dependent narrative, targeting both citizens and decision makers. To address this whilst ensuring a coherent approach, a Horizon 2020 communication plan (2014-2020) has been prepared together with the Research family.

Collaboration with the EU Representations will be sought to maximise the local reach to the general public. All major communication channels are covered: TV, radio, written press and the internet. A social media strategy to multiply impact and dissemination potential will underpin all communication actions. In addition, the launch of calls foreseen under the 2016-2017 Work Programme will be accompanied by specific communication actions in the Member States.

Specific Objective 3: To ensure a high level of awareness of Horizon 2020 and of the impact of EU-funded Research and Innovation	
Indicator: Media uptake (number of media clippings) related to Horizon 2020 campaign (September 2014-December 2015)	
Baseline (01/09/2014)	Target (31/10/2015)
4,000	≥ 2,400[44]

Evaluation and reporting

Research and innovation (R&I) activities are critical factors that will help increase competitiveness and employment of the Union by creating sources of renewed growth, particularly when combined with macro-economic stability and with supportive and inter-linked policies. And vice versa, framework conditions and other policies impact upon research and innovation activities in both quantitative and qualitative terms. Evaluation is an important instrument for informing the European Parliament and the Council, the research community, the general public and other stakeholders about the achievements of Community-funding research and innovation programmes and the obstacles that impact upon the R&I programmes' achievements. In order to help track results of European research and innovation policy and analyse its broader economic, social and environmental impacts, DG Research and Innovation is committed to contribute to the better regulation agenda by carrying out and supporting thorough evaluations and impact assessments and systematic stakeholder consultations in research and innovation.

Specific Objective 4:To support the better regulation agenda and the evidence-based policy-making by thorough evaluations and impact assessments and systematic stakeholder consultations	
Indicator: Degree of implementation of DG RTD's evaluation plan	
Baseline	Target (2015)
88% of RTD's 2014 evaluation plan is completed (to date)	90%
Indicator: Percentage of impact assessment presented by DG RTD that received a favourable Impact Assessment Board (IAB) opinion in first instance (no resubmission)	
Baseline	Target (2015)
Below Commission average	At least equal to the Commission average

[44] The 2014 target was amply exceeded but can be considered exceptional due to the coincidence with the launch of Horizon 2020 and the dedicated media campaign (using an external PR company located in each Member State). Whilst the communication effort will be very high during 2015, this is not expected to have a comparable impact on the media.

5.2. Management of the DG RTD

ABB activity: AWBL 01 - Administrative Support	
Specific Objectives for 2015	Human Resources 1. To ensure the optimal allocation of staff to allow the DG to achieve its mission and objectives, including human resource management and forward planning. New Management Modes 2. To monitor the management of resources and activities by Executive Agencies (EAs) and ensure the consistency of the new generation of JTIs. Financial Management 3. To develop and monitor a harmonised and efficient financial operational framework for all Research Programme operations. Internal Control and Risk Management 4. To define and propose an integrated internal control framework and monitor its effective implementation throughout the Directorate-General. Document Management 5. To ensure the transition towards paperless document management, integrate the EMAS strategy in the daily work.

Financial resources (€) in commitment appropriations			**Human resources**		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
-	-	-	100	51	151

Brief description of the DG RTD HR strategy

DG Research and Innovation itself has arrived at an important crossroads in its history. The implementation of FP7 is reaching a peak. The implementation of important parts of Horizon 2020 is being delegated to Executive Agencies. In parallel, DG Research and Innovation is strengthening its policy capabilities. All of this has to be managed in the context of substantial staff cuts resulting not only from the delegation of activities to Executive Agencies but also from the broader Commission staff reduction target.

DG Research and Innovation is continuously redeploying resources to changing workloads and priorities and this in order to guarantee business continuity in the management of the FP7 legacy and of the parts of Horizon 2020 that are managed in-house and in the development of policy activities while at the same time delivering on the staff cuts objectives. It will continue its efforts during 2015 in order to implement the necessary strategy to close the gap between the current mix of skills and competences necessary to scientific project management and future policy oriented profiles.

