National Centre for Universities and Business

From ambition to advantage:

Unlocking the UK's business-led R&D potential

Oct 2025

Endorsements

The UK's world-class research base is an extraordinary national asset, but it must be matched by a system capable of turning that strength into sustained business investment, growth, and industrial leadership. The Taskforce offers a clear and practical roadmap: focus on a small number of national priorities, simplify access for business, and reform institutions for delivery. Implemented together, these changes would restore confidence, support investment, and ensure that British research translates into prosperity and competitive advantage for decades to come.

Sir John Manzoni
Chair, **Diageo,** Chair, **SSE,** Chair of **NCUB Business-Led R&D Taskforce**

Sir Jon Symonds
Chair, **GSK,** member of **NCUB Business-Led R&D Taskforce**

Professor Dame Nancy Rothwell
Deputy Chair, **Industrial Strategy Advisory Council,** member of **NCUB Business-Led R&D Taskforce**

Sam Laidlaw
Chair
AWE

Stuart Chambers
Chair
Anglo American

Dame Ruth Cairnie
Chair
Babcock International Group

Bina Mehta
Chair
KPMG in the UK

Paula Walsh
Managing Director (UKIMEA)
Arup

Jo Harrison
Director of Strategic Planning and Sustainability
United Utilities

Howard Watson
Chief Technology Officer and Chief Security & Networks Officer
BT

Dr Paul Gosling
Chief Technology Officer
Thales UK

Dr Adam Stoten
Senior Vice President, Academic Partnerships & Site Head
Evotec

Liz Rowsell
Chief Technology Officer
Johnson Matthey

Simon Harwood
UK Capability Development Director
Leonardo UK

Marie-Pierre Paquin
Head of Science and Partnerships
Rio Tinto

Dame Kate Barker
Chair, Governing Council
the Productivity Institute

Julia Elizabeth King
Baroness Brown of Cambridge

"Innovation is essential to kickstarting UK growth. But while we have globally renowned universities and are a leading site for science and technology start-ups, our innovation system is not currently working well for businesses. In a recent CBI survey, over 50% of businesses said the UK is now a less competitive site for innovation than it was three years ago, echoing the findings of the NCUB Taskforce. Government has set out a range of helpful strategies in this space, but it is now time to shift gears to full-throttle delivery. Delivery of the Taskforce's recommendations to focus on a small number of innovation priorities, simplify the support system for businesses, and reform institutions to strengthen accountability and delivery, would be incredibly valuable to better harness the UK's strengths, and give businesses confidence to invest alongside government in UK innovation and growth.

Rupert Soames OBE, President and Chair of the Board, Confederation of British Industry

Contents

02 Endorsements

04 Introduction

05 Recommendation summary

06 **Section 1:** Unlocking growth – a policy agenda to revive private R&D

- 07 **1.1** Diagnosing the challenges
- 08 **1.2** Three levers to unlock business R&D
- 16 **1.3** Turning plans into progress

17 **Section 2:** Understanding business R&D investment in the UK

- 18 **2.1** Introduction and framing
- 19 **2.2** Trends in UK business R&D investment
- 21 **2.3** Business R&D and the wider investment picture
- 23 **2.4** Where is decline and stagnation happening
- 24 Trends by business size, industry, product group and location
- 30 **2.5** Why the UK must reverse this decline in business R&D

31 **Section 3:** Business perspectives – what is holding firms back from investing in R&D

- 32 **3.1** Introduction and framing
- 33 **3.2** Understanding what drives R&D investment decisions
- 36 **3.3** Insights from large businesses: strengths, frictions, and the need for boldness
- 39 **3.4** SME perspectives: widespread challenges, untapped potential
- 43 **3.5** Sectoral divergence: not all declines are equal
- 45 **3.6** R&D governance and institutions: strong research base, limited industrial connection
- 50 **3.7** What this evidence implies

51 **Section 4:** Conclusions and implications

- 52 The response: Focus, Simplify Reform.
- 54 From strategy to delivery
- 54 Conclusion: from excellence to confidence

55 References

Introduction

Britain's business R&D engine is losing power. Between 2021 and 2023, private investment fell by 6.3% in real terms, which means around £3.4 billion less was spent on business-led research and development. It was the sharpest decline among major economies, while competitors including Korea, Japan and the United States increased investment and pulled ahead in the industries of the future.

