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Investing in partnerships in research and innovation

Why is the European Commission proposing EU funding for research and innovation partnerships with the private sector and Member States under Horizon 2020?

Research and innovation are critical to create new, better paid and more durable jobs and sustainable economic growth, to improve quality of life and to boost Europe's global competitiveness. In certain well defined areas, formal partnerships with the private sector and/or with Member States is the most effective way of meeting the objectives of the new EU research and innovation programme Horizon 2020 in terms of major societal challenges and industrial leadership.

That is why the Commission has today tabled legislative proposals to establish a series of partnerships under Horizon 2020 with the industry and with the Member States.

What are these partnerships?

The public-private partnerships proposed today are in form of Joint Technology Initiatives (JTIs). They represent the joining of forces between the EU and industry and provide vital funding for large-scale, longer-term and high risk/reward research. They set out commitments, including financial commitments, over a seven year period from both the EU and from the industry partners. They each have clear objectives which need to be achieved by the Partnerships. JTIs bring together companies, universities, research laboratories, innovative SMEs and other groups and organisations around major research and innovation challenges. They establish their own strategic research and innovation agendas, bringing together companies, universities, research laboratories, innovative SMEs and other groups and organisations, and fund projects selected through open and competitive calls for project proposals. The JTIs are established under Article 187 of the Treaty on the Functioning of the European Union (TFEU) and managed by dedicated entities called Joint Undertakings.

The Commission is proposing today to establish five of these JTIs under Horizon 2020 as well as a sixth public-private partnership (SESAR) in a different form.

Alongside these, the Commission proposes to establish four Joint Programmes with EU Member States. These are set up under Article 185 of the TFEU and help EU Member States to integrate and coordinate their own national research programmes to ensure better use of resources.

What are the benefits for Europe?

Partnerships in research and innovation are powerful and much needed tools to deliver on the objectives of Horizon 2020 for a number of reasons. They address strategic technologies that will underpin growth and jobs in key sectors of a knowledge-based European economy. Over four million Europeans are currently employed in these sectors. They make funding more efficient by pooling financial, human and infrastructure resources and they aid in getting innovative technologies faster to the market. They also help make Europe a more attractive location for international companies to invest and innovation. The partnerships contribute to meeting many EU objectives including 3% of GDP invested in R&D and 20% of GDP coming from manufacturing by 2020.

The evaluations of the current JTIs show that they attract a high level of industrial participation including that of SMEs, they develop long-term commitments and strategies in research and innovation as well as interdisciplinary approaches to address complex problems.

What will these partnerships focus on?

Most of the investment will come through five JTIs. In line with the priorities of Horizon 2020, they will address some of the most pressing economic, societal and environmental challenges that Europe and the world are facing. More information about these initiatives can be found in dedicated fact sheets:

- Clean Sky 2 (CS2): to develop cleaner, quieter aircraft with significantly less CO2 emissions ([Link to factsheet](#))
- Innovative Medicines 2 (IMI2): to develop next generation vaccines, medicines and treatments, such as new antibiotics ([Link to factsheet](#))
- Fuel Cells and Hydrogen 2 (FCH2): to expand the use of clean and efficient technologies in transport, industry and energy ([Link to factsheet](#))
- Bio-based Industries (BBI): to use renewable natural resources and innovative technologies for greener everyday products ([Link to factsheet](#))
- Electronics (ECSEL): to boost Europe's electronics manufacturing capabilities ([Link to factsheet](#) and [MEMO/13/673](#))

Besides these JTIs, the Commission is also proposing to extend the SESAR (Single European Sky ATM Research) project. This is the technical pillar of the Single European Sky initiative, which aims to modernise Air Traffic Management in Europe.

The four joint programmes with Member States and their aims are:

- European and Developing Countries Clinical Trials Partnership 2 (EDCTP2): to reduce the social and economic burden of poverty related diseases;
- The European Metrology Programme for Research and Innovation (EMPIR): to provide new measurement technologies;
- Eurostars 2: to stimulate growth and job creation by supporting innovative SMEs;
- Active and Assisted Living Research and Development Programme: to improve the quality of life for the elderly and to increase the sustainability of care systems.

Who can participate in these Partnerships?

The Joint Technology Initiatives will all run competitive calls which are open to the participation of companies, SMEs, universities, research organisations and others, and where the best projects will be selected for funding through peer review. There are also opportunities for interested organisations to become new members of the Partnerships during the implementation.

What will be the budgets of these partnerships?

In total, this Innovation Investment Package represents an investment of €22 billion into Europe's future. Over the next seven years, the EU's contribution of €8 billion will mobilise €10 billion from the private sector and close to €4 billion from Member States.

The five JTIs are expected to mobilise a total investment of over €17 billion, of which the EU budget contribution will be up to €6.4 billion.

How will industry make financial commitments to the Partnerships?