Implementing a flexible resources allocation mechanism though is an important element but not sufficient without guaranteeing that DG Research and Innovation's staff develops the necessary policy skills during times where external recruitments are scarce. DG Research and Innovation will continue its efforts during 2015 in order to implement the necessary strategy to close the gap between current mix of skills and competences necessary to scientific project management and future policy oriented profiles.

All these efforts are going along with a process of helping better the middle managers to face this transition phase and allowing them to maintain and develop the motivation and engagement of our already highly committed staff faced with increased workloads due to staff cuts but also in changing activity perspectives.

DG Research and Innovation is committed to achieving these strategic HR objectives in order not only to perform its mission but also to guarantee as much as possible work-life balance for its staff while remaining an attractive place of work.

Human Resources

The overall objective is to ensure the optimal allocation of staff to allow the DG to achieve its mission and objectives, including human resources management and forward planning based on workload indicators. The activities related to this objective encompass recruitment, mobility, career development, staff performance evaluation, training, professional ethics, equal opportunities, as well as the social aspects of the personnel policy.

The particular challenge for 2015 is to manage the reduction in staff numbers, together with the transfer of posts to Executive Agencies (EA) and the shift of activities towards a policy-oriented DG.

Specific Objective 1:To ensure the optimal allocation of staff to allow the DG to achieve its mission and objectives, including human resource management and forward planning	
Result Indicator: Number of posts offset in the context of staff reduction and handover to EAs (data source: Sysper2)	
Baseline (31/12/2014)	Target[45] (31/12/2015)
0	87 Establishment Plan Posts (AD/AST) 30 Contractual Agent Posts

[45]The target figures are still indicative and they may be revised in December 2014, after the finalisation of the HR Planning Process. In order to correctly modulate in time the number of posts to reduce, DG RTD performed several analysis: the Task Mapping exercise in 2013, the analysis of workload indicators in 2013, the detailed planning of the management of the FP7 legacy and the HR Planning Process planned for October-November 2014. All these are taken into account when deciding the split between years for the off-setting of staff in DG RTD.

New Management Modes

The long term objective (2020) is to establish a comprehensive, efficient and effective governance and administration model and become a reference service in the New Management Modes methodologies.

Particular challenges for 2015 will be to monitor the management of activities of Executive Agencies, together with the organisation of an effective governance framework (MoUs), to launch the 3-year evaluation of REA and ERCEA and to further enhance the consistency/harmonisation of the second generation of JTIs.

<table>
<tr><th colspan="2">Specific Objective 2:To monitor the management of resources and activities by Executive Agencies (EAs) and ensure the consistency of the new generation of JTIs</th></tr>
<tr><td colspan="2">Indicator: Successful launch of the 3-year evaluation of the REA and ERCEA</td></tr>
<tr><td>Baseline (June/July/2015)</td><td>Target (31/12/2015)</td></tr>
<tr><td>0 (preparatory work foreseen for mid-2015)</td><td>100% (successfully launched)</td></tr>
<tr><td colspan="2">Indicator: Update and application of the MoUs for the Executive Agencies in view of established and finalised business processes</td></tr>
<tr><td>Baseline (31/12/2014)</td><td>Target (31/12/2015)</td></tr>
<tr><td>n.a.</td><td>100% (MoUs signed in 2014; all are to be kept up-to-date in 2015 mainly when all the business processes will be finalised)</td></tr>
<tr><td colspan="2">Indicator: To prepare common templates for JUs management (KPIs, AAR, AWP,…)</td></tr>
<tr><td>Baseline (31/12/2014)</td><td>Target (31/12/2015)</td></tr>
<tr><td>0 (work will start in 2015 among others in the context of the corresponding IAS audit recommendation – “comparative analysis”)</td><td>100% (templates ready and in application)</td></tr>
<tr><td colspan="2">Indicator: To reply timely to the interservice group consultations related to the preparation of the ‘common RTD position’ for the Governing Boards (GB).</td></tr>
<tr><td>Baseline (31/12/2014)</td><td>Target (31/12/2015)</td></tr>
<tr><td>n.a. (transitional year – second generation of JUs only launched in 2014)</td><td>100% (timeliness measured based on dates – GB meetings / internal (RTD) preparatory documents)</td></tr>
<tr><td colspan="2">Planned evaluations

1. Ex-post evaluations of the Research Executive Agency's (REA) and the European Research Council Executive Agency's (ERCEA) second three-year term of operations (planned to be achieved in 2015).</td></tr>
</table>

Financial Management

The overall objective is to ensure a sound and efficient execution of DG RTD's budgetary and financial matters by timely planning, steering and monitoring the budget implementation (time-to-pay).

