



Reimagining R&D Briefing

How do we get to a 2045 where

**R&D features in an open
innovation system with
strong public and
private collaboration**

August 2026

Introduction

The future of UK R&D is at a pivotal moment. It faces a complex interplay of global and domestic uncertainties including from a changing geopolitical context, domestic political fragmentation, declining public trust in institutions and rapid technological development. Now is the time for the R&D sector to take deliberate steps to ensure R&D remains resilient and relevant in the decades ahead.

CaSE has developed a [long-term vision](#) for UK R&D in 2045 that sets out desirable outcomes that the sector would like to see, as well as the challenges and trade-offs that need to be addressed for this to become reality. The vision is based on views gathered through an extensive consultation process with CaSE's membership – including businesses, universities, charities and learned and professional societies – as well as a diverse array of stakeholders across the R&D sector.

The vision sets out four themes for a successful UK R&D system in 2045:

- 1) R&D delivers benefits for the economy and society**
- 2) R&D is embedded in society, with greater public involvement**
- 3) R&D fosters national capability while being outward looking**
- 4) R&D features in an open innovation system, with strong public and private collaboration**

This vision is intended to guide both the R&D community and the UK Government in shaping the future of the R&D system. CaSE is exploring the themes from the vision in greater depth through a series of roundtables. The discussions aim to further explore the challenges, opportunities and trade-offs identified.

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The views and recommendations expressed within this report are those of Campaign for Science and Engineering (CaSE) and inclusion on this list does not imply endorsement for the contents of the report.

About this briefing

This briefing provides recommendations to unlock progress towards the fourth theme from the vision, which sets out that in 2045:

R&D exists in an open innovation system with strong private and public collaboration, which sees:

- **Strong support for business investment in R&D and for the growth and scale-up of innovative companies.**
- **Public funding, tax incentives and innovation programmes help businesses develop and commercialise new technologies that can reach the market faster.**
- **High standards of research integrity and openness that build public confidence, such as the use of open-source data and standards, transparency and ethical practises.**
- **Enhanced public and private partnering, with R&D efforts and societal goals aligned through partnerships and collaborations to ensure equitable access to innovations.**
- **Disciplinary siloes are broken down within the R&D system, especially within higher education institutions and funders.**

Participants were asked to assess the feasibility of the fourth theme of the vision within the current policy landscape, explore trade-offs and identify policy interventions needed to deliver it. This briefing identifies what is currently working well, some of the barriers to delivering this vision and what could be improved. It also sets out recommendations in the short term towards making this vision a reality, which are aimed at Government, the research community, businesses and funders.

From our discussions, there are long-standing issues that need to be addressed if the vision we have set out is to become reality. Many of the challenges outlined in this briefing have been recognised by the sector for several years and have featured in previous policy debates. Although there have been efforts to address them and progress has often been made, they remain unresolved and continue to require attention.

Tackling these challenges will be important if the sector is to demonstrate the economic and societal value of R&D and strengthen the UK's global competitiveness. A consistent theme was the need for greater stability across policy, strategy, funding and resources. Frequent changes in government priorities have made this difficult, making long-term planning near-impossible and limiting the sector's ability to develop the partnerships, capabilities and confidence needed to deliver sustained impact. A new Government, led by Andy Burnham, along with the publication of the new UKRI strategy, makes this a timely moment to re-establish the needs of the sector and look again at some of these long-standing challenges.

Greater collaboration between public and private sectors, different disciplines and regions is essential for equitable innovation

Collaboration between different sectors, like universities and businesses, and between different disciplines is essential to ensure the R&D system remains innovative and overcomes siloed ways of working. Collaboration is essential because it brings together diverse expertise, resources and perspectives to tackle complex challenges.

However cross-sector collaboration does not always occur organically and requires the right infrastructure to do so. This has been a topic of conversation for some time within the R&D sector, and whilst progress has been made towards enabling greater collaboration, it is still not consistently funded or resourced. This is becoming increasingly urgent, given the cross-disciplinary nature of the problems we face as a society and the emergence of new technologies. For example, artificial intelligence (AI), where the private sector plays a large and growing role, driven in part by its greater access to resources, infrastructure, data and compute capability compared with the public sector.

