

Research, Development and Innovation (RDI) Landscape Review : A response from the British Academy

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The British Academy is the UK's national academy for the humanities and social sciences. We mobilise these disciplines to understand the world and shape a brighter future.

From revolutionary theories that have shaped our economy and welfare state, to feminism and pioneering new ways of understanding our past, this country has given rise to many of the most ground-breaking ideas in history. At the heart of these ideas are insights from the SHAPE (Social Sciences, Humanities and Arts for People and the Economy) subjects. These disciplines have been and will remain essential to our success as a country and we have previously outlined seven ways in which the government can harness the potential of SHAPE disciplines.¹

Here, in our submission to the Research, Development and Innovation (RDI) Landscape Review, the British Academy sets out the evidence base on how research-performing organisations and the wider landscape operate and work together, particularly with regards to the SHAPE disciplines. We do so against four main headings: Supporting a sustainable research and innovation system that champions and works for all disciplines; Protecting and prioritising diverse and sustainable funding; Advancing Global Britain; and Fostering the right research environment.

1. Supporting a sustainable research and innovation system that champions and works for all disciplines

The UK government has been clear in its ambition to harness the potential for research-performing organisations to increase our knowledge and understanding through big advancements, innovations and solving global challenges. The UK's RDI landscape – when sustainable, well-coordinated and diverse – can deliver on this.

However, research-performing organisations have been operating in a complex external environment for some time. Multiple one-year spending reviews, cuts to Official Development Assistance (ODA) funding, and uncertainty about Horizon Europe association have all contributed to a loss of stability. This is not a sustainable environment which lends itself to collaboration or success.

Equally, a comparative strength of the UK RDI system is its breadth and plurality.² An inspiring and interconnected system to support talented people, alongside investment in discovery research, research systems and physical infrastructure, will ensure the UK is at the forefront of global collaboration and will contribute to the levelling up agenda.³

Achieving this strategic advantage will rely on broadening our understanding of how, where and why RDI happens, including the role of SHAPE disciplines within this. A sustainable and coordinated RDI system requires policies that consider the whole landscape, as well as the relationships between its constituent parts. Collaborations between research-performing organisations – universities, business, charities, and Independent Research Organisations – occur across the RDI landscape and between sectors.⁴ These collaborations are facilitated and encouraged by a network of organisations, initiatives and individuals which offer the facilities, knowledge, relationships and funding for success. This

¹ www.thebritishacademy.ac.uk/documents/3505/british-academy-submission-spending-review.pdf

² See the Nurse Review of the UK Research Councils www.gov.uk/government/publications/nurse-review-of-research-councils-recommendations; and International Comparative Performance of the UK Research Base 2016 www.elsevier.com/research-intelligence?a=507321

³ www.gov.uk/government/publications/uk-research-and-development-roadmap; www.thebritishacademy.ac.uk/publications/europe-futures-european-structural-investment-funds-contribution-uk-research-innovation/

⁴ A prime example is the Independent Research Organisation Consortium (IROC) for arts and humanities, a network of museums, galleries, libraries and other heritage organisations from across the UK, recognised by the Arts and Humanities Research Council (AHRC) for their research capacity and capability. IROC recognises the role that heritage organisations play in leading and supporting world-class research, and the value of coordination and collaboration between UK IROs to increase impact. See www.ahrc-iroc.org/

infrastructure is essential as it can help to breakdown the geographic boundaries of innovation adoption, which is an inherently spatial process.⁵ Where policies and funding exist to increase innovation, knowledge exchange, and skills training – such as the Higher Education Innovation Fund, the Strength in Places Fund, and analogous schemes – there should be increased focus on their potential benefit to communities and cultures to drive sustainable regeneration, local growth, and enhanced productivity.

Understanding how innovation happens, and the relationships and networks that sustain it, is all important evidence from which effective policies can be developed. For example, the 2019 UK Innovation Survey found that 38% of UK businesses were innovation active.⁶ This is lower than in previous years, with a lack of qualified personnel identified as a barrier. Therefore, improving the UK skills base is critical to growing the private RDI sector, as well as the broader economy.⁷ Sustaining the pipeline of skilled SHAPE graduates will help fuel the largest and fastest growing areas of the economy: the creative economy, growing at twice the rate of the UK economy between 2014-2020 and worth £84.1bn,⁸ and the services sector, which accounts for 80% of the UK's economy.⁹ We also note that formal definitions of R&D across government do not accurately reflect the contributions of SHAPE research nor sectors that might use it, and in some cases – for example in private R&D incentives – explicitly excludes it.¹⁰ Without the right data and evidence, we cannot develop good policies to support the sustainability of the wider system.

2. Protecting and prioritising diverse, sustainable funding

While this is not a review of UK RDI funding, we cannot consider the workings within the system without paying attention to the funding which supports them. It is for this reason that the Academy emphasises the critical importance of thinking holistically about the system, of ensuring that there is a long-term funding strategy for the whole of the research base, and of securing the level of public funding for RDI into the top quartile, at least, of our international competitors.