A particular challenge for 2015 will be to continue the integration and manage the legacy activities of the past Framework Programmes including closing a very important amount of FP7 projects, implement and close audit results. All these efforts are made in the context of the change from a program management DG into a policy DG with a better allocation of the resources that will create efficiency and economy gains for DG RTD.

Specific Objective 3: To develop and monitor a harmonised and efficient financial operational framework for all Research Programme operations	
Indicator: Percentage of budget implementation of the annual voted budget	
Baseline (31/12/2013)	Target (31/12/2015)
100%	100%
Indicator: Payments postponed to the following year (in million €)	
Baseline (31/12/2013)	Target (31/12/2015)
0	0
Indicator: Percentage of payments of research grants on time	
Baseline (31/12/2013)	Target (31/12/2015)
93%	More than 95%
Indicator: Percentage of payments suspended	
Baseline (31/12/2013)	Target (31/12/2015)
47%	40%
Indicator: Number of open FP6 projects (open Final Date of Implementation (FDI))	
Baseline (31/12/2013)	Target (31/12/2015)
100	0
Indicator: Number of FP7 projects still open more than 12 months after the contract end date	
Baseline (31/10/2013)	Target (31/12/2015)

800	Less than150
Indicator: Percentage of extrapolations completed	
Baseline (31/12/2013)	Target (31/12/2015)
FP6 – 84.1% FP7 – 53.2%	FP6 - 95% FP7 - 80%

Internal Control and Risk Management

In the context of Internal Control and Risk Management, the objective is to define the risk management strategy and the integrated internal control framework and monitor their effective implementation in the Directorate-General.

Especially in 2015, the efforts will continue to work closely with internal and external auditors to ensure that:

- They receive full cooperation from RTD services;

- That their findings take account of all relevant information and are balanced;

- That recommendations are only accepted (and preferably made) when they have a positive cost-benefit;

- That recommendations receive appropriate follow up.

Efforts will continue to maintain a high level of control along with the development of a strategy to guarantee the most efficient trust-control balance.

Specific Objective 4: To define and propose an integrated internal control framework and monitor its effective implementation throughout the Directorate-General	
Output Indicator: Number of external reports that contain recommendations that are not justified on a cost-benefit basis (source: IAS, COA reports)	
Baseline (12/11/2014)	Target (31/12/2015) (Source : ASUR)
1	0
Output Indicator: Number of overdue audit recommendations	
Baseline (12/11/2014)	Target (31/12/2015) (Source : ASUR)
1) There are no overdue Critical IAS recommendations. 2) There are no overdue IAS Very Important recommendations.	1) no overdue critical recommendations 2) >10% of very important recommendations overdue (as a

3) There are no overdue IAS Important recommendations.	proportion of total open VI recommendations 3) >20% of important recommendations overdue (as a proportion of total open important recommendations)

Document Management

In the context of Document Management, the overall objective is to implement the Commission policy (E-domec) in this area and to develop a new approach and concept for DG RTD's Library. The unit is also in charge of the application and integration of the EMAS policy.

Particular challenges for 2015 are the move to a paperless system and the development of the DG RTD library.

Specific Objective 5: To ensure the transition towards paperless document management, integrate the EMAS strategy in our daily work	
Indicator: Percentage of documents registered with an e-signatory workflow (data collected from ARES) Outputs: Reduce paper sheets consumption, more efficiency and time-saving, immediate notification, preservation of the approval process and more security	
Baseline (31/06/2014)	Target (31/12/2015)
83%	More than 80% *Target decided by the SG*
Indicator: Number of paper sheets consumed (data collected from OIB invoicing) Outputs: Achieve financial economies and reduce the environmental impact of our daily work	
Baseline (2014)	Target (2015)
13,720,000 paper sheets	- 2% *Target decided by DG HR*

