



Brexit & Beyond: Briefing for Parliamentarians

Last updated: September 2018

Introduction and overview

This briefing outlines Wellcome's recommendations on UK and 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 consultation across Europe². We recommend:

- **Addressing the key issues for science and innovation in Brexit negotiations, or in a stand-alone science agreement as soon as possible.** These include: UK participation in Horizon Europe (Framework Programme 9) as an Associated Country, with access to all funding pillars; cooperation on pre-competitive research regulation; and full researcher mobility between the EEA and UK. Expanding the current UK visa system for non-EEA nationals is not good enough.
- **Avoiding 'no-deal' with reliance on World Trade Organisation rules.** Even with the best preparation, a no-deal outcome would have a damaging impact on patients and research in both the UK and EU.
- In the future, **EU, UK and other 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

Recommendation 1: The key issues for science and innovation should be addressed in Brexit negotiations, or in a stand-alone science agreement as soon as possible.

- **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. Over 150 leading German scientists recently called for a strong Brexit deal on science⁵.
- Areas to be addressed as a priority include **participation in Horizon Europe, cooperation on pre-competitive research regulation, and full researcher mobility between the UK and EEA** (see below for more detail). Critically, an agreement needs to be reached quickly to mitigate uncertainty and to address signs of a decline in the flow of talent between the EU and UK. In the last year, the proportion of EEA researchers applying for Wellcome's early career schemes fell by 14% and the Wellcome Sanger Institute saw a near 50% drop in postgraduate applications from EU nationals.
- **This is damaging for science and innovation in the UK and EU.** Collaboration and international partnership are the basis of great science. Mobile researchers, those that move between institutions, have around 40% higher citation rates in scientific journals⁶. 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 EU28 produces a third of the world's scientific publications^{8,9}. Britain is also a popular location for world-leading EU scientists – from 2007 to 2016, more than one in five European Research Council grant-holders chose to work in the UK¹⁰.

1) Participation in Horizon Europe

- Through our Brexit consultation with over 200 organisations individuals, there was strong **consensus that cooperation through the EU Framework Programmes is a highly effective way of supporting international collaboration** and that continued cooperation is essential if the UK is to maintain a close partnership with the EU. EU Framework Programmes are the most effective multilateral funding schemes in the world, and there would be major cost and logistical challenges to the UK setting up 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.

- **Securing Associated County status in Horizon Europe would give much-needed certainty to researchers and businesses in the UK and throughout Europe.** It would also give the UK the best possible access to networks, collaborations, funding and infrastructures (see Wellcome’s briefing [UK access to EU research framework programmes](#)). We welcome Prime Minister Theresa May’s statement at Jodrell Bank on full association to European science and innovation programmes¹¹. The EU’s recent legislative proposal on Horizon Europe also set out a clear path for the UK to continue to play a full part as an associated country¹².
- As this legislation is discussed and debated in the coming months, the **UK must seek access to the entire programme** to maintain a strong and balanced science base. It should be willing to 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 programme legislation does not lock the UK out of any of the funding pillars.

2) Cooperation on pre-competitive research regulation

- 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:
 - maintaining 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.

3) Full researcher mobility between the UK and EEA

- There must be **full researcher mobility between the UK and EEA after Brexit.** Against a backdrop of increasing international collaboration in research, UK-EU partnerships are critical. Over half of the UK’s collaborative papers are with EU partners¹⁴. The UK is Germany’s and the Netherlands’ second most frequent co-author after the USA, France’s third largest partner, and Italy’s number one¹⁵. Future immigration provisions should remain as close as possible to current arrangements to maintain the benefits that free movement has delivered. We recommend a reciprocal agreement between the UK and EU on continued mobility for the science workforce, which could be negotiated as part of a Free Trade Agreement. The Government’s Brexit White Paper also seeks reciprocal arrangements in several areas, and highlights the importance of research mobility throughout¹⁶.
- **Reciprocal arrangements should be implemented in the UK through a quick and easy system for EEA nationals.** This could be delivered in several ways, such as a bespoke science work permit like France’s Talent Passport¹⁷, or broader provisions to support the mobility of skilled workers. Critically, it must support the research workforce at all levels and career stages, from technician, to PhD student to eminent professor. This system must also be complemented by a fit-for-purpose visitor route. Whether it’s attending a conference or taking part in peer review – these encounters are often the first step in exchanging ideas, forging connections and sparking curiosity.
- **Critically, researcher mobility cannot be delivered by an expansion of the current UK visa system for non-EEA nationals.** This isn’t quick or agile, and it relies too heavily on salary and qualifications as proxies for skill. The UK’s non-EEA visa system is also incredibly expensive compared to other countries. A five-year visa for a researcher with a partner and three children currently costs over £11,000, and this is expected to increase once the NHS surcharge doubles next year¹⁸. In comparison, fees for the four-year French Talent Passport are around £250.