Design funding and institutions that facilitate interdisciplinary and cross-sector collaboration

Interdisciplinary Collaboration

What is working well?

Some of the most significant innovations emerge when different disciplines and sectors work together. The development of AI, for example, has been driven by a combination of academia and businesses, as well as an interdisciplinary approach – bringing engineers and technology developers together with social and healthcare scientists, which has supported the development of more human-centred AI, and AI that meets real-world needs and ethical considerations.

UKRI's [AI for Collective Intelligence](#) research hub provides a useful example of this approach, bringing together universities and partners from across academia, government, charities and industry to apply AI to societal challenges including healthcare, environmental intelligence, financial stability, pandemics and smart cities.

What could be improved?

Whilst many initiatives have been seen over the years, a majority are not sustained in the long term. More long-term initiatives are needed to strengthen cross-disciplinary and sector collaboration and ensure that innovation is shaped by a wider range of expertise from the outset.

While cross-disciplinary programmes can be highly successful when deliberately designed, opportunities for more organic or curiosity-driven collaboration remain limited. The current funding and institutional environment does not consistently incentivise researchers to work across traditional disciplinary boundaries. UKRI's [cross research council responsive mode pilot scheme](#) was an example of a programme that encouraged interdisciplinary research, which has now been discontinued. In their [new strategy](#), UKRI commit to creating new interdisciplinary programmes designed to deliver government and societal priorities.

As well as having the right incentives, structural barriers also remain and make it more challenging to navigate interdisciplinary collaborations. Universities are often organised around distinct faculties, departments and funding streams, which can make collaboration across disciplines difficult. Past programmes such as EPSRC's Bridging the Gap scheme encouraged effective cross-sector and interdisciplinary collaboration by providing the infrastructure for partnering needs. Imperial recently set up the [School of Convergence Science](#), which aims to facilitate and embed collaboration across sectors and disciplines to drive forward innovation across a series of societal challenges.

University and Business Collaboration

What is working well?

Collaboration between universities and businesses has improved significantly over the past two decades. There is a more positive perception around the value of these collaborations and an acknowledgement that universities have increasingly become pivotal drivers of economic growth and societal development. Data collected by the [National Centre for Universities and Businesses](#) shows that between 2004 and 2023 income received by universities from businesses increased by 62%, with 86% of this increase being from contract services and intellectual property. This has been helped by programmes such as UKRI's [Higher Education Innovation Funding \(HEIF\)](#) and other knowledge exchange initiatives that encourage collaboration between universities, businesses, public and third-sector organisations, communities and the wider public.

This collaboration is important not only for commercialising research and attracting inward investment, but also for multi-disciplinary research and for businesses to be involved in 'curiosity-led' research. Universities offer specialist facilities, knowledge and expertise that businesses can tap into. They also have a crucial role in de-risking the research and innovation pipeline, taking early, high-risk ideas to the point of validated proof-of-concept technology, at which point companies are more willing to carry the innovation forward to market.

What could be improved?

The quality of the UK's research base and higher education system remains a major factor in businesses choosing to invest and conduct R&D in the UK. Despite this, the wider innovation system remains difficult to navigate, particularly for small and medium enterprises (SMEs), due to a fragmented and frequently changing landscape of programmes, nomenclature and policies making collaboration with universities difficult. Having greater stability and more long-term, sustainable programmes and funding schemes, with long-term strategic priorities would help businesses to navigate the system and encourage more collaboration. UKRI has already started to improve the accessibility of the innovation landscape by simplifying its translation and commercialisation funding, consolidating opportunities under four harmonised titles to make the system easier for start-ups to navigate.

