Overview and context

International multidisciplinary studies demonstrate why close collaboration is essential across countries and between academic disciplines in formulating and implementing policy responses to complex global societal challenges.

The UK and EU have a shared interest in building strategic international multidisciplinary partnerships. As an Associate Country with Horizon Europe and Copernicus since September 2023, UK applicants for EU funding commit to align with EU priorities identified in its nineth research and innovation programme (2021–27), namely to promote a 'green, healthy and digital Europe'. Through its nine research councils, UK Research and Innovation (UKRI), the overarching non-departmental public body sponsored by the Department for Science, Innovation and Technology (DSIT), delivers the UK's strategic long-term, high-level research priorities. UKRI's strategic themes for 2022–27 focus on building a green future, a secure and resilient world, creating opportunities and improving outcomes, securing better health, ageing and wellbeing, and tackling infections, all of which are underpinned by digital technologies.

For Innovate UK, association with Horizon Europe is primarily 'an opportunity for UK businesses to collaborate with partners with the right expertise to expand markets and accelerate innovation across Europe and internationally' as an element in global Britain's competitiveness and growth strategy. Had the UK remained as a full EU member state, it would have been expected to commit to Horizon Europe's objectives of investing in Europe's innovation capacity, competitiveness and jobs, and in ensuring European technological sovereignty.

The UK has long been said to have 'one foot in and one foot out of Europe', a view frequently expressed in 2016 at the time of the UK's decision to leave the EU. This description aptly fits the UK's current status in Horizon Europe. The Associate Country agreement contains a clawback mechanism whereby the UK will be compensated if British scientists receive significantly less money than the UK government contributes to the programme. In line with its ambivalent position, the UK is also subject to an overperformance provision, designed to prevent receipts from awards exceeding its financial contribution by more than 8% over two successive years. Although UK scientists will be able to lead EU consortia, the UK will not be allowed to participate in negotiations about EU research priorities or the shape of future R&I programmes, where pre-Brexit UK researchers played a key role. These restrictions mean that benefits from EU-funded research collaborations will need to be measured less in terms of financial rewards than of scientific advances made possible by the pooling of talents and resources in intense international multidisciplinary collaborations designed to tackle global societal challenges.

Key evidence

International collaborative research networks and programmes across Science, Engineering, Technology & Mathematics (STEM) and Social Science and Humanities (SSH) disciplines have progressively become a core feature of national and international funding organisations (Ch.1).

- Before the 2016 Referendum, the UK's greatest successes with EU funding were recorded for SSH applicants. In the competition for European Research Council awards, these disciplines therefore had more to lose when the UK ceased to be a full member of EU programmes compared to other disciplines in the UK and in other EU member states.

- When the regrouping of UK research councils was being planned in 2016, the UK government charged UKRI with delivering 'a greater focus on cross-cutting issues that are outside the core remits of the current funding bodies, such as multi- and inter-disciplinary research, enabling [UK universities and science] to respond rapidly and effectively to current and future challenges'. Through their Cross-Council Funding Agreement, UKRI committed to supporting an enhanced

culture of interdisciplinary and multidisciplinary research in the UK, mindful of the need to ensure that their peer review infrastructure does not disadvantage such work.

- In 2019 Jean-Pierre Bourguinon, then President of the European Research Council which promotes research excellence, lent his support to interdisciplinarity as a 'challenging obligation'. He cited 10,000 'interdisciplinary projects' funded by the ERC since its inauguration in 2007; post-hoc evaluations demonstrate that the most highly-rated projects are those classified as interdisciplinary. Bourguinon stressed the perpetual challenges confronting evaluation panels in assessing multidisciplinary projects due to cultural and methodological differences.

- Aware of the demise of the social and human sciences in accessing funding when competing with STEM subjects, the Commission monitored the Integration of Social Sciences and Humanities in Horizon 2020 (2014–20) projects. Four quantitative criteria were adopted to measure the 'quality' of integration of SSH disciplines: the proportion of SSH partners in a project, the level of the budget allocated to them, the proportion of SSH person-month as well as the number of SSH disciplines involved in the project. The 2020 final report illustrates the limitations of these criteria for assessing the degree of integration between disciplines.

- In 2023, Times Higher launched worldwide league tables for interdisciplinarity in universities. The proposal was strongly criticised for its dubious criteria for identifying genuine interdisciplinarity and for its omission of social sciences.

- A widely accepted definition (p25-6) of interdisciplinarity, as distinct from multi/pluri-disciplinarity and transdisciplinarity, emphasises the interactive relationship between disciplines through the mutual integration of concepts, methodology, procedures, epistemology, terminology and data. Premised on a concerted approach to a common problem, this definition requires continuous intercommunication among participants from different disciplines.

- By focusing primarily on impact measures and publication counts, reports designed to illustrate the contribution of SSH disciplines in addressing global societal challenges fail to explain fully the mechanisms involved in the process of integrating seemingly disparate disciplinary approaches and to demonstrate why why social scientists are ideal partners for STEM disciplines in projects tackling these challenges.

This briefing series

The International Advisory Group of the Academy of Social Sciences seeks to bring an international dimension to the Academy's policy positions. Contributors document their experiences of collaborating across countries to seek interdisciplinary solutions to complex challenges facing society on themes including:

- Green issues (climate change and energy security);
- Health (global health crises, anti-microbial resistance, drug prevention, food security);
- Digital (children and digital platforms, AI and labour markets, open government, research ethics & integrity);
- Population change (growth, decline, renewal, migration, ageing and generations).

The authors provide robust evidence for policy audiences demonstrating the importance of:

- developing a common language, shared concepts and methodologies through constant exchanges and communication between researchers and policy advisers and across government departments;
- monitoring and improving methods for ex-ante and post-hoc assessments of interdisciplinary research projects and for effective dissemination of findings;
- ensuring that politicians know how to make the best use of the collected evidence and how to implement contextualised policies for societal benefit;
- providing the next generation of researchers and policymakers with proper exposure to interdisciplinary understanding and competence.