The UK's research base remains world-class: our universities are globally competitive, our talent pool deep, and our record of scientific excellence unrivalled per capita. But these strengths are not consistently translating into business-led R&D. The weakness lies not in discovery, but in the connection between research, investment and industry.

Losing momentum in business R&D can have significant economic repercussions. For example, if R&D intensity drops by just 0.1 percentage points, the UK economy could lose around £10 billion over five years mostly due to reduced productivity.

To understand why business R&D is retreating — and how to reverse it — the National Centre for Universities and Business (NCUB) convened a Taskforce led by Sir John Manzoni, Professor Dame Nancy Rothwell and Sir Jon Symonds. Its purpose: to develop practical proposals to make the UK a more supportive, competitive and confident place for business R&D.

The Taskforce's analysis and conclusions draw on perspectives from large multinationals, R&D-intensive SMEs and universities, combining detailed interviews with senior R&D leaders and a survey of more than 2,000 companies.

The Taskforce's conclusions set out a route to systemic change: **focus** on fewer, higher-impact priorities; **simplify** business access to support; and **reform** institutions for delivery — so the UK can turn ambition into competitive advantage.

Business R&D picture at a glance:

- **Business R&D spending fell by 6.3% in real terms between 2021 and 2023**
- **SMEs saw the steepest declines, but reductions among large R&D performers** in key manufacturing sectors drove significant impacts.
- **Pharmaceuticals and scientific R&D contracted sharply,** while **telecoms, consultancy, and electrical equipment** recorded moderate growth.
- **Foreign-owned firms increased R&D investment,** now accounting for nearly half of total business R&D, while **UK-owned firms retrenched.**
- **R&D-related FDI activity declined sharply,** with the number of new greenfield R&D projects down around 30% since 2022/23, indicating fewer new international entrants despite higher spending among established foreign investors.
- **National and regional imbalances appear to be deepening,** with growth concentrated in London, the West Midlands, and Northern Ireland, and declines elsewhere.

This report leads with **what to do** (Section 1), then shows **why** (Sections 2-3).

Recommendation summary

Lever	The problem the evidence highlights	Taskforce recommendation (what needs to change)	Expected impact (why it matters)
1. Focus **Industrial Innovation Priorities that deliver**	The UK's R&D effort is spread too thinly across short-lived initiatives. Businesses face weak, inconsistent signals about where the UK aims to lead globally.	Identify and sustain a small number of **Industrial Innovation Priorities** from early 2026, aligned with the 2025 Industrial Strategy. Align funding, regulation, and talent to these priorities through joint industry–research–government oversight.	Concentrates effort and builds long-term confidence for business investment. Connects world-class research to commercial demand and anchors R&D activity in the UK.
2. Simplify **One usable system for Business**	Despite over £20 billion in annual public R&D spend, support is fragmented across hundreds of schemes and portals. Businesses—especially SMEs—find the system hard to navigate, with persistent gaps in mid-stage funding.	Consolidate overlapping programmes into a **priority-aligned portfolio** with shared applications, reporting, and governance. Access through a single digital front door, supported by account management and brokerage. Protect blue-skies research while improving connectivity from discovery through deployment.	Creates a seamless innovation pathway from research to market. Reduces duplication and bureaucracy, increases SME participation, and leverages public investment to unlock greater private co-investment.
3. Reform **Institutions built for impact**	UKRI was created to connect research and innovation, yet fragmented governance and unclear mandates limit its ability to drive commercial outcomes. No institution is clearly accountable for the "middle" of the innovation pathway.	Redefine **UKRI's mandate** to include explicit accountability for business-led R&D, private investment, and commercial outcomes. Integrate Innovate UK into cross-council delivery.	Transforms UKRI into a **strategic system integrator**, coordinating research, innovation, and industrial priorities. Strengthens delivery discipline, boosts private leverage, and shows clear returns on public investment.

Section 1:
Unlocking growth – a policy agenda to revive private R&D

1.1 Diagnosing the challenges

The UK's world-class research base should be a foundation for economic advantage. Yet business R&D investment — the bridge between discovery and growth — is weakening.

