FUTURE PARTNERSHIP PROJECT

# Consultation on the future EU-UK relationship on research and innovation

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wellcome

THE ROYAL SOCIETY

This consultation formed part of the Royal Society and Wellcome Trust Future Partnership Project. It sought to gather views on what an “ambitious and close partnership for research and innovation” between the EU and the UK should look like in practice. This is intended to support rapid progression to an agreement, and implementation, which works for all parties.

The consultation posed four questions on: examples of successful partnerships, the elements that must be included in a new partnership, the practical steps to achieve such a partnership, and potential barriers to implementing them.

We received 52 responses (see Annex) from organisations and individuals across a range of disciplines, of which approximately one-third were based in EU27 and Associated States, and two-thirds in the UK. We did not record the nationality of those who submitted evidence, but it should be noted that the community of respondents was highly international regardless of location. Figures 1 and 2 show the breakdown of responses, the majority of which came from research organisations, such as universities, and individual researchers.

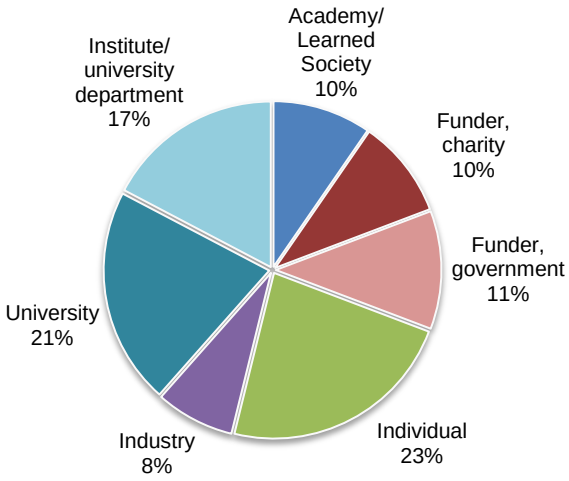


**Figure 1: Percentage respondents by sector**

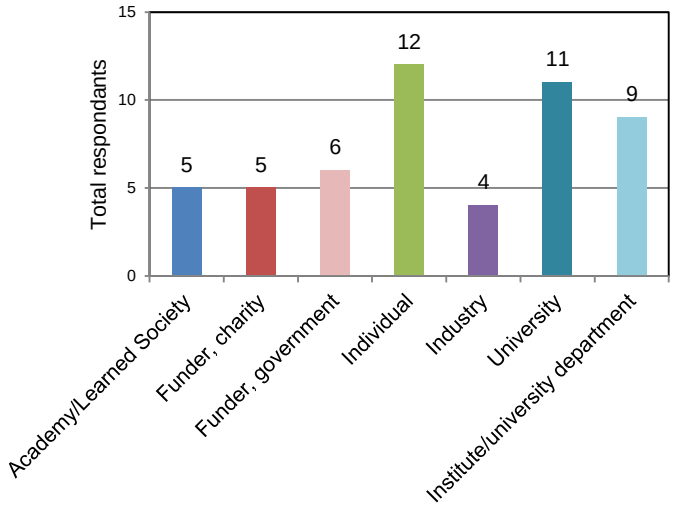


**Figure 2: Total respondents by sector**

All the proposals contained in this report were drawn from submissions to the consultation, and this portfolio of submissions will also be published. This document does not represent the views of either the Royal Society or the Wellcome Trust.

# The foundations of a successful partnership

A new EU-UK research and innovation partnership should "look to diplomacy rather than trade for precedent" and build on shared values, said the UK's Wellcome Sanger Institute. Cancer Research UK (CRUK) proposed developing an overarching framework for the partnership, to address "the fundamental, underpinning aspects that support research collaboration". This would reflect the Norwegian approach in which full "partnership with the EU on research and innovation is much broader than the participation in the FPs [EU Framework Programmes], but the association to the FPs is the engine in the partnership, that opens up for broader cooperation" (Research Council Norway [RCN]).

A number of respondents were concerned that short-term uncertainty could threaten the realisation of an ambitious and close partnership. To provide sufficient time for development and scrutiny the UK's Association of Medical Research Charities (AMRC) suggested a "transitional arrangement with the EU on regulatory frameworks, databases and medicines protocols to ensure a smooth transition and patient safety".

