



Brexit & Beyond: Briefing for Policymakers

May 2018

Introduction and overview

This briefing outlines Wellcome's recommendations on UK/EU science and innovation post-Brexit. These are based on our report [Building a strong future for European science: Brexit and Beyond](#)¹ which was informed by wide consultation² across Europe, delivered in partnership with the Royal Society. We recommend:

- **Securing an early deal for science and innovation in Brexit negotiations.** Most importantly, this should include a quick and clear political agreement to create a path towards Associated Country status for the UK in Horizon Europe (Framework Programme 9). An agreement between the UK and EU would give much needed certainty to UK researchers and businesses, and Prime Minister Theresa May's statement at Jodrell Bank on full association to European science and innovation programmes is a welcome first step towards this.
- **Addressing the key issues for science and innovation in the October 2018 framework for future relations or in a stand-alone science agreement.** These include participation in relevant EU programmes over the long-term, cooperation on pre-competitive research regulation, and full researcher mobility between the EEA and UK. Expanding the UK visa system for non-EEA nationals is not good enough.
- In the longer-term, **EU and Associated Countries should work together to secure Europe's position as a world-leading location for science** by developing the European Research Area (ERA).

Recommendations

The UK and EU should secure an early deal for science and innovation in Brexit negotiations. Most importantly, this should include a path towards Associated Country status for the UK in Horizon Europe.

- **UK and EU ambitions for science post-Brexit are closely aligned.** The European Commission's LAB – FAB – APP report³ called UK participation in research a 'win-win' and the British Government has signalled its intent to forge a more ambitious and close science partnership with the EU than any yet agreed⁴. An early deal on science and innovation could also help to build trust on issues where there is less common ground.
- Through our Brexit consultation, there was strong consensus that cooperation through the EU Framework Programmes is a highly effective way of supporting international collaboration, and is essential if the UK is to maintain a close partnership with the EU. To deliver this, there should be a **quick and clear political agreement to create a path towards Associated Country status for the UK in Horizon Europe** – most importantly, this model would enable UK researchers and businesses to access all funding streams (see Wellcome's briefing [UK access to EU research framework programmes](#)). The UK should pay its fair share to access Horizon Europe – we estimate that it will become a small net beneficiary or small net contributor. The EU should also be pragmatic about the terms and ensure that legislation doesn't prevent the UK from becoming an Associated Country.
- **A quick agreement on Horizon Europe would give much-needed certainty to researchers and businesses throughout Europe.** Wellcome has already started to see signs of a decline in the flow of talent from the EU to the UK. In the last year, the proportion of EEA researchers applying for our early career schemes fell by 14% and the Wellcome Sanger Institute saw a near 50% drop in postgraduate applications from non-British EU nationals. The CBI reports that numerous collaborative projects involving British researchers and companies have been thrown into doubt since the referendum, and uncertainty about UK engagement in Horizon Europe is causing businesses to reconsider R&D investments⁵.

- **This is damaging for EU as well as UK science and innovation.** Collaboration and international partnership are the basis of great science. Mobile researchers have around 40% higher citation rates in scientific journals⁶ and collaborative publications generally have more impact⁷. UK-EU partnerships are critical and have helped to make Europe a world-leading location for science – with only 7% of the global population, the region produces a third of the world’s scientific publications^{8,9,10}. The UK and EU also aspire to increase investment in science and innovation which will depend on both public and private investment.

The key issues for science and innovation should be addressed in the October 2018 framework for future relations or in a stand-alone science agreement.

- EU Framework Programmes are the most effective multilateral funding schemes in the world, and are an efficient way of supporting international collaboration – **the UK should outline its intention to participate in these programmes in the future.** There would be major cost and logistical challenges to the UK setting up multiple bilateral schemes to replace existing arrangements with Member States. Framework Programmes are at the heart of national spending plans across Europe and beyond, with little budget left for additional deals.
- After Brexit, the **UK and EU should continue to cooperate on pre-competitive research regulation.** These shared standards reduce the cost of collaboration and resource-sharing, and generate more meaningful results by opening up the research process. This is particularly important for the UK, which has a relatively small population of 66 million compared to the EU27, USA and China, which have populations of 446m, 327m and 1.4bn. Cooperation on regulation should include the free flow of personal data for research, participation in the EU’s harmonised clinical trials system on a similar basis to Member States, and cooperation on rules to protect animals used for scientific purposes.
- There must be **full researcher mobility between the EEA and UK after Brexit.** This should remain as close as possible to current arrangements to maintain the benefits that free movement has delivered. Over half of the UK’s collaborative papers are with EU partners¹¹, and countries that are geographically close are more likely to collaborate¹². Britain is also a popular location for world-leading EU scientists – from 2007 to 2016, 22% of ERC grant-holders chose to work in the UK¹³. Critically, researcher mobility cannot be delivered by an expansion of the current UK visa system for non-EEA nationals. This system isn’t quick or agile, and it relies too heavily on salary and qualifications as a proxy for skill.

In the longer-term, the EU and Associated Countries should work together to secure Europe’s position as a world-leading location for science by developing the ERA.

- In the face of complex health and societal challenges, and increasing international competition, **EU and Associated Countries must work together to secure the region’s scientific excellence and leadership.** Together, Europe has built a world-class funding agency in just a decade – the European Research Council – and invested in unique facilities, from CERN to the European Laboratory of Molecular Biology. European countries share common values and lead the world in developing regulation. For example, EU data protection law sets the gold standard for sharing personal data in health research. But we cannot be complacent – China’s investment in research is growing over three times as fast as the EU’s¹⁴.
- To deliver this close cooperation on science, the **EU and Associated Countries should accelerate and deepen development of the ERA** so that the region can capitalise on the strengths and talents of a wider group of nations. After Brexit, the value of these partnerships will further increase – if the UK were to secure Associated Country status (and assuming a flat budget from Horizon 2020 to Horizon Europe), the share of funding from non-Member states in Framework Programmes would almost double. In turn, Associated Countries may need greater influence over the strategic development, policies and standards of the ERA.

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- 1 <https://wellcome.ac.uk/sites/default/files/building-strong-future-european-science-brexit-beyond.pdf>
 - 2 <https://wellcome.ac.uk/sites/default/files/consultation-on-future-eu-uk-relationship-on-research-and-innovation.pdf>
 - 3 http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/hlg_2017_report.pdf
 - 4 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/642542/Science_and_innovation_paper.pdf
 - 5 <http://www.cbi.org.uk/cbi-prod/assets/File/Collaborate%20to%20Innovate%20-%20March%202018.pdf>
 - 6 <http://www.nature.com/news/scientists-have-most-impact-when-they-re-free-to-move-1.22730#/ref-link-6>
 - 7 www.cancerresearchuk.org/sites/default/files/uk_and_eu_research_full_report_v6.pdf
 - 8 www.topuniversities.com/university-rankings/world-university-rankings/2018
 - 9 www.elsevier.com/_data/assets/pdf_file/0019/53074/Comparative-Benchmarking-of-European-and-US-Research-Collaboration-and-Researcher-Mobility_sept2013.pdf
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 - 13 www.cancerresearchuk.org/sites/default/files/uk_and_eu_research_full_report_v6.pdf
 - 14 <https://www.theguardian.com/science/2018/feb/18/china-great-leap-forward-science-research-innovation-investment-5g-genetics-quantum-internet>