Recent data confirm that this is more than a temporary downturn. Between 2021 and 2023, UK business R&D spending fell 6.3 per cent in real terms, with the steepest contractions in pharmaceuticals and scientific R&D. The declining investment amongst large R&D-intensive manufacturers has a disproportionate national impact, while sharp reductions among smaller firms have weakened momentum in services and digital sectors.

Our work and engagement, detailed in sections 2 and 3, shows that:

- **Wider economic headwinds** — including macroeconomic uncertainty, high input costs, and weak demand signals — are weighing on business confidence to invest in R&D across firm sizes and sectors, and the public support system that should offset these pressures is itself fragmented, slow and short-term. As a result, public programmes are not acting counter-cyclically: when private appetite weakens, there is too little stability or clarity to crowd investment back in.
- **SMEs** are constrained by finance, an uncertain operating environment and complex bureaucracy and regulation, and find it more difficult to connect into public support — consistent with sharper SME R&D declines.
- **Large firms** face fragmented initiatives, short policy cycles, and gaps at mid-TRLs, contributing to sectoral retrenchment in certain sectors
- **Structural differences across the economy mean that these pressures compound:** large-firm retrenchment in manufacturing and SME decline in services together drive the aggregate downturn in UK business R&D.

The UK is caught in a self-reinforcing cycle: weak growth and economic uncertainty discourage long-term R&D investment, while declining R&D investment depresses productivity, innovation, and ultimately growth. The data show both sides of this loop. Business R&D spending has fallen in real terms for two consecutive years, venture funding has tightened, and large firms are scaling back R&D and innovation budgets. Across both public and private finance, risk appetite has narrowed: investors are more cautious, and access to growth and scale-up funding is tightening. This is particularly challenging for R&D-intensive firms that lack the balance-sheet strength to self-fund major R&D programmes. The result is a risk-averse investment climate, in which firms hesitate and struggle to fund the very R&D the economy most needs for recovery.

These challenges expose systemic weaknesses rather than market failure alone. Markets will not correct this in isolation; it requires coordination, continuity and accountability across government and institutions.

Breaking the cycle means restoring ownership and coherence across the R&D system. The UK's strengths in research, skills and infrastructure must operate in concert, not isolation. Enormous progress has been made at pushing UK research out through commercialisation and particularly academic spinouts, but the system still lacks the pull of sustained industrial demand and coordinated public priorities.

Public institutions should act as stabilisers when market confidence weakens, sustaining long-term investment through clarity, coordination and predictable delivery. Effective R&D policy is not simply another strand of economic policy — it is the integrator of growth policy, aligning talent, investment and regulation around shared industrial priorities.

1.2 Three levers to unlock business R&D

The Taskforce's recommendations therefore focus on three levers where strategic public leadership can most effectively reverse the cycle and rebuild business confidence:

1. **Focus** – concentrate national effort on a small number of long-term industrial R&D priorities;
2. **Simplify** – make access straightforward so that businesses, particularly SMEs, can navigate support and finance easily; and
3. **Reform** – strengthen institutions for delivery, ensuring accountability for results and leverage of private investment.

If these reforms are coordinated across government and linked to wider economic renewal, the UK can flip the feedback loop — from a vicious cycle of underinvestment to a virtuous cycle where R&D drives confidence, productivity and growth.

Lever 1
Focus: National Industrial Innovation Priorities that deliver

Problem the evidence highlights

Businesses told the Taskforce that the UK lacks clear, consistent, long-term priorities for R&D and industrial development. Past strategies have been fragmented and short-lived, sending weak signals to industry. Firms stressed that clarity, stability and stronger mid-Technology Readiness Level (TRL) support are essential to anchor R&D in the UK. The 2025 Industrial Strategy provides a foundation but needs sustained delivery.

The UK's research base remains a major national strength. Businesses consistently praise the quality and openness of UK universities, but also warn that these assets are under-used. With business R&D investment under pressure, the "pull" from industry now matters more than ever. Clearer demand signals, easier routes for SMEs to engage and better mid-stage support are needed to turn research excellence into growth.