The Academy believes that the balance of funding between pure and challenge-based research is healthy, and must be protected to support all disciplines and all modes of funding delivery. Pure research is not simply about room for experimentation but the ability to follow new avenues yet unknown. Within this, the role of Quality-Related research funding is vital. QR funding includes the infrastructure, physical and intangible, that underpins the UK's entire research ecosystem (such as facilities, training, seedcorn funding).¹¹ In particular, research by Cambridge University has found that QR funding is vital in supporting the entire research endeavour of theory-based subjects.¹²

The balance of domestic funding between the disciplines is not currently organised in a way that will allow the UK to compete on a global stage. The relatively small amounts of funding given to the SHAPE disciplines in relation to other disciplines does not reflect the make-up or excellence of our research community. In 2019-20 the SHAPE disciplines accounted for approximately 46% of UK academic staff,¹³ while this year the two main research councils

⁵ www.thebritishacademy.ac.uk/publications/place-based-approaches-to-research-funding/

⁶ www.thebritishacademy.ac.uk/documents/3653/Investing_in_UK_RD_-_2022_update2776.pdf

⁷ www.thebritishacademy.ac.uk/publications/flagship-skills-right-skills-arts-humanities-social-sciences/

⁸ www.thebritishacademy.ac.uk/documents/3361/OfS-recurrent-funding-consultation-British-Academy-response.pdf

⁹ www.thebritishacademy.ac.uk/publishing/journal-british-academy/9/understanding-rd-in-arts-humanities-social-sciences/

¹⁰ www.thebritishacademy.ac.uk/publishing/journal-british-academy/9/understanding-rd-in-arts-humanities-social-sciences/

¹¹ For more on the value of QR funding, see wellcome.org/sites/default/files/empowering-uk-universities-how-strategic-institutional-support-helps-research-thrive.pdf, and www.russellgroup.ac.uk/media/5916/underpinning-our-world-class-research-base-the-importance-of-qr-feb-2021.pdf

¹² www.bennettinstitute.cam.ac.uk/media/uploads/files/QR_Study_October_2021.pdf

¹³ Defined as academic staff covered by HESA cost centres: Administrative and business studies; social studies; humanities and language-based studies & archaeology; design, creative & performing arts; and education. www.hesa.ac.uk/data-and-analysis/staff/areas

for these subjects received a combined 5.1% of the UKRI budget.¹⁴ This low figure is compounded by the fact that unlike areas such as life sciences or physical sciences and engineering, there is no significant funding from other UK sources (such as charities, foundations and businesses) to supplement the funding that SHAPE disciplines receive from UKRI. The comparatively low level of research funding also does not reflect the widely recognised value of the human, cultural, social and economic perspectives necessary to ensure that the UK retains its global reputation for excellence.

This funding balance is also in direct contradiction to the success and reputation that SHAPE disciplines have within esteemed international funding sources, such as the EU Framework Programmes. UK-based SHAPE researchers are disproportionately successful in ERC and MSCA awards, which are internationally recognised and prestigious, and support global collaboration. Up to a third of UK ERC and MSCA awards and funding, 2015-2020, have been in the humanities and social sciences.¹⁵

Funding from EU Framework Programmes also offers variety into the system which should not be taken for granted. The British Academy believes that one of the great strengths of the UK research ecosystem is the diversity of funding approaches, which creates opportunities for different types of research and enables rather than stifles creativity. The UK National Academies are a vital part of this thriving ecosystem, and the funding we provide offers high quality complementarity to UKRI and other funders, through responsive grants that enable researchers to explore the most promising avenues of investigation, which can lead them onto a ladder of bigger grants.

To continue the UK RDI system's history of success, and to afford it the opportunity to maintain global excellence and achieve strategic advantage, diversity of funding must be protected and prioritised. This will be best supported by longer term funding commitments and sustainability, offering stability in the system and allowing for strategic planning and execution.

3. Advancing Global Britain

To deliver a truly Global Britain we must build strong and productive networks which seek to understand the nature of global problems and deliver solutions. Mutual understanding across different countries, languages and jurisdictions is fundamental to its success.¹⁶

Currently, there is a mismatch in the ambition and aims of the current Government, as set out in the R&D Roadmap and the Integrated Review, and our capability to support people to collaborate and engage effectively. A breadth of research and innovation talent allows us to pioneer new approaches and be a hub for the world; almost 3 in 10 UK academics are non-UK nationals.¹⁷ At the time of the UK's withdrawal from the European Union, 36% of academics in economics, 35% in modern languages and 25% from politics and international relations were from EU countries.¹⁸ The UK is a key partner for global research collaboration and researcher mobility; however the Government's own commissioned research has highlighted that there are indications the UK is losing ground.¹⁹

The cuts to ODA have damaged the global reputation of UK research. These have seriously impacted research in collaboration with low- and middle-income countries, and placed the

¹⁴ www.ukri.org/wp-content/uploads/2021/07/UKRI-200721-AnnualReport2020-2021.pdf

¹⁵ <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-dashboard>

¹⁶ <https://www.thebritishacademy.ac.uk/publications/towards-national-languages-strategy-education-and-skills/>

¹⁷ <https://www.thebritishacademy.ac.uk/documents/3391/EU-Higher-Education-Staff-and-Students-in-the-UK-Briefing.pdf>

¹⁸ <https://www.thebritishacademy.ac.uk/publications/europe-brexits-means/>

¹⁹ www.elsevier.com/research-intelligence?a=507321

UK as a far less attractive partner globally at a time of increased global competition. A science superpower cannot renege on its commitments to researchers anywhere in the world, especially those in the Global South. Recovering the UK's position will be major challenge in the coming years.