Cost efficiency indicators

The Annual Activity Report 2014 of DG Research and Innovation included, for the first time, estimates of the costs and benefits of controls at different stages of the management and control cycle. These will be further developed over time. Some of the estimates for 2015 are set out below. DG Research and Innovation is committed to an efficient and effective internal control system. The objective is therefore that, over time, there will be continuous improvements in efficiency and effectiveness, which would mean, over the medium term, a reduction in the overall cost of control. However, this will be difficult to assess in the short term. This is particularly because of the parallel running of FP7 and Horizon 2020. During 2015 some control operations will deal with FP7, some with Horizon 2020. However, the expenditure on the different schemes will not necessarily vary in the same proportion as control and management costs. Comparisons in the short term will therefore not necessarily be meaningful.

A first estimate of the costs of the supervision of external entities was made in the AAR 2013 and reported below. This will be further developed.

Grant indicators
Baseline AAR2013
Objective: Continuous improvement

Stage	Indicators (annual indicators)	Description
Overall indicator	Overall cost of control **2.06%**	Total cost of controls of process / total expenditure executed during the year (payments made); from the expenditure is excluded the amount delegated or subject to a distinct discharge report
All controls for the programming, evaluation and selection of proposals	Cost of evaluation and selection procedure/ value contracted **(Ü/o)** **0.84%**	Cost of programming + evaluating + selecting grants / value of grants contracted
From legal commitment up to payment included	Cost of control from contracting and monitoring the execution up to payment included/ amount paid (%) **0.85%**	Cost of controls related to the contracting and subsequent monitoring of the execution /amount paid
Ex post	Cost of control ex post audits/ value of grants audited **6.49%**	Total cost related to ex post audits / grants audited

Indirect management
Baseline AAR2013
Objective: Continuous improvement

Stage	Indicators (annual indicators)	Description
Overall indicator	Overall supervision cost per (type of) entrusted entity (Ü/o) EAs: overall cost €1.26 million or 0.06% of the amount of expenditure (based on 12.5 FTE estimation) JUs Total cost of supervision €1.06 million; (3.5*3 FTE estimation) 0,21%	Costs of staff supervising entrusted entities/total expenditure of the entrusted entity
Overall indicator	Cost of remuneration fees paid to entrusted entity (B/o) Data not available in 2013 AAR	All types of remuneration fees paid to entrusted entities during the year / the amount delegated to the entrusted entity(ies) without the remuneration paid **(B/o)**

3. Common Support Centre

ABB activity: AWBL 02 – Common support Centre	
Specific Objectives for 2015	Time-to-Grant 1. To monitor progress in the acceleration of procedures and processes leading to the signature of grant agreements under Horizon 2020. Legality and regularity of operations 2. By means of ex-post financial audits to provide reasonable assurance that grant beneficiaries of the research framework programmes are in compliance with the terms of the contracts and the rules for participation; to provide reasonable assurance that the financial interests of the Commission are safeguarded. Anti-fraud Strategy 3. To contribute to the implementation of the fraud detection part of the anti-fraud strategy of the Research Family. IT Strategy 4. To establish common IT systems, which support and harmonise the implementation of Horizon 2020.

Financial resources (€) in commitment appropriations			Human resources		
Operational expenditure	Administrative expenditure (managed by the service)	Total	Establishment plan posts	External personnel	Total
-	-	-	79	40	119

The Common Support Centre (CSC) for Horizon 2020 has been set up by Commission Decision C(2013)8751 of 4 December 2013 with the aim to provide high quality services to all research Directorates-General, Executive Agencies and Joint Undertakings implementing Horizon 2020 in the following areas: legal support, ex-post audit, information technology systems and operations, business processes and programme information and data.

Therefore, the objectives and indicators mentioned in this document do not refer only to DG Research and Innovation but to the performance of the CSC.

Time- to- Grant

The time-to-grant (TTG) is defined as the administrative period between submission of a proposal (call deadline) and signature of the grant agreement. The Commission is committed to reduce in Horizon 2020 the TTG to a general maximum of 8 months (five months for evaluation and three months for grant preparation). This commitment is documented in the Horizon 2020 Rules for participation and dissemination and is part of the Commission's ongoing efforts to streamline, harmonise and accelerate procedures and processes linked to programme and project implementation that commenced under FP7 and are further intensified under Horizon 2020. In this respect, it should be noted that the overall TTG target of 8 months under Horizon 2020 is more rigorous than the corresponding time limit of 9 months stipulated in the article 128 (2) of the Financial Regulation.