The Taskforce also heard that investor risk appetite has fallen sharply in the current economic climate, making it harder for firms—especially SMEs and deep-tech ventures—to access finance for R&D and scale-up. Business leaders stressed that clearer, long-term national priorities, combined with stable public support, would help crowd investment back in by reducing perceived policy risk and signalling where the UK intends to lead.

Taskforce recommendation

Government and industry should jointly identify and drive a focused set of **Industrial Innovation Priorities** from early 2026, aligned with the 2025 Industrial Strategy and sector plans. Each priority should target areas where the UK can lead globally, focusing support, coordination, and delivery around clear innovation opportunities with significant commercial and societal potential. This approach also recognises that the opportunities of R&D extend beyond the laboratory: in sectors such as finance, creative industries, and digital services, new business models, data capabilities, and design-led innovation are just as critical to productivity and global competitiveness as advances in hard technology.

Each priority should be underpinned by:

1. A **clear business case** grounded in UK research strengths, industrial capacity, and market opportunity.
2. **Joint industry–research–government oversight and steer** to enable continuous collaboration, co-design, and delivery alignment.
3. **Regular performance reviews** (e.g., every three years) by the Industrial Strategy Council, informed by business feedback and transparent metrics.
4. **Policy, funding, and regulatory alignment,** with the Regulatory Innovation Office publishing priority-specific regulatory roadmaps.
5. **Dedicated business engagement and concierge services** for each priority to broker partnerships and coordinate support (see Lever 2).

Industrial Innovation Priorities: connecting research strength to industrial impact

Industrial Innovation Priorities (IIPs) are not another layer of strategy or a new list of technologies. They are the industrial delivery layer that connects the UK's Science and Technology Framework — which defines the UK's critical technology capabilities — with the Industrial Strategy, which sets long-term sectoral and economic goals.

Where the Science and Technology Framework sets out what the UK must be excellent at, and the Industrial Strategy defines where the UK must compete and grow, the Industrial Innovation Priorities focus on *how to turn those capabilities and ideas — whether scientific, creative, or digital — into global industrial advantage.*

Each Priority would centre on a specific, time-bound innovation opportunity where the UK can lead globally by linking research excellence, industrial capacity, and policy alignment. They sit between broad technology families and narrow projects — concrete enough to mobilise investment, but focused enough to communicate clearly and direct resources.

For example:

- *Zero-emission flight propulsion systems* — applying advances in hydrogen, advanced materials, and digital design to decarbonise aviation.
- *Next-generation cell and gene therapy manufacturing* — scaling engineering biology and automation to strengthen UK life sciences leadership.
- *AI-driven infrastructure resilience* — applying data, sensors, and AI to future-proof energy, transport, and utilities.
- I*mmersive digital production and creative content* — combining visual effects, real-time rendering, and AI tools to maintain UK leadership in film, gaming, and design exports.
- *Green finance and data transparency tools* — leveraging the UK's financial and regulatory ecosystem to mobilise investment in clean growth.

Each Industrial Innovation Priority would be jointly owned by government, industry, and research — ensuring that science, technology, and creativity are systematically pulled through into globally competitive industrial advantage.

Key delivery mechanisms

- **Long-term commitment:** Establish political and institutional continuity around the Industrial Strategy and Industrial Innovation Priorities, ensuring stability across governments and administrations. Frequent shifts in ministerial leadership and policy direction have historically undermined delivery and eroded business confidence. Breaking this cycle will give firms and investors the certainty to make long-term innovation investments in the UK.
- **Talent strategies:** Through Skills England and devolved counterparts, develop comprehensive, priority-linked talent plans covering vocational through doctoral levels and including a streamlined visa route for international researchers, founders, and technical experts. These plans should also promote mobility between academia, industry, and the public sector to build a flexible, mission-ready workforce.
- **Universities as co-developers and delivery engines:** Mobilise universities, often collectively and in consortia, as core partners in the Industrial Innovation Priorities, aligning their research application, talent development, and business engagement with national priorities while safeguarding excellence in discovery. Institutions should publish five-year mission impact plans under a single, streamlined evaluation framework, supported by an uplift to the Higher Education Innovation Fund (HEIF) from £250m to £500m to scale translational activity.
- **Place alignment:** For each Industrial Innovation Priority, publish a short 'place note' mapping UK capability and cluster potential, and nominate 1–2 lead geographies for early demonstration without excluding national participation.
- **Co-investment mechanisms:** Modelled on the Dutch PPP Allowance, introduce simple, rules-based public top-ups for private co-investment into Industrial Innovation Priorities. This would create predictable mid-TRL funding pipelines and reduce stop–start uncertainty, crowding in long-term business R&D investment and incentivise stronger industry pull through co-funding and shared risk-taking.

