

25 September 2020

The UK and Horizon Europe: Royal Society position statement

Principles for securing a strong UK-EU agreement on science

1. To meet our ambitions as a world leader in research and innovation the UK should seek an association agreement on Horizon Europe, with the maximum possible engagement and influence. Failing to secure association would undermine UK science.
2. The government should be prepared to make a net contribution to Horizon Europe, recognising the changed nature of the UK-EU relationship and unparalleled benefits of keeping UK science in European programmes.
3. The government should factor into its assessment of value for money the highly prized benefits of association including networks, access to infrastructure and top minds, economies of scale, and prestige.
4. The UK should run an ongoing assessment of value for money as Horizon Europe progresses once the UK is associated. However, it is better to be in the programme and have options than to be watching from the outside.

Protecting UK science and its reputation, whatever the eventual outcome

- The government must set aside funds to support association or, should we fail to secure a deal, to ensure that the benefits derived from the current research programme, Horizon 2020, are matched or exceeded. Any gap in funding would erode the UK's international relationships and undermine government ambitions to raise investment in R&D.
- To provide much needed confidence to UK-based researchers and our partners in Europe, the government must continue to reiterate and amplify assurances that the UK remains committed to seeking association. Government should also publish greater detail on its back up plans in the event of delays or no eventual agreement with the EU.

Background to Horizon Europe

Association to Horizon Europe does not preclude building science relationships with other regions and nations, rather it strengthens our value proposition to other potential science partners. It will allow us to continue to grow as a world leader in science, projecting our openness to international collaboration and attracting talent from around the world.

World-leading collaborative science requires three essential ingredients – mobility of scientists in and out of country, money that can move across borders within projects, and common mechanisms that embrace multiple nations at once. The EU Framework Programmes (Horizon 2020 and the soon-to-be launched Horizon Europe) contain all three in a way that is very difficult to replicate.

Association to EU's multi-billion pound Horizon Europe programme will ensure access to prestigious 'mono-beneficiary' schemes that are closed to non-associated countries, including the European Research Council (ERC) and Marie Skłodowska-Curie Actions (MSCA) grants.

Benefits to the UK public

Pooling our expertise with other European countries has led to advances in medicine and public health, cleaner energy, environment and transport innovations, and the creation of jobs in UK regions. For example:

- Horizon 2020 funding is supporting UK-EU collaborative research into COVID-19. This includes obtaining data regarding the nature of the virus and how it spreads, and providing infrastructure and co-ordination across clinical research networks to ensure all nations involved have access to the best available evidence on COVID-19¹.
- Cure rates for British children with leukaemia are being improved as a result of the IntReAll project involving researchers from Germany and the University of Manchester.
- Clean buses with zero emissions operate in London and Aberdeen thanks to the UK's participation in hydrogen fuel cell projects funded by the EU.
- ERC research has brought jobs to Merseyside with Unilever relocating staff as part of a multi-million pound investment in a materials chemistry hub with Liverpool University².

Benefits to UK science

Association to Horizon Europe is critical to maintaining the UK's scientific influence, networks and visibility on an international platform and to attracting inward R&D investment.

- Under Horizon 2020, the UK has received over £1.5 billion in ERC income and £776 million in MSCA grants - more than any other country and a fifth of the total.
- Europe is the UK's largest and fastest growing scientific collaborator in terms of co-authorship.
- 7 EU countries and Switzerland are among the UK's strongest 10 international collaborators.
- More than a third (33.5%) of UK research papers are co-authored with other EU and associated countries, compared with 17.6% with the USA.

What is at stake?

- Research grants delivered via Horizon Europe will secure talent in the UK. There are currently around 840 UK-based holders of ERC grants awarded in the last five years. Of these, 43% are UK nationals, 37% are EU grantees and 17% are non-EU grantees.³
- Each ERC grantee employs on average 6 researchers (including post-docs and PhD students) meaning approximately 2,800 researchers work on projects led by a UK-based grant holder⁴.
- Uncertainty regarding our future science relationship is already costing us funding and talent. The Royal Society reported a fall in the UK's share of EU research funding by 28% since 2015 (pre-referendum). Over the same period, 35% fewer researchers have come to the UK through the EU's MSCA fellowships.⁵ And around half (48%) of academics who left UK universities in 2018 to work or study overseas were EU citizens⁶.
- UK scientists are highly involved in COVID-19 related research funded by the ERC. Of 39 live projects in this area, 20% are led by the UK⁷.
- Access to highly competitive funding, which maintains a high standard of research. The EU draws on a vast network of excellent researchers and innovators who help identify and fund the most promising research proposals. The prestige of the ERC in particular derives from the scale of international involvement in its development. Recruiting an equivalent pool of experts –

¹ European Commission (I-MOVE-COVID-19 and (PREPARE)

² Royal Society (December 2019)

³ The nationality of the remaining 3% is unknown. Source: UKRO (March 2020)

⁴ UKRO (March 2020)

⁵ Royal Society (October 2019)

⁶ Times Higher Education (28 March 2020)

⁷ European Research Council (March 2020)

approximately 30,000 researchers from 34 countries – to take part in peer review is unachievable in a single country context⁸. UK funders who do not have access to this pool of experts would be less able to identify and fund the best science and therefore less competitive.

- The opportunity for innovators working in the UK to be part of the new European Innovation Council pilot, which was developed with the input of leading UK innovators and will support top-class innovators, entrepreneurs, small companies and scientists with bright ideas and the ambition to scale up internationally. They will have to leave the UK and work in an EU Member State or associated country to take part.
- Access to Horizon Europe's valuable collaborative schemes, which provide close to €1 billion for UK research and innovation annually. These are open to third countries and the government must stand by its commitment to fund UK partners to participate.

For further information please contact public.affairs@royalsociety.org

⁸ Royal Society (December 2019)