Recommendation 2: Avoid a ‘no-deal’ scenario with reliance on World Trade Organisation rules.

- In the short-term, leaving the EU without a deal would mean that in the short term the **UK leaves without provision in place to support collaboration and the exchange of talent between the UK and EU**. This would leave UK-based researchers unable to access future EU funding programmes and without arrangements to regulate EU clinical trials or share data across borders. This uncertainty would damage UK science and create disruption across Europe.
- In the longer-term, a **no-deal outcome would jeopardise the UK’s relationship with its most important research partner in the longer term**. UK researchers publish more papers with EU collaborators than anywhere else¹⁹. 6 of the UK’s top 10 international partners are also members of EU framework programmes²⁰. 2 in 5 UK clinical trials are also run at sites in the EU²¹. 11% of grant income in UK universities comes from EU sources²². 25% of Wellcome’s personal award holders are EEA nationals.

Recommendation 3: In the future, the 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).

- 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 Molecular Biology Laboratory. 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. We cannot be complacent – China’s investment in research is growing over three times as fast as the EU’s²³.
- 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 secures 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 involvement in the strategic development, policies and standards of the ERA.

Louise Wren
Policy Manager
europe@wellcome.ac.uk

1 <https://wellcome.ac.uk/sites/default/files/building-strong-future-european-science-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 <https://www.mpg.de/12103638/Max-Planck-Direktoren-Forschungsfoerderung-nach-Brexit>
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.elsevier.com/_data/assets/pdf_file/0019/53074/Comparative-Benchmarking-of-European-and-US-Research-Collaboration-and-Researcher-Mobility_sept2013.pdf
9 www.eea.europa.eu/data-and-maps/indicators/total-population-outlook-from-unstat-3/assessment-1
10 www.cancerresearchuk.org/sites/default/files/uk_and_eu_research_full_report_v6.pdf
11 <https://www.gov.uk/government/speeches/pm-speech-on-science-and-modern-industrial-strategy-21-may-2018>
12 https://ec.europa.eu/commission/sites/beta-political/files/budget-may2018-horizon-europe-regulation_en.pdf
13 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/589191/The_United_Kingdoms_exit_from_and_partnership_with_the_EU_Web.pdf
14 www.royalsociety.org/~media/policy/projects/eu-uk-funding/phase-2/EU-role-in-international-research-collaboration-and-researcher-mobility.pdf
15 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/660855/uk-research-base-international-comparison-2016.pdf
16 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/589191/The_United_Kingdoms_exit_from_and_partnership_with_the_EU_Web.pdf
17 <https://drive.google.com/file/d/1ETU8hWw2M54h9kQ7Wdti6GPqVEgr9yu/view>
18 <https://drive.google.com/file/d/1ETU8hWw2M54h9kQ7Wdti6GPqVEgr9yu/view>
19 <http://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2017/international-collaboration-uk-post-exit.pdf>
20 www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2017/government-brexit-priorities-universities.pdf
21 Communication from the Medicines and Healthcare products Regulatory Agency
22 www.universitiesuk.ac.uk/facts-and-stats/data-and-analysis/Documents/patterns-and-trends-2017.pdf
23 <https://www.theguardian.com/science/2018/feb/18/china-great-leap-forward-science-research-innovation-investment-5g-genetics-quantum-internet>