How the Dutch PPP Co-Funding Model Works

The Netherlands' Public–Private Partnership (PPP) Allowance is a simple, stable mechanism that underpins its innovation missions. For every euro invested by businesses into collaborative R&D projects aligned with national missions, the government provides a fixed public top-up (typically around 30%).

This automatic co-funding is channelled through mission-based platforms, ensuring that public money follows clearly defined priorities rather than one-off competitions. The model creates:

- Predictable, rolling mid-TRL pipelines that give firms the confidence to invest;
- Incentives for sustained industry leadership, as private funding determines the scale of public support; and
- Administrative simplicity, with minimal delays between project design and delivery.

The result is a stable, long-term framework that aligns public and private investment around shared innovation goals—something the UK has historically lacked.

Why this will work

- **Strategic focus enhances alignment:** Clear, long-term priorities connect public research more effectively with business demand, enabling a stronger industry pull and greater national return on R&D investment.
- **Prioritisation drives confidence:** International comparisons, alongside feedback from business leaders, highlight that long-term prioritisation is central to business confidence for long-term R&D investments.
- **Targeted support pays off:** Case studies show that targeted public support and account management has underpinned major business R&D investments (BioNTech, Unilever).
- **Weak progression through TRLs constrains growth:** Evidence shows that gaps and misalignments along the innovation pathway slow the translation of research into commercial impact. Addressing this requires prioritisation, not across-the-board support that spreads resources too thinly.

Together, the Priorities form a small, coherent portfolio — the connective tissue between science excellence and industrial leadership — ensuring that public investment, business effort, and policy reform reinforce one another around shared national ambitions.

> **"**A nation's innovation strength lies not in fleeting strategies, but in steadfast purpose. To lead globally, the UK must choose a few priorities, based on the eight growth-driving sectors in the UK's Industrial Strategy (IS-8)—and pursue them relentlessly—with government, industry and academia moving as one. Clarity, continuity, and courage will turn ambition into advantage, and research into lasting prosperity.**"**
> **Simon Harwood, UK Capability Development Director, Leonardo UK**

Lever 2
Simplify: A system that businesses can actually engage with

Problem the evidence highlights

Despite annual public investment of over £20 billion into research and innovation, the Taskforce heard that the system that connects research excellence to industrial and economic outcomes remains fragmented, short-term and difficult to navigate. Funding for discovery research, translational development and business innovation often operates in siloes, overseen by multiple departments and agencies with limited coordination. Related public investment mechanisms designed to scale firms — such as the British Business Bank, National Wealth Fund and Great British Energy — are also viewed by businesses as too risk averse, constraining access to finance for R&D particularly for deep-tech and capital-intensive R&D. The result is a disconnected pathway from early-stage research to market adoption, where promising ideas stall before achieving impact.

SMEs in particular find the landscape opaque and burdensome, with many self-funding R&D rather than engaging with public programmes. Larger firms face short funding cycles, shifting priorities, and disjointed platforms, making it difficult to plan long-term investment in the UK. The overall effect is a system strong on research "push", but weaker on coordinated "pull" — where business demand and national priorities shape the translation of ideas into growth.

Taskforce recommendation

Within 12 months, Government should unify the research and innovation funding landscape into a coherent, priority-aligned portfolio that supports the full journey from research to commercial application. This should be accessible through a single digital front door and backed by active brokerage and account management to help both researchers and businesses navigate and co-create projects.

This is not a call for new funding, but for greater coherence and integration of existing budgets — ensuring that blue skies and curiosity-driven research remain protected as vital sources of discovery and talent, while creating stronger, visible pathways that connect those discoveries to industrial needs and national advantage when appropriate. To maximise impact, these pathways should link seamlessly to the UK's wider investment architecture, ensuring that R&D-intensive firms can access growth and scale-up finance through responsive institutions.