The industry partners will make financial contributions in a number of ways depending on the specific nature of the Partnership. Industry will finance the activities of the JTI either through funding all or part of its own costs in participating in the projects selected through calls for proposals, or by financing additional activities outside the calls for proposals, or by contributing to the budgets of the calls for proposals. In all cases, the partners will also contribute half of the costs of running the Joint Undertaking which will manage the Partnership.

Innovation Investment Package - total investments (2014-20) (in € millions)

Joint Technology Initiatives			
JTI	EU (Horizon 2020) + EU Member States (for Electronics only)	Industry	Total
Innovative Medicines Initiative 2	€1725	€1725	€3450
Fuel Cells and Hydrogen 2	€700	€700	€1400
Clean Sky 2	€1800	€2250	€4050
Bio-based Industries	€1000	€2800	€3800
Electronic Components and Systems	€1215 (+ €1200 from EU Member States)	€2400	€4815
<i>Total JTIs</i>	<i>€7640 (€6440 from Horizon 2020 + €1200 from EU Member States)</i>	<i>€9 875</i>	<i>€17 515</i>
Joint Programmes with Member States			
Public–public Partnership	EU (Horizon 2020)	Member States	total
European and Developing Countries Clinical Trials Partnership 2 (EDCTP 2)	€683	€683	€1366
European Metrology Research Programme (EMPIR)	€300	€300	€600
Eurostars 2 (for SMEs)	€287	€861	€1148
Active and Assisted Living Research and Development Programme	€175	€175	€350
<i>Total joint programmes</i>	<i>€1445</i>	<i>€2019</i>	<i>€3464</i>
SESAR Joint Undertaking			
JU	EU (Horizon 2020)	Eurocontrol and other members	total
European Air Traffic Management (SESAR)	€600	€1000	€1600
TOTAL			€22579

Are these partnerships a new idea, will they work?

Most of the partnerships were started and proved successful under the current 7th research framework programme. The legislative proposals presented today are necessary to re-establish the existing initiatives with new objectives and budgets under Horizon 2020 and to set up new ones.

All of the current partnerships have been the subject of independent evaluations and the recommendations from these evaluations have been used to improve the new partnerships.

How much has the EU spent on existing JTIs?

Under the 7th research framework programme, the JTIs represented a total EU contribution of €3.1 billion, matched by an industry investment of €4.7 billion. From the beginning of activities until 2012, they account for 587 funded projects in total which had a total of 4777 participants. In general, JTIs have proven to be successful in attracting a high level of industrial participation in their activities, including SMEs who represent about a quarter of the participants.

What have the current JTIs achieved?

The JTIs have only been fully operational for a limited time, but they are already having a positive impact. This shows that they can deliver on turning challenges into opportunities.

For example, the Fuel Cells and Hydrogen JTI has put in place a significant project portfolio of strategic importance and already introduced some early applications such as forklifts, small back-up power units and new types of hydrogen-powered buses to the market. Technologies developed or under development by the Clean Sky JTI, such as new types of aircraft wing, are estimated to be able to reduce aviation CO2 emissions by more than 20%. The Innovative Medicines Initiative JTI has scored a number of achievements such as discoveries that bring new hope to diabetes sufferers. And research by the ENIAC and ARTEMIS JTIs, which are being merged into the new ECSEL JTI, has resulted, for instance, in drastically higher efficiency of electric vehicles and much greater reliability of electronic systems used in transportation.

More information about the successes of the current initiatives can be found in dedicated factsheets.

What will be new under Horizon 2020?

The new JTIs are based on the new objectives under Horizon 2020 and build on the successful experience under FP7. The new JTIs represent a higher level of ambition with increased budgets and more challenging objectives in order to increase their impact. They incorporate major simplifications resulting from Horizon 2020 and through the use of simpler financial rules. The industry commitments to the JTIs are significantly higher than in FP7 and include additional activities that will be solely financed by the industry partners, in particular to help ensure the effective deployment of the new technologies.

When will the new Partnerships start?

The proposals will now need to be agreed by the Council of the EU and the European Parliament. They are also subject to the agreement of the overall legislation for Horizon 2020 by the European Parliament and the Council of the EU. The Commission has presented the legislative proposals today in order to allow the Council and the European Parliament sufficient time to reach agreements for the start of Horizon 2020 at the beginning of 2014.

Useful links:

Joint Technology Initiatives

Clean Sky: <http://www.cleansky.eu/>

Fuel Cells and Hydrogen: <http://www.fch-ju.eu/>

Innovative Medicines Initiative: <http://www.imi.europa.eu/>

Electronics (ECSEL) – ARTEMIS: <http://www.artemis-ju.eu/> and ENIAC: <http://www.eniac.eu/>

Bio-based Industries: <http://bridge2020.eu/>

Joint Programmes with Member States

European and Developing Countries Clinical Trials Partnership: <http://www.edctp.org/>

European Metrology Programme for Research and Innovation:
<http://www.emrponline.eu/>

Eurostars: <http://www.eurostars-eureka.eu/>

Active and Assisted Living Research and Development Programme:
<http://www.aal-europe.eu/>

Others

SESAR: <http://www.sesarju.eu/>