To be effective, respondents felt an overarching framework should achieve the following objectives:

## 1. Promote reciprocal mobility to ensure a broad pool of expertise and talent

There was consensus, across both EU and UK respondents, that a partnership should prioritise international research connectivity, with Professor Wilson noting that "loss of access to expertise and mobility" could be more damaging than loss of European funding. The international nature of research "exposes individuals to different research cultures, practices and ideas" (UK Academy of Medical Sciences [AMS]), and international collaboration boosts research impact according to data submitted by the Novo Nordisk Foundation.

Many respondents stressed the need for swift, simple and transparent immigration arrangements, which link to wider factors such as health care, tax, and pension arrangements. They should extend across all research roles including "researchers, innovators, entrepreneurs, legal and regulatory experts, skilled technicians and students" (AMRC), and accommodate "short-term visits between collaborators, secondments and placements, and long-term or permanent relocation" (AMS). Businesses across Europe, including EuropaBio, called for the continuation of "simple" intra-company transfers and noted that "the spouses and families of workers equally need to be able to work in their chosen profession both in the UK and EU27".

Imperial College London (ICL) proposed linking mobility to funding, whereby those on "EU-funded research projects, or European-collaborative grants sponsored by UK agencies, would automatically receive a visa for free movement between Britain and the EU". However, Professor Macleod cautioned that coupling residency rights to funding could produce "perverse incentives" and damage research quality. Others supported flexible visa terms, allowing recipients to remain "even if there are gaps in their funding" or they "spend extended periods of time abroad" (Professor Rajantie).

Given the range of factors influencing mobility, Portugal's Fundação para a Ciência e a Tecnologia (FCT) proposed "an observatory [to] assess properly the several obstacles that stand in the way of a genuine mobile research market", which could help focus attention on barriers such as the non-portability of national research grants. This is a core aim of the European Research Area.

## 2. Focus on developing the next generation of researchers

The valuable contribution of Marie Skłodowska-Curie Actions (MSCA), which provides grants for researchers at all career stages, was highlighted by a large proportion of respondents. ICL noted that “the Individual Fellowships and Innovative Training Networks… have provided high-quality educational, research and knowledge exchange opportunities that drive scientific breakthroughs”. Referencing the scale of this funding, Professor Wilson said that “there is no similar national mechanism dedicated to the objectives” of diversifying research culture and forging long-lasting connections.

Many respondents wanted a future partnership to include "a strong commitment to training and involving early career personnel” (Fraunhofer UK). There should be “more opportunities for involving doctoral students in research projects, through integration with doctoral projects and joint PhDs linked to international projects” (University College London [UCL]), and targeted support to help early career researchers develop their professional networks.

Respondents wanted cross-border higher education to remain accessible and attractive, as studying abroad “enhanced communication and language skills, reinforced adaptability to new environments, and boosted academic performance” (ICL). The Association of the British Pharmaceutical Industry (ABPI) noted that recent graduates fuel thriving start-up communities, which attracts their members to co-locate. There was consistent support for the Erasmus+ scheme, which “does a fantastic job of creating internationally-engaged and outward-looking students” (Peter Mason) and is “well known at management level as well as to students and researchers” (International Federation of Associations of Classical Studies).

Several submissions urged the UK Government to consider the impact of student fees and PhD funding on mobility. The Guild, Professor Rajantie, and FENS-Kavli all stressed that increasing costs for future EU27 under- and post-graduates could disrupt student mobility, and potentially jeopardise the sustainability of particular subject areas in UK higher education.

## 3. Commit to substantial long-term financial and political support

Respondents said that long-term funding cycles provide certainty for collaboration across different sectors, and support “ambitious, high-risk… goals” (Medical Research Council Laboratory for Molecular Cell Biology [LMCB]). The “length of [the current EU Framework] programme, allowing for advance planning, compares very favourably against other types of international opportunities (such as… the Newton Fund)” (University of Strathclyde). Project funding should reflect this long-term stability and be “extensive (10 years plus) for relationships that... seek to establish cross-cutting links with industry, engage with or create start-ups, and generate impact” (The Guild)**.**

A new partnership should prioritise the EU and UK’s shared trajectory towards investing 3% of GDP into research and innovation (Science Foundation Ireland [SFI]), and could “commit both sides to match increases in expenditure” and “be ring fenced” to endure political cycles (Centre for Global Higher Education [CGHE], Project 3.5). ZonMW saw a “common pot system for the funding activities [and a] fee and/or in-kind contribution for the governance” as a route to success. A common pot removes the risk of “double jeopardy”, “where two (or more) separate proposals are required to be submitted to two (or more) funding bodies... where both proposals are required to be independently successful… to receive funding” (University of Strathclyde).