Key delivery mechanisms

- **Priority-aligned, streamlined portfolio.** Government, led by **DSIT in partnership with UKRI,** should map and rationalise existing public research and innovation programmes across research councils and departments. DSIT should provide cross-government leadership and accountability for coherence, while UKRI acts as the system integrator within the publicly funded research and innovation landscape — ensuring alignment, transparency, and accessibility for business and research users. The aim is to reduce unnecessary complexity and duplication, simplify access for users, and ensure that funding streams with industrial or applied objectives are clearly aligned to the Industrial Innovation Priorities. This approach should safeguard blue-skies and investigator-led research as a distinct and essential part of the system, while strengthening the pathways that connect discovery to innovation and impact.
- **Industrial Innovation Priorities Fund.** Establish a five-year, cross-council fund that pools relevant existing applied and translational budgets to support multi-sector programmes linking research, development and deployment. The fund should focus on enabling ideas to progress through the innovation pathway — not on funding basic research — and ensure continuity between academic and industrial R&D investment.
- **Global Collaboration Fund.** Establish a dedicated mechanism to attract and anchor international R&D investment by **pooling UK universities' and firms' complementary strengths.** The fund should support strategic partnerships with world-leading research institutions, multinational enterprises, and anchor investors—creating joined-up offers that showcase the UK's collective capabilities. By simplifying access for global partners and aligning with trade, investment, and innovation promotion, it would strengthen the UK's position as a top-tier destination for high-value R&D and collaborative innovation.
- **Digital front door and brokerage.** Build on the UKRI-supported konfer platform to develop a live, searchable portal covering all public research and innovation funding, collaboration opportunities, and facilities. The system should also integrate non-funding offers — such as advice, standards, testbeds, and skills — to provide a joined-up route from idea to adoption. This should be linked to the concierge and account-management service set out in the Industrial Strategy to support firms and researchers throughout the process.
- **Cross-government coordination and accountability.** Establish a joint delivery group across DSIT, HMT, DBT, DfE, and other relevant departments to oversee the simplification process, ensuring coherence across research, innovation, and skills funding, and maintaining oversight of progress against simplification milestones.

Why this will work

- **Lowering barriers:** Evidence shows that complexity deters uptake—our survey and other evidence show that most SMEs that innovate often do so informally and self-fund. A streamlined entry point, cohesive and targeted funding structure, proportional assurance processes, and faster payments will lower barriers and bring more SMEs into the R&D economy.
- **Long-term confidence:** Interviews highlighted that clear, predictable multi-year pipelines change location decisions. Competitor countries provide continuity and scale, giving firms the confidence to commit long-term.
- **Global attractiveness:** A Global Collaboration Fund would showcase combined strengths across UK universities, giving global firms a single, mission-linked entry point for co-investment. By incentivising institutions to collaborate rather than compete, even modest funding could make the UK a top choice for R&D location decisions.
- **Regional opportunity:** Brokerage and account management could help identify opportunities across all parts of the UK.

> "Clear missions (e.g. around critical materials), mid-TRL support, consistent policy and regulation and accountable delivery are what UK business needs to invest with confidence. These recommendations would help the UK turn research strength into market advantage."
>
> **Liz Rowsell, CTO, Johnson Matthey**

How the two proposed new funds would work together

The Industrial Innovation Priorities Fund (IIPF) and Global Collaboration Fund (GCF) would work in tandem to connect UK research strength with industrial opportunity at home and abroad.

The IIPF would pool existing applied and translational budgets across research councils and departments to create a five-year, cross-sector fund supporting projects that move ideas smoothly from research through development to deployment. It would focus resources around the Industrial Innovation Priorities, ensuring continuity between academic and industrial R&D investment, and would build on the previous Industrial Strategy Challenge Fund as a model with improvements.

Complementing this, the GCF would provide modest, strategic seed funding to help universities collaborate rather than compete in attracting and anchoring international R&D investment. Modelled on the success of the Connecting Capability Fund, it would enable consortia to pool expertise and infrastructure to form joint partnerships with major global companies — building the UK's international competitiveness in high-value research areas.

