



Horizon 2020: Work Programme update supports competitiveness through open science.

Brussels, 25 July 2016

Spanning seven years (2014 to 2020) and working with a budget of €77 billion, Horizon 2020 is the biggest EU research and innovation funding programme ever.

Today, the European Commission confirmed the calls and other actions of the second year of the two-year work programmes setting out funding opportunities for 2017 (see [IP/15/5831](#)).

The calls and other actions under the current [work programme](#) updates have a budget of €8.5 billion. All the calls and related information are published on a single portal.

The 2016-2017 Work Programme builds on the success of Horizon 2020 to date, but the current update introduces important novelties. It has the potential to change the nature of EU-funded research thanks to the introduction of open research data in all new Horizon 2020 calls. In response to the migration crisis funding is made available to coordinate research communities and make policy recommendations to facilitate labour market integration of migrants. It also includes key actions supporting a forward-looking climate change policy.

Key Priorities for 2017

Horizon 2020 Work Programme is directly aligned with the agenda of the Commission. It will contribute to the Jobs, Growth and Investment Package helping to strengthen Europe's global competitiveness through innovation to create new and sustainable jobs and promote growth. All the calls for proposals and activities will contribute substantially to this policy area as well as contributing in broader terms to one or more of the other areas.

1. A new Boost for Jobs, Growth and Investment

The Commission's top priority is to get Europe growing again and to increase the number of jobs without creating new debt. Research and innovation investments will cover both the immediate need to engage the re-industrialisation of Europe as well as the longer-term objective of building solid knowledge needed for the next wave of innovative breakthroughs. Some new examples in the Work Programme feeding this priority are:

- As of the Work Programme 2017, the current Open Research Data Pilot will be extended to cover all thematic areas of Horizon 2020, making **open research data the default setting**. This move will boost competitiveness by accelerating innovation and collaboration, improving transparency, and avoiding duplication of efforts. However, the Commission is aware that there are cases where research data cannot be open. Projects therefore have the possibility to opt out of the Pilot, provided a justification is given for doing so. Participation in the Pilot is not taken into account during the evaluation procedure.
A further new element in Horizon 2020 is the use of Data Management Plans (DMPs), detailing what data the project will generate, whether and how it will be made accessible for verification and re-use, and how it will be curated and preserved. The use of a DMP is required for projects participating in the Open Research Data Pilot. Other projects are invited to submit a DMP if relevant for their planned research. A full DMP is not needed at application stage- only funded projects are required to submit a DMP. See [infographic](#) on how this will work in practice. Further guidance on the Pilot on [Open Research Data](#) and [Data Management](#) is available on the Participant Portal.
- Around €1.45 billion of the total funding in the Work Programme 2017 will go to **small and medium-sized enterprises (SMEs)**, including €438 million through a dedicated instrument which should benefit over 1000 highly innovative SMEs. On top of that, financial instruments, targeted in particular to SMEs, will increase the opportunities for funding to support research and innovation. These investments continue to be intensified with the support of the European Fund for Strategic Investments (EFSI).
- Through the **European Research Council (ERC)**, the best researchers will be able to investigate the best ideas that could lead to innovative growth-enhancing breakthroughs. In 2017 alone,

almost €1.8 billion – worth around 1000 grants - will be available through ERC calls. Also in 2017, more than 10.000 fellows will benefit from high-quality training and career development opportunities abroad thanks to **Marie Skłodowska-Curie actions**.

- Seven **Public-Private Partnerships** (PPPs) address strategic technologies that underpin growth and jobs in key European sectors in fields such as innovative medicine, fuel cells and hydrogen, electronics, aeronautics and bio-based industries. Further investment is leveraged through contractual PPPs working in areas such as factories of the future, robotics and green vehicles, and also cybersecurity, for which the partnership was signed in the beginning of July.

€291 million is available to foster the development and long term sustainability of new pan- European **research infrastructures**, support the integration and openness of key national infrastructures, and further develop and deploy e-infrastructures for research.

2. A Stronger Global Actor, Towards a New Policy on Migration, and an Area of Justice and Fundamental Rights Based on Mutual Trust.

The Work Programme is flexible and capable of addressing topical issues that matter the most to European citizens. Some key examples are:

- The €11 million package of **migration actions** aims to bring together pertinent research communities to map, assemble and synthesise currently running migration research in Europe. It will compare national asylum laws and policies, including their implementation under stress, and identify ways for more harmonisation. It will also make policy recommendations on how to facilitate labour market integration of migrants. For details see [factsheet](#).
- The **Fight against crime and terrorism** part of the Security calls, with a budget of €49 million, will develop new ways of fighting and preventing organised crime and tackling terrorist ideas and beliefs, while guaranteeing fundamental rights and values.
- **International cooperation** calls and targeted initiatives will help boost research and innovation cooperation with countries outside Europe and effectively tackle common societal challenges.