Collaboration not only requires understanding of the wider innovation system, but also how different organisations, such as universities or businesses operate. To improve this, sectors need to facilitate more movement of people between sectors, through programmes such as secondments or internships to build cultural and system understanding. This will encourage more fruitful collaborations that are in turn easier to facilitate and have better return on investment. One positive step in this direction is UKRI's recently announced venture doctorates programme, which provides PhD candidates with entrepreneurship focused doctoral training and helps bridge the gap between research and commercialisation.

Turn regional innovation strengths into sustained national innovation assets

At a time of increasing public opinion polarisation and domestic political fragmentation, strengthening regional innovation is essential to sustaining public confidence in R&D and ensuring its benefits are visible across the UK. Building on local industrial strengths, research capabilities and community assets can help regions develop innovation systems that respond to local needs while also contributing to national priorities. Treating these local strengths as national assets is important because it allows the UK to make better use of existing expertise, infrastructure and partnerships, avoid duplication, attract investment and build a more resilient and geographically balanced innovation system.

What is working well?

The UK has developed several successful regional innovation clusters that bring together universities, businesses, Catapults, government and investors. Examples such as the [Compound Semi-Conductor Cluster](#) in Southeast Wales demonstrate how bottom-up, locally driven collaboration can create globally competitive innovation systems. These clusters often build on existing industrial strengths, skills bases and research capabilities, showing the value of UK assets.

Devolution and the growing role of strategic local authorities have also increased attention on place-based innovation. Government initiatives such as the [Local Innovation Partnerships Fund – UKRI](#) are encouraging local authorities, universities and businesses - the "triple helix" of innovation - to work together to shape local innovation priorities and investment decisions.

What could be improved?

While devolution creates opportunities for place-based innovation, there are concerns about growing tension between local and national approaches. It is also important that successful regional clusters are recognised and supported as national assets rather than purely local initiatives. Stronger engagement between R&D institutions and local communities has been consistently highlighted as a crucial way to sustain public confidence in R&D and innovation, particularly if public support for investment in research is to be maintained and expanded. In our conversations, a recommendation was to have 'R&D Community Labs' that are managed in collaboration with multiple government departments. They would bring together local issues, universities, local businesses and regulators to help increase the presence of R&D in the public's everyday lives, as well as align local and national approaches - similar to approaches by NESTA's [Innovation Growth Lab](#). [CaSE's public opinion work](#) has also previously published recommendations on increasing public confidence in R&D.

Many local innovation initiatives remain dependent on short-term project funding. There is a need to build permanent innovation capacity within places, enabling regions to develop long-term strategies and capabilities rather than relying on individual programmes or competitive funding rounds. Creating 'Silicon Valley-like' regional centres would generate long-term local infrastructure and act as hubs for entrepreneurs.

There was also concern that a strong shift towards regional decision-making could lead to duplication, fragmentation and competition between places. Areas with Mayoral Combined Authorities often have greater capacity to influence innovation funding and policy than areas without comparable governance structures. Innovation policy needs to avoid a situation where funding follows political influence, population size or the loudest local advocates rather than areas of genuine research excellence, industrial capability and growth potential.

Recommendation

1

Build permanent local innovation capability and infrastructure for partnering

To help improve cross-sector and interdisciplinary research, a more streamlined infrastructure that reduces barriers to collaboration within and between places is required.

This could be achieved by:

- Establishing and funding infrastructure for partnering needs alongside infrastructure for research itself. For example, physical spaces and shared facilities, professional support, governance and long-term funding that enable different disciplines and sectors to work together.
- Secondments, industry fellowships, government exchange, entrepreneurs in residence and placements should be parts of funding programmes to increase awareness and understanding of different sectors.
- Creating long-term devolved funding opportunities to build research and innovation capability and support collaboration

Greater support for translation and adoption is required for the growth and scale-up of innovative companies

The R&D sector has long highlighted the need for stronger support to translate research into practice and drive its wider adoption, a challenge made more urgent by stagnating growth across many Western economies. The UK's long-term prosperity depends not only on generating new knowledge but also on successfully translating research into products, services and businesses that create economic and societal value. While the UK has a world-leading research base and increasingly recognises commercialisation and scale-up as part of the innovation system, challenges remain in translation, adoption, access to finance, and business growth. Stronger support across the full innovation journey, from discovery through to market adoption, will be essential if the UK is to maximise returns on its R&D investments.