Funding partnerships “should not entail a return to a '*juste retour*' philosophy whereby countries receive what they put in” (Peter Mason), while Enric Banda cautioned that such a “just return” mindset can impact the “competitivity” of some intergovernmental research infrastructure models.

Respondents noted the value of maintaining compatible systems and “relatively light touch… codes of practice” (University of Surrey). SFI pointed to the lead-agency principle as a way to make administration “as compatible with national procedures as possible” and “minimise organisational effort”. As an example, ZonMw said that this could allow a consistent contract for researchers across different funding agencies.

## 4. Build a neutral, cooperative, all-sector platform centred on excellence

A new partnership should be “guided simply by the need to support scientific excellence” (Professor Lucas). The pursuit of excellence through the European Research Council “gives beneficiaries the independence to pursue bottom-up ground-breaking research that is high-risk/high-gain and radically advances the state-of-the-art” (ICL), and several respondents noted the prestige associated with such excellence-driven schemes. Both UCL and FENS-KAVLI described the use of pan-European peer-review in funding decisions as a driver of excellence, which should feature in any new partnership.

For GlaxoSmithKline (GSK), this approach would provide a “neutral cooperative platform” in which all sectors could participate equally, as the Innovative Medicines Initiative does now. Meanwhile, UCL wanted it to allow “UK partners to take leading roles in projects”. The Swiss model of participation in the EU Framework Programmes and the EU COST networking scheme, which enables researchers to set up their interdisciplinary research networks in Europe and beyond, were both highlighted as promising examples of this approach.

Many respondents noted that the scale of investment and expertise needed for state-of-the-art research infrastructures were only feasible through pooling resources, and that this “increased efficiency and reduced unnecessary duplication” (Royal Society Edinburgh). There was broad agreement that UK “research institutions should continue to have... and allow access, to unique facilities” (University of Cambridge), with the UK retaining the right to host and share governance of European facilities. Norway offers a precedent for such participation, with ZonMw citing the governance of European Research Infrastructure Consortium as an example.

## 5. Adopt a flexible approach to multilateral funding

Several respondents wanted simplicity to be at the heart of any new partnership, with GSK calling for “novel and flexible research and funding structures” capable of supporting formal and informal collaboration. For the Royal Society Edinburgh, “a multi-country scheme... will be more attractive and efficient than schemes that allow only for single collaborations”, and Professor Huklay praised the way that current multi-lateral EU Framework Programmes help drive collaboration with excellent researchers in new locations.

DFG wanted a flexible partnership with “continued possibilities for bi- or multi-lateral cross-border cooperation”, with SFI noting that this flexibility could allow “a bilateral model to expand to a multilateral arrangement should new partners wish to join”. In describing the bilateral approach of the UK’s Newton Fund, the British Council highlighted that it “enables partner countries to develop bespoke versions… tailored to their specific strategic [needs]”.

## 6. Maintain participation and influence within European research funding

The majority of respondents felt that current EU funding schemes met many of the requirements for a successful partnership, and there was unanimous support for continuing the UK's access to such schemes. Many noted that the "complementarity of the UK... and the European research funding system has made the UK an excellent place to have a research career" (RSE). For RCN, "full participation in the EU Framework Programmes as an associated country is without any doubt our country's most important international partnership within research and innovation". However, respondents also called for the continued improvement of EU schemes, with SFI citing the recent LAB-FAB-APP report and its call to rationalise EU funding programmes.

European organisations were clear on the UK's contribution to the development of EU funding systems. Deutsche Forschungsgemeinschaft (DFG) commended their cooperation with the UK in "shaping excellent framework conditions for cross-border collaboration". Retaining UK involvement was seen as a priority, with the Swedish Academy of Sciences noting that "it is important that UK in the future will be able to contribute to, and ideally also influence, the [framework] programmes". At a minimum "active UK participation through non-governmental channels must continue", for example "through specialist societies, Academies and European umbrella bodies (AMS).

