



Horizon Europe

A policy position from the Royal Society of Chemistry

About us

With over 55,000 members in 120 countries and a knowledge business that spans the globe, the Royal Society of Chemistry is the UK's professional body for chemical scientists, supporting and representing our members and bringing together chemical scientists from all over the world.

Our members include those working in large multinational companies and small to medium enterprises, researchers and students in universities, teachers and regulators.

Summary

The European Commission's has announced its proposal for the €97.6bn Horizon Europe programme to run from 2021-2027. The proposal will undergo the necessary legislative procedures to be adopted into EU law, enabling scrutiny and potential changes.

We represent a global and interconnected network of chemists with members in 120 countries, including all the EU member states, and wider chemistry communities throughout the world. Many of these countries are active participants in the current programme, Horizon 2020, and we seek to ensure that all third countries, particularly those with strengths in excellent science, can associate fully with Horizon Europe.

- We welcome the news that the Horizon Europe proposal would continue to support excellent science, including fundamental research. It is essential that support for fundamental, curiosity-driven research is maintained. This type of research has the potential to deliver ground-breaking discoveries that open up new avenues for research and innovation.
- We welcome the initial proposal for associated countries outlined in the regulation. Allowing third countries to associate fully to Horizon Europe is essential in bringing together the most talented scientists, whether they are seeking solutions to global challenges or exploring fundamental research. Third countries with particular strengths in excellent science can also contribute to Horizon Europe's objectives under the Sharing Excellence pillars through their association.
- We seek to ensure that EU and other international programmes remain aligned to tackle global challenges and therefore welcome the thematic overlap between the Global Challenges of Horizon Europe and the [UN's Sustainable Development Goals](#). Complex challenges such as climate change, health or food security that affect people around the world need to be tackled on a global scale and across multiple disciplines and sectors.

Background

Fundamental research

Fundamental and curiosity-driven research, supported by instruments such as the European Research Council (ERC) and Marie-Skłodowska Curie Actions, underpins current and future research and innovation activities. While the impacts of fundamental research can be long-term, its discoveries can lead to revolutionary new technologies. For example, fundamental research in lanthanide chemistry begun at the University of Durham in 1993 was spun out into the company FScan Ltd in 2009. The research, supported in part by a €2.5m ERC Advanced Investigator Grant, has had an impact on the outcome of hundreds of high value litigation cases and led to a change in the US regulations in MRI scan agents, reducing sales of a more problematic scan agent by \$90m in the US alone.¹

International collaboration

Science can offer the greatest benefits to humanity when the most talented people come together to exchange ideas and share knowledge. Across all of the Royal Society of Chemistry's major scientific conferences held in the UK between 2015 and 2017, more than 50% of our delegates came from outside the UK.

Participation of third countries in Horizon Europe brings advantages to both the third country and to Europe, as it has through previous framework programmes. Of the 143 countries participating in Horizon 2020, 3 of the top 20 participants are third countries, accounting for 5.8% of the programme's funding.² The UK, which has the

potential to associate to Horizon Europe as a third country, is an active participant of Horizon 2020, collaborating with 133 of the participating countries. Between 2014 and 2016, UK participants led 20% of the programme's projects, helping to coordinate and drive collaborative research to benefit citizens across the EU.

Global challenges

The chemical sciences community is working to develop innovative technologies to address global societal challenges, from water purification membranes and drought-resistant crops, to new antibiotics, batteries and solar cells. The nature of such mission-led research is that it is broad, involves numerous overlapping disciplines and requires cooperation and collaboration. For example, the €5.3bn Innovative Medicines Initiative is the world's largest public-private partnership in the life sciences, supported by Framework Programme 7 and Horizon 2020. The partnership works towards speeding up the discovery and delivery of new medicines to patients across the world.³

To support the delivery of national grand challenges, scientists must have access to networks of global researchers that have expertise in relevant areas of research. Enabling scientists to be simultaneously involved in research linked to overlapping missions supports the diffusion of a wider range of knowledge, methods and options that can be applied in a national context. An independent report by Mariana Mazzucato, commissioned by the European Commission as part of the preparation of Horizon Europe, states that *"Importantly, such challenges cannot be solved by any single European country, no matter how large it may be"*.⁴

Contact

The Royal Society of Chemistry would be happy to discuss any of the issues raised in our response in more detail. Any questions should be directed to Izzie Radford, policy@rsc.org, 01223 432350.

¹ REF 2014 Impact Case Studies, <http://impact.ref.ac.uk/CaseStudies/CaseStudy.aspx?id=11777>

² <http://h2020viz.vinnova.se>, signed grants from eCORDA, March 6 2018

³ <https://www.imi.europa.eu/>

⁴ <https://publications.europa.eu/en/publication-detail/-/publication/5b2811d1-16be-11e8-9253-01aa75ed71a1/language-en>