Build clearer pathways to translation, scale-up and adoption

What is working well?

There was broad support for the direction of travel in UK innovation policy, which increasingly recognises commercialisation, and particularly the scale-up stage, as a core component of the R&D system. The greater emphasis on scale-up was welcomed, noting that this is where innovation translates into productivity, growth and prosperity. At the same time, many felt it is possible and necessary to strengthen scale-up support without reducing support for discovery-led research.

What could be improved?

Support within the R&D system is still lacking across the most difficult stages of innovation. While significant funding and support exists for research and early-stage development, businesses often struggle to navigate validation, demonstration, scale up and adoption. Challenges exist at the point where companies need to secure their first customers, demonstrate commercial viability and move from pilot projects to widespread deployment. Existing funding and support structures stop too early or are not adequate across the Technology Readiness Level (TRL) pathway, leaving businesses potentially exposed during the most commercially challenging phases (e.g. from TRL6 when prototypes are demonstrated in a relevant environment).

Policy and funding schemes should put more emphasis on the later stages of innovation and connect adoption, procurement and scale-up. A more joined-up approach is needed as small businesses currently have to navigate a complex and fragmented landscape of support, often across multiple funders, facilities, regulators, procurement bodies and investment routes. Having a 'one-stop shop' would provide a single front door into the innovation system. This would help businesses quickly understand what support is available and how to access it, advancing more companies through the later stages of the innovation pathway. Innovate UK Business Connect was established with a similar aim. The Government has since launched a separate Business Growth Service specifically to give SMEs a clearer single point of access. The recent merger between the Department for Science, Innovation and Technology (DSIT) and the Department for Business and Trade (DBT) to form a larger Department for Business, Innovation, Science and Trade (BIST) could help to facilitate this by bringing science, innovation, business support and growth policy closer together.

In the roundtable it was argued that insufficient attention is often given to innovation demand factors that help with technology adoption and further business investment; such as procurement, adoption incentives, market creation and customer confidence. Without clear pathways to adoption, private investment can be discouraged, limiting both commercialisation, productivity gains and societal benefit. Public procurement can play a much stronger role in addressing this challenge by acting as an early and credible source of demand for innovation.

To encourage stronger support for the later stages of innovation, future policy should place greater emphasis on the outcomes that matter for translation and adoption. Success should not be measured solely by levels of R&D spend, but also by whether public and private investment is helping new technologies reach the market, attract follow-on investment, scale successfully and deliver economic and societal benefits. The new [UKRI Strategy 2026-2031](#) shows that this is a priority for the sector and Government. It will hopefully help ensure that incentives across the innovation system are aligned not only around the generation of new knowledge, but also around its deployment and impact.

Strong international reputation and innovation assets can encourage business R&D investment

What is working well?

The UK's global reputation for research excellence remains a significant competitive advantage. The country possesses world-leading strengths in several frontier technology areas, including semiconductors, quantum technologies and artificial intelligence, alongside a diverse network of research institutions, innovation infrastructure and highly skilled people. These assets can provide a foundation on which future scale-up and commercialisation activity can be built, but the UK needs to decide what exactly it is in these fields that it is good at. For example, is the UK at the frontier of AI development or will it become the leader in AI adoption?

What could be improved?