The Royal Academy of Engineering wanted UK participation to span the "whole research and innovation system", including "Catapults, businesses… innovators and entrepreneurs". This was echoed by Fraunhofer UK's call not to overlook applied research. The ABPI urged "continued participation in the European Investment Bank and European Investment Fund" to maintain UK venture capital, while CGHE Project 1.4 highlighted the contribution of structural funds to supporting the research environment, particularly in devolved nations.

## 7. Recognise the benefits of shared standards for research and innovation

Alongside others, CRUK noted that "aligned ethical and regulatory standards are necessary to ensure that research collaborations can take place" including "animal research, researcher integrity, diversity and inclusion, and... intellectual property". They highlighted that "the International Rare Cancers Initiative has found fundamental differences in practice between the US and Europe have made collaboration in trials for rare diseases unfeasible in some instances". The Sanger Institute urged any new partnership to deal with regulatory issues at the outset, as "regulatory and legal issues invariably leads to delays, additional cost and can result in project failure".

There were sector-specific concerns on regulation, with the Royal Society of Chemistry calling for a common platform for data sharing and interpretation. Those in the medical research sector noted that "the legislative and ethical framework with which we can carry out cross-border clinical trials needs to remain coherent" (BHF). Both the AMRC and European paediatric oncologists said this framework was needed to support UK participation in pan-EU clinical trials, particularly for rare diseases that require a "critical mass" of patients which the UK cannot meet alone.

A new partnership could begin with the mutual recognition of "each other's degrees and qualifications", "what constitutes research quality" and "what constitutes a good research proposal" (The Guild). This could help preserve "an academic system that will stay compatible with [the] Bologna [declaration]" (CGHE). Under the European Higher Education Area, the 1999 Bologna declaration ensures comparable standards across higher education. A cross-sector theme was the need for "data-sharing agreements with robust oversight" for data-driven research (Arthritis Research UK), with ZonMw proposing adherence to the established FAIR Principles. National

implementation of the General Data Protection Regulation may influence the shape of a new partnership in this area.

Cross-border innovation also benefits from shared standards for trade, including customs barriers, with Fraunhofer UK noting that “a simple lens may be pre-formed in one country, finished in a second, coated in the third, tested in a fourth, assembled in a fifth and deployed in a sixth”. There were calls for the “maintenance of pan-European patents” (Dr Morris). On the regulation of medicines and medical devices, EuropaBio noted that the “pharmaceutical sector agrees that a complete [UK] adoption of the EU Medical Devices regulations would be a desirable” and the AMS recommended that “Notified Bodies granting CE marks should... be maintained and mutual recognition of the existing UK Notified Bodies should be explored.”

## 8. Be open-minded and pragmatic on oversight and dispute resolution

Regulatory alignment may require a role for the European Court of Justice (ECJ) or an appropriate disputes resolution body. Without this Dr Morris foresaw “a major barrier on participation in programs that require… operation under common rules”, including on atomic or chemical safety.

There is also a role of the ECJ as an arbitrator of disputes under EU programmes. The University of Strathclyde indicated that “the current legal dispute resolution mechanisms (involving ECJ) do not have significant impacts on future UK legal sovereignty”, and Dr Galsworthy said that the UK should “acknowledge the role of the ECJ to settle any disputes concerning the projects”.

## 9. Establish governance with long-term, mutually agreed objectives

A successful EU-UK partnership will need “a clear overarching framework and shared objective, including strong governance structures with emphasis on clear roles and responsibilities, effective communication of decisions, and a commitment to transparency” (GSK). A number of respondents supported a new oversight body able to “command the respect of researchers” (The Guild) and allow partners to align strategies and investments (RSEd). The Russell Group proposed establishing a “high-level joint EU-UK science and innovation committee”, while Peter Mason went further, saying that new governance arrangements “should not be sought on the basis of UK exceptions, but in consultation with all the other Associated Countries as part of broader reform of the FPs”.