Specific objective 1: To monitor progress in the acceleration of procedures and processes leading to the signature of grant agreements under Horizon 2020	
Indicator: Share of grants signed with a time-to-grant within 240 days	
Baseline (2014)[46]	Target (31/12/2015)
-	100%

Legality and regularity of operations

The Common audit service contributes to assessing the legality and regularity of framework programmes project payments by means of ex-post financial controls carried out, either by its own auditors or by independent audit firms. It provides the relevant Authorising Officers by Delegation with necessary elements of assurance on the research budget for which they are responsible.

[46] Due to the small number of Horizon 2020 grant agreements expected to be signed in 2014, a meaningful baseline cannot be provided. A baseline for FP7 is not provided, as the binding target of 8 months for "time-to-grant" has only been introduced in Horizon 2020. In FP7 there was a (not legal) target of 270 days. Therefore, a meaningful comparison is not possible.

Specific objective 2: By means of ex-post financial audits to provide reasonable assurance that grant beneficiaries of the research framework programmes are in compliance with the terms of the contracts and the rules for participation; to provide reasonable assurance that the financial interests of the Commission are safeguarded	
Indicator: Number of audits closed in the year	
Baseline	Target (31/12/2015)
-	474

Anti-fraud Strategy

As from 2014, the Common Audit Service of the CSC has been contributing to the anti-fraud detection activities of the Research Family.

Specific objective 3: To contribute to the implementation of the fraud detection part of the anti-fraud strategy of the Research Family	
Indicator: Number of audits focused on detecting fraud	
Baseline	Target (31/12/2015)
-	Between 12 and 15

IT Strategy

Long term objective: Established common IT systems, which support and harmonise the implementation of Horizon 2020.

Short term objectives (2015 -2016)

- Complete, consolidate and ensure smooth operation of the Horizon 2020 systems supporting the full cycle of proposal and grant management;
- Support to non-Horizon 2020 programmes (COSME, RFCS, educational programmes), as foreseen in the delegation decision;
- Functioning IT services (helpdesk, training, testing,…) for the whole Research family
- Preparatory work for extended support to non-Horizon 2020 programmes in agreement with established priorities of the Research family.

DG Research and Innovation only:

- Maintain and smoothly operate the FP7 legacy systems;
- Appropriate support to the users of DG Research and Innovation for office automation.

Medium term objectives (2017-2018)

- Maintenance and improvements to the Horizon 2020 IT systems for the full cycle of grant management.

- Extended support to non-Horizon 2020 programmes, in agreement with the policy on IT rationalisation of the Commission and also dependent upon degree of business harmonisation.

5.4 Examples of specific efforts to improve economy and efficiency of financial and non-financial activities

1. Common IT infrastructure

Two Governance Committees have been set up within the recently created Common Support Centre (CSC) in order to analyse, centralise and coordinate the IT needs of the whole Research family, including the Executive Agencies. The aim of these Committees is to develop an annual work programme for the implementation of solutions common to the Research family. Additionally, maintenance and constant improvements to the IT applications are foreseen to guarantee the quality of the IT infrastructure.

This is an improvement over the situation during FP7 where there were a variety of systems managed by different DGs. A common system for the whole Research family will provide better services to beneficiaries of Horizon 2020. It allows for harmonisation and economies of scale in development and operations.

2. Centralisation of some Public procurement services and of FP7 audit implementation (including management of extrapolations)

Centralisation of some Public procurement services will ensure that sufficient expertise is brought to the Public Procurement process, leading to reduced errors. It will also allow for some savings in staff as specialist staff will undertake some functions, rather than spreading it around the Directorate-General. Centralisation of FP7 audit implementation and extrapolation (on closed contracts) means that there is a harmonised and better organised approach, especially useful when audits or extrapolations concern projects in different areas. The centralisation should lead to staff savings, but also to more efficient implementation, for the Commission but also for beneficiaries.