

The Need to Support Excellent Fundamental Research



Horizon Europe must offer increased support to excellent curiosity-driven, fundamental research to:

Keep or attract the best brains in Europe

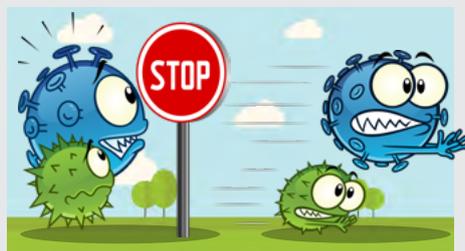
The international science and innovation scene is increasingly competitive. Over the last 15 years, almost 36,000 more scientists left the EU-28 than entered it.¹ Europe must remedy that.

By keeping the strong requirements of 'scientific excellence' in European funding instruments such as the European Research Council and the Marie Skłodowska-Curie Actions, there is a better chance of **keeping both promising and leading researchers in Europe.**²



Develop knowledge, understand the world around us, and find answers to today's and future questions

In 2018, a Belgian team funded by the **European Research Council (ERC)**³ identified the type of tumour cells causing metastases in skin and breast cancer. For the first time, scientists can define the tumour growth phases during cancer progression. This will allow the development of new strategies to block tumour progression and metastasis.



The European Network for Cybersecurity, **funded by the Marie Skłodowska-Curie Actions** and co-ordinated by the Italian National Research Council (CNR), trains young researchers in all aspects of cybersecurity.

More cutting-edge research and highly-qualified researchers are urgently needed to address evolving threats, such as unauthorised access to computer systems and personal data, and to develop the information technology of the future.

Pave the way for tomorrow's innovation

The capture and subsequent use of solar energy would never have been possible without prior investments and discoveries in chemistry, physics, nanotechnology, and so on.

Becquerel, Planck, and Einstein could not have foreseen that **what began as basic laboratory experiments would lead to photovoltaic technologies** that can now power the devices of our everyday lives.



The European Spallation Source, under construction in Sweden, can be compared to a giant microscope for the study of different materials – from plastics and pharmaceuticals, to engines, proteins, molecules and nanotechnology. Its design study was **funded by the Research Infrastructures programme of the previous EU Framework Programme.**

This facility has no equal in the world and will lead to discoveries across all scientific disciplines (including materials, life sciences, energy, environmental technology, cultural heritage, and fundamental physics).

To achieve these three objectives, the budgets of the European Research Council, the Marie Skłodowska-Curie Actions, and the Research Infrastructures included in the pillar 'Open Science' of Horizon Europe must be increased and collaboration with fundamental research should be supported in all parts of the programme.

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1. OECD Science, Technology and Industry Scoreboard 2017
2. Directorate General for Internal Policies – Policy Department A: Economic and scientific policy, 'The Attractiveness of the EU for Top Scientists', June 2012, IP/A/ITRE/ST/2011-17 PE 475.128
3. ERC Project EXPAND (Defining the cellular dynamics leading to tissue expansion) 2014–2019, Cedric Blanpain, Université Libre de Bruxelles

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Science Europe is a non-profit organisation based in Brussels representing major Research Funding and Research Performing Organisations across Europe.

More information on its mission and activities is provided at www.scienceeurope.org.

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