An oversight committee might be an “independent, scientific advisory board” conducting “regular (usually annual) independent reviews of the partnership activities” (European Molecular Biology Laboratory – European Bioinformatics Institute), and could include “the heads of the Wellcome Trust, UKRI and other major funding agencies, senior academics, and other scientific advisors” (LMCB). A more formal mechanism proposed by Peter Mason was “a Schengen-style 'mixed committee' for higher education and research and innovation which would not confer voting rights.” Notably, all these suggestions came from UK respondents.

## 10. Place European Research at the centre of a ‘global endeavour’

Numerous submissions called for the continued internationalisation of European research and innovation, and proposed a future partnership model which would allow the UK “to further contribute towards our common goal of shaping a European Research Area” (DFG). Precedents of “Associated Country... and Programme Country status in Erasmus+” could be a starting point, but “require consensus and compromise in the discussions to come” (Peter Mason). Jointly developing the European Research Area, including policies on Open Science, diversity, and research careers,

is a “huge opportunity” according to Dr Galsworthy. A new partnership could go further, for example, promoting gender balance for “decision making bodies and in research teams” (University of St Andrews).

Lessons should be drawn from successful multi- and bi-lateral models elsewhere, and FCT highlighted the “Joint Initiative on Research and Innovation, and the Common Research Area, with Latin America and the Caribbean” as examples. ICL saw value in this proactive, broad engagement of partners and urged the UK Government to “continue to forge new global research networks and co-fund more ambitious programmes to support collaboration with leading science powers and emerging economies”, building on initiatives such as the UK’s Rutherford Fund and bilateral deals made by other EU countries. “This then provides a strong base to extend important global partnerships” (Dr Galsworthy), which might offer “barrier-less mobility to…researchers from all over the world” (Professor Wilson). Recommendations for changes to Framework Programme 9, such those outlined in the European Commission’s LAB-FAB-APP report, could help achieve this.

Spearheading an open, global research endeavour would complement, rather than replace, a strong partnership, and would leave the UK and the EU well-placed to tackle major global challenges, such as infectious disease, which “do not recognise national boundaries” (London School of Hygiene and Tropical Medicine). It would be an opportunity to focus on emerging challenges “such as artificial intelligence, personalised medicine, and genome editing” (LMCB) to ensure that Europe remains competitive in research at a global scale.

# Annex - Submissions

- Academy of Medical Sciences (AMS), UK
- Arthritis Research UK & Arthritis Care
- Association of British Pharmaceutical Industry (ABPI)
- Association of Medical Research Charities (AMRC), UK
- Professor Enric Banda
- British Council
- British Heart Foundation (BHF)
- University of Cambridge
- Cancer Research UK (CRUK)
- Centre for Global Higher Education (CGHE), University College London
- Dr Andrew Conway Morris
- Deutsche Forschungsgemeinschaft (DFG)
- Durham University Research, Development & Operations
- European Molecular Biology Laboratory – European Bioinformatics Institute (EMBL-EBI)
- EuropaBio
- Members of the European Paediatric Oncology community
- Federation Internationale des Associations d'etudes Classiques
- FENS-Kavli Network of Excellence
- Fraunhofer UK
- Fundação para a Ciência e a Tecnologia (FCT)
- Dr Mike Galsworthy
- GlaxoSmithKline (GSK)
- The Guild of European Research Intensive Universities
- Professor Muki Haklay
- Dr Miguel Hernandez-Bronchud
- Imperial College London (ICL)
- London School of Hygiene and Tropical Medicine (LSHTM)
- Professor Robert Lucas
- Medical Research Council, Lab Molecular Cell Biology (LMCB), University College London
- Professor Malcolm Macleod
- Peter Mason
- Newcastle University
- Novo Nordisk Fonden
- Professor Jan Palmowski
- Professor Arttu Rajantie
- Research and Enterprise Development Department, University of Bristol
- Research Council Norway (RCN)
- Royal Society of Chemistry
- Royal Society of Edinburgh
- Royal Academy of Engineering, UK
- Russell Group, UK
- Science Foundation Ireland (SFI)
- University of Strathclyde
- St Andrews University
- University of Surrey
- Swedish Academy of Science
- University College London (UCL)
- Professor Florian Urmetzer
- Professor Andy Wilson
- ZonMw, the Netherlands
- University of Warwick
- Wellcome Sanger Institute, UK