Businesses increasingly make investment decisions in a global marketplace. While the UK remains attractive, there are concerns that insufficient attention is being paid to the overall competitiveness of the UK as a destination for business R&D investment. Factors such as R&D tax policy, access to talent, market opportunities, infrastructure, research facilities, international collaboration and regulatory environments all influence where businesses locate their R&D activities. During our discussions it was argued that these issues require a more coordinated cross-government approach to understand where the UK can be globally competitive, so that it can be leveraged to increase global business investment in the UK. Another suggestion to encourage more global investment in R&D within the UK, was a co-ordinated initiative to attract Foreign Direct Investment in R&D, which could be led by the Office for Investment and supported by BIST, UKRI, Foreign, Commonwealth and Development Office (FCDO) and the Ministry for Housing, Communities and Local Government (MHCLG).

Sustainability and efficiency of the funding system is required to unlock innovation

What is working well?

It is generally felt that there is a good level of public R&D funding and that it plays a vital role in supporting fundamental, curiosity-driven research that underpins future innovation. During discussions the importance of funding in fostering multi-disciplinary and collaborative research was also highlighted. Business investment was recognised as a valuable component of R&D funding that should be actively celebrated, rather than viewed as crowding out public investment or curiosity-led research, as many businesses will rely on universities for curiosity-led research.

What could be improved?

Concerns remained about the sustainability of university research funding and the efficiency of grant processes. The UK funding system can be slow and bureaucratic, creating delays for businesses and researchers while generating administrative costs that may not contribute directly to innovation outcomes, and the success rate of ~20% means a lot of time is wasted. Improving the agility of the grant system, including through recommendations highlighted in the [Tickell review](#), would reduce the amount of waste in the funding system and make it more effective and time-responsive to reduce delays in research and innovation. UKRI's new strategy makes a commitment to substantially reduce grant processing times.

In private investment, current financing models do not always provide the patient capital required to support long-term, sustainable innovation. Many innovative sectors require long investment horizons before commercial returns can be realised. Aerospace was frequently cited as an example, where product development cycles can span a decade or more. This can constrain commercialisation and discourage investment in strategically important sectors with extended development timelines. More funding initiatives are needed to ensure more long-term investment programmes are designed around the needs of R&D-intensive businesses. For example, the [British Business Bank's Patient Capital Funds](#) invest in R&D-intensive companies operating in deep technology and life sciences sectors. Ensuring more patient capital in investment would help to ensure sustained funding and support the commercialisation of innovations that have longer development cycles, to allow for a return on investment. It is therefore encouraging that a consortium of major UK pension providers has committed to exploring the establishment of a new UK Scale-up Fund worth more than £1bn to invest in high-growth British science and technology companies.

Visibility of funding required for public and private funding to work together

To ensure that public and private funding work together in an open innovation system, it was suggested to increase visibility of business investments through a UK R&D scoreboard. This could help to show where investment is happening, how it aligns with the mission-driven priorities, and who is investing, whether national or international businesses. Existing tools, such as the Global Innovation Index 2025 - Global Innovation Tracker, already monitor global innovation performance, including investment, growth rates, R&D investors and patent filings. Similarly, the EU Industrial R&D Investment Scoreboard tracks and compares the performance of leading EU R&D investors with their global counterparts. These models could provide a useful template for a UK version, enabling policymakers and the sector to see not only which companies are investing and in what areas, but also how far that investment supports the UK's strategic R&D priorities.

Recommendations

2 Provide businesses with a more accessible and joined-up support landscape along with more sustained funding

This could be achieved by:

- A "one-stop shop" for start-ups and SMEs, that acts as a single front door that signposts businesses to funding, facilities, training, validation support and regulatory advice.
- A UK R&D scoreboard to make investment visible across mission-driven objectives

3 Improve the global competitiveness of the UK to increase business investment

This could be achieved by:

- Having a co-ordinated government approach to understand what makes the UK globally competitive
- Establishing a co-ordinated initiative to attract Foreign Direct Investment in R&D, which could be led by the Office for Investment and supported by BIST, UKRI, FCDO, and MHCLG.



About CaSE

Campaign for Science and Engineering (CaSE) is a non-partisan charity with a membership that cuts across R&D sectors. It takes a high-level, cross-sector view of the research and innovation environment, and gives impartial expert insight on the whole R&D system to decision-makers.

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