3. A Resilient Energy Union with a Forward-Looking Climate Change Policy

A European Energy Union will ensure that Europe has secure, affordable and climate-friendly energy. Wiser energy use while fighting climate change is both a spur for new jobs and growth and an investment in Europe's future. Activities for 2017 will help mobilise Europe's research excellence to generate innovative solutions in this area, for example:

- Growing water demands, mismanagement of water use and climate change are increasing the stress on water supply, water bodies, and associated ecosystems and infrastructures, and emphasise the need to close the water cycle gap, by reconciling water supply and demand in both quantitative and qualitative terms. The new **'Closing the water gap'** topic with a budget of €10 million in the 'Greening the economy' call will reduce fragmentation of water research and innovation efforts across Europe and contribute to the implementation of the Sustainable Development Goals (SDGs) as well as the conclusions of the COP21 Paris Agreement on climate change.
- Research to support the future development of a production base for next generation Lithium battery cells or post-lithium battery cells would enable Europe to compete with world leaders in this sector. The €133 million call for Green Vehicles includes around €20 million for the development of a **new generation of cells and their integration in competitive batteries**. The ambition is to allow Europe to recover competitiveness in the production of future cells and batteries for transport and energy applications.
- The Energy calls in 2017 dedicate more than €84 million for developing energy storage systems improving the flexibility of the energy grid to integrate an increasing share of renewables. These efforts reinforce the Energy Challenge's strong support of previous years for energy storage, including batteries, which bring the investment to almost € 200 million (2014-17).
- The €280 million sustainable food security call will ensure food and nutrition security, by fostering resilient and resource efficient primary production and industry as well as sustainable and healthy consumption. €4 million will support the policy development and implementation of the European Commission's **FOOD 2030 initiative** to connect, structure and scale-up research and innovation for food and nutrition security in Europe, but in a global context.

4. A Deeper and Fairer Internal Market with a Strengthened Industrial Base

The Single Market is one of Europe's major achievements and its best asset in times of increasing

globalisation. It is an engine for building a stronger and fairer EU economy. This Work Programme will contribute to maintaining and reinforcing the internal market as well as European industrial base, through activities such as:

- The call on **Industry 2020 in the Circular Economy** (€225 million) which will contribute to **boosting and renewing Europe's industrial capacities** while ensuring sustainability.
- The call on **personalised medicine** (€332 million) which will boost European industry and the so-called silver economy by investing in strategies for earlier and more effective prevention, diagnosis and treatments, and help Europe address the ageing population and chronic disease burden.
- The **Mobility for Growth** call (€227 million) which will strengthen transport's role as the artery of the single market.

The summer update includes a revision of the EU Prize for Women Innovators with €20,000 to be awarded to a 'Rising Innovator' targeting young female entrepreneurs.

5. A Connected Digital Single Market

The internet and digital technologies are transforming our world. But existing barriers online mean citizens miss out on goods and services, internet companies and start-ups have their horizons limited, and businesses and governments cannot fully benefit from digital tools. Research and Innovation will contribute to innovative digital solutions, for example, through the following actions in 2017:

- A major ICT call (€625 million), which will support Europe's position in key areas such as electronics, computing, networking, robotics and photonics.
- The Digital Security call (€56 million), which will allow starting the implementation of the recently signed public-private partnership on cybersecurity, will address opportunities as well as vulnerabilities linked to ICT-driven transformation.
- An Automated Road Transport call (€50 million over two years) will address a paradigm shift in the automotive sector that promises to drastically improve safety and energy efficiency while reducing congestion and emissions.
- Four new Horizon Prizes, which will focus on boosting innovation in digital technologies, offer €11 million to winning solutions.

6. Cross-cutting and other features

- Horizon 2020 will continue supporting a range of cross-cutting initiatives in 2017: Industry 2020 in the Circular Economy (€325 million) to develop strong and sustainable economies; Smart and Sustainable Cities (€115 million) to better integrate environmental elements, transport, energy and digital networks in the EU's urban environments; Technologies and standards for automatic driving (over €50 million); and the Internet of Things (€37 million) to foster the take-up of digital technologies.
- Closing the research and innovation divide among countries to bring excellence to all corners of the EU will remain a key objective with the "Widespread" call (€111 million).

	Calls	2017
Excellent Science Pillar		
European Research Council	4 calls	1767.00
Future and Emerging Technologies	3 calls	162.80
Marie Skłodowska-Curie actions	5 calls	840.20
European research infrastructures (including eInfrastructures)	5 calls	291.00
Industrial Leadership Pillar		
Information and Communication Technologies	2 calls	633.50
Nanotechnologies, Advanced Materials, Biotechnology and Production	2 calls	313.75
Space	3 calls	98.50
Access to risk finance	Financial instruments	397.50
Innovation in SMEs	2 calls	463.41
Societal Challenges Pillar		

Health, demographic change and wellbeing	2 calls	331.76
Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy	4 calls	416.44
Secure, clean and efficient energy	2 calls	526.89
Smart, green and integrated transport	3 calls	409.70
Climate action, environment, resource efficiency and raw materials	1 call	223.60
Europe in a changing world – inclusive, innovative and reflective Societies	4 calls	126.05
Secure societies – Protecting freedom and security of Europe and its citizens	3 calls	206.15
In addition		
Spreading excellence and widening participation	1 call	111.38
Science with and for society	1 call	55.05
Cross-cutting activities (Focus Areas)	3 calls	475.45

Please note budget figures do not contain 'Other actions' such as public procurements etc.

Research Integrity

The EU's Horizon 2020 research funding programme has now a more specific set of rules on research integrity to be followed by beneficiaries. This is thanks to the new provisions in the Horizon 2020 Model Grant Agreement.

The [revamped model agreement](#) provides more clarity on previously general requirements contained in Article 34 of the agreement. The article now explicitly calls for beneficiaries to respect the principles of honesty, reliability, objectivity, impartiality, open communication, duty of care, and fairness and responsibility for future science generations.

The Commission also plays a key part in the recently launched revision of the [European Code of Conduct for Research Integrity](#). The process is led by All European Academies (ALLEA) in cooperation with stakeholders including industry, academia and research funders. Once updated, in January 2017, the new code together with the revised Article 34 will constitute an effective mechanism to promote adherence to the highest standards of research integrity across Europe.

More information:

- [Participant Portal](#)
- [Horizon 2020 website](#)

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