Similarly, participation in EU Framework Programmes has been a core feature of UK higher education competitiveness and research excellence.²⁰ There is strong evidence to show that association to Horizon Europe is critical to sustaining and strengthening the UK's comparative advantage in international research collaborations, and to attracting and retaining world-leading researchers.²¹ Uncertainty related to associating to Horizon Europe is a major challenge to such comparative advantage, as is the lack of funding for international research and innovation. The potential consequences of failure to associate have been illustrated in the recorded intentions of ERC grant winners to leave the UK.²²

4. Fostering the right research environment

There is a strong evidence base to show that public investment in research and innovation is taxpayer money well spent: driving productivity, raising living standards and boosting our international reputation.²³ We need the right investments in people to create a long-term vision for the research and innovation system. People are essential to fostering the right research environment that operates in coordination.

This coordination was previously well served with research and teaching being overseen by the same Government Department, and latterly through the joint, cabinet level role of Minister for Universities, Science and Research. Since this portfolio was divided between two Parliamentary Under-Secretaries of State in 2020, the appreciation within Government of the nexus between higher education, teaching and research within universities and other research-performing organisations has been weakened. This further undermines Government understanding of the role that universities play within the system, both as research-performing organisations and as providers of a steady supply of skilled researchers – whose contributions as students may help stimulate new directions for research – as well as graduates with skills needed for business and innovation in all sectors of the economy.²⁴

As earlier demonstrated, many SHAPE disciplines attract high numbers of international staff and students – attracting overseas talent is critical to both teaching and research. Part of what has made the UK an attractive international partner and major player on the global stage is an ability to attract and retain talented researchers while giving them opportunities to be mobile and time to undertake their research, with a varying range of opportunities in terms of size, duration, theme, and motivation.

Mobility is essential in this regard. It helps to connect UK academics with centres of excellence in higher education and research overseas, contributing to the continuous strengthening of the UK research base. It also facilitates the sharing of best practice in the research and innovation sector. This is beneficial to the UK and other countries, particularly those in the Global South. Mobility allows the UK to retain its competitive advantage and its

²⁰ www.thebritishacademy.ac.uk/publications/eu-higher-education-staff-and-students-in-the-uk/; www.thebritishacademy.ac.uk/publications/europe-futures-horizon-examining-value-research-collaboration/; www.thebritishacademy.ac.uk/publications/europe-brexite-means/

²¹ www.thebritishacademy.ac.uk/publications/europe-brexite-means/; www.thebritishacademy.ac.uk/publications/europe-frontier-knowledge-future-gain-why-european-research-council-matters/; www.thebritishacademy.ac.uk/publications/association-erasmus-challenges-and-opportunities/; www.ukcdr.org.uk/resource/case-studies-uk-funded-research-on-climate-change-and-international-development/

²² www.researchprofessionalnews.com/tr-news-uk-politics-2022-1-erc-winners-explore-plans-to-exit-uk/

²³ www.thebritishacademy.ac.uk/publications/rd-investment-UK-research-development/

²⁴ www.thebritishacademy.ac.uk/publications/skills-qualified-future-quantifying-demand-arts-humanities-social-science/

leadership position in research and innovation.²⁵ However, we need to be aware that the upfront cost of work and study visas for researchers and innovators considering working in the UK can be up to six times higher compared to other leading research nations.²⁶

As research projects become more complex, we need the very best talent. This involves empowering researchers with the skills to lead teams to deliver advances in knowledge, often drawing on interdisciplinary approaches, but also supporting individuals to develop and create a positive research culture, particularly as research culture and career development are an increasing priority. Early Career Researchers (ECRs) face a precarious future and discussions about research culture must drive the need for a holistic solution. The Academy is also playing a role with our ECR community through the establishment of an Early Career Researcher Network. In addition, we are establishing a UK Young Academy in collaboration with the other National Academies, including those of the devolved administrations.

However, if we are really to provide researchers with a stable career path, and to achieve the Government's ambitions to be a science superpower, then we need strong, sustainable funding of the whole of the R&D system, and commitments to high levels of investment in both people and infrastructure over the long term.

²⁵ For evidence on this of the value of mobility see www.royalsociety.org/-/media/policy/projects/international-mobility/national-academies-opinion-leader-survey.pdf; www.royalsociety.org/-/media/policy/projects/international-mobility/researcher-mobility-report-survey-academics-uk.pdf; and www.rand.org/pubs/research_reports/RR2690.html

²⁶ www.thebritishacademy.ac.uk/publications/rd-investment-UK-research-development/