Together, the two funds would create a more connected innovation system: one that supports domestic translation, strengthens global collaboration, and turns the UK's research excellence into industrial and economic advantage

---

Lever 3
Reform: Institutions built for impact

Problem the evidence highlights

Delivering effective R&D support depends on institutions that are structured and empowered to act on national priorities. UKRI has the opportunity to sit at the centre of the UK's full R&D system. Yet the Taskforce heard that the UK's institutional architecture too often divides responsibility between research councils and others focused on discovery and Innovate UK focused on business innovation, with too little integration or accountability for what happens in between.

This leaves a missing middle in the innovation pathway and a system that does not work for business. Multiple independent reviews (Nurse, Tickell, Grant, NAO, PAC) and business feedback point to the same weaknesses: blurred mandates, fragmented governance, incomplete integration of Innovate UK, and slow, process-heavy funding cycles. The result is a system that performs strongly at the front end of research, but lacks institutional ownership of the space where most value and private investment could be created. By returning to the founding purpose of UKRI — to bring coherence across the research and innovation system — there is a significant opportunity to address this gap and create institutions built for delivery and impact.

Taskforce recommendation

From 2026/27, Government should make UKRI explicitly accountable—alongside research excellence—for increasing business participation, private investment and commercial outcomes. This requires explicit governance reform, not just targets. Embed these expectations in UKRI's Framework Document and annual grant letter, with a joined-up approach to Board- and Council-level accountability.

Key delivery mechanisms

- **Clarify mandates and accountability.** Reaffirm UKRI's purpose to link research excellence with innovation and impact. Redefine Board and Council remits to balance frontier research with application, creating a statutory and strategic duty to grow business participation and leverage private investment. Appoint additional non-executive members with business and scale-up experience, and require annual publication of business engagement and R&D leverage KPIs and consolidated performance reports to government.
- **Integrate for delivery.** Create joint cross-council programme boards aligned to the Industrial Innovation Priorities, pooling budgets and integrating Innovate UK with research councils to close the "missing middle" between research push and business pull. Empower Innovate UK as the connector and translator between academic and industrial innovation — a core function originally envisaged in UKRI's design.
- **Streamline and coordinate processes.** Apply proportional assurance and risk-based review to cut bureaucracy and accelerate mid-TRL decision-making, building on the Tickell review. Integrate delivery systems across Councils and Innovate UK so that businesses experience a single, joined-up interface, with consistent account management, streamlined approvals, and faster funding cycles. Consolidate overlapping functions as outlined under Lever 2 to focus resources on the Industrial Innovation Priorities. Embed pace and responsiveness as delivery principles — with turnaround expectations aligned to business investment cycles.
- **Measure what matters.** Establish a cross-departmental Analytics and Performance Unit (DSIT–UKRI–HMT) to track how public investment drives private leverage, TRL progression, and measurable outcomes. Publish annual mission scorecards showing business participation, co-investment, and impact. Tie performance reviews and funding to outcomes — co-investment secured, innovation adopted, and new products or services reaching market — not just research outputs.

Why this will work

> "Making UKRI accountable for business participation and commercial outcomes is the right step. With clearer mandates and joined-up programmes, public investment will crowd in private R&D at scale."
>
> **Adam Stoten, SVP Academic Partnerships & Site Head, Evotec**

- **Review consensus:** Independent reviews converge on the same fixes—clarify mandates, strengthen governance and integration, simplify processes, and improve data. The challenge is no longer diagnosis, but delivery.
- **Business impact:** Greater accountability and transparency would give firms confidence that UKRI's world-class research programmes are directly geared toward commercial outcomes and private investment. This will unlock stronger partnerships, attract private co-investment at scale, and ensure businesses of all sizes—from SMEs to multinationals—can engage effectively with the system.
- **Improving lives:** By showing clear evidence of how public R&D spend drives jobs, growth, and solutions to national missions, UKRI can demonstrate the tangible return to taxpayers and secure long-term political and public support for investment in research and innovation.
- **Institutional readiness:** UKRI has the scale, credibility, and convening power to lead this shift. With clearer objectives, streamlined governance, and full integration of Innovate UK, it can act as the institutional bridge between research and business-led innovation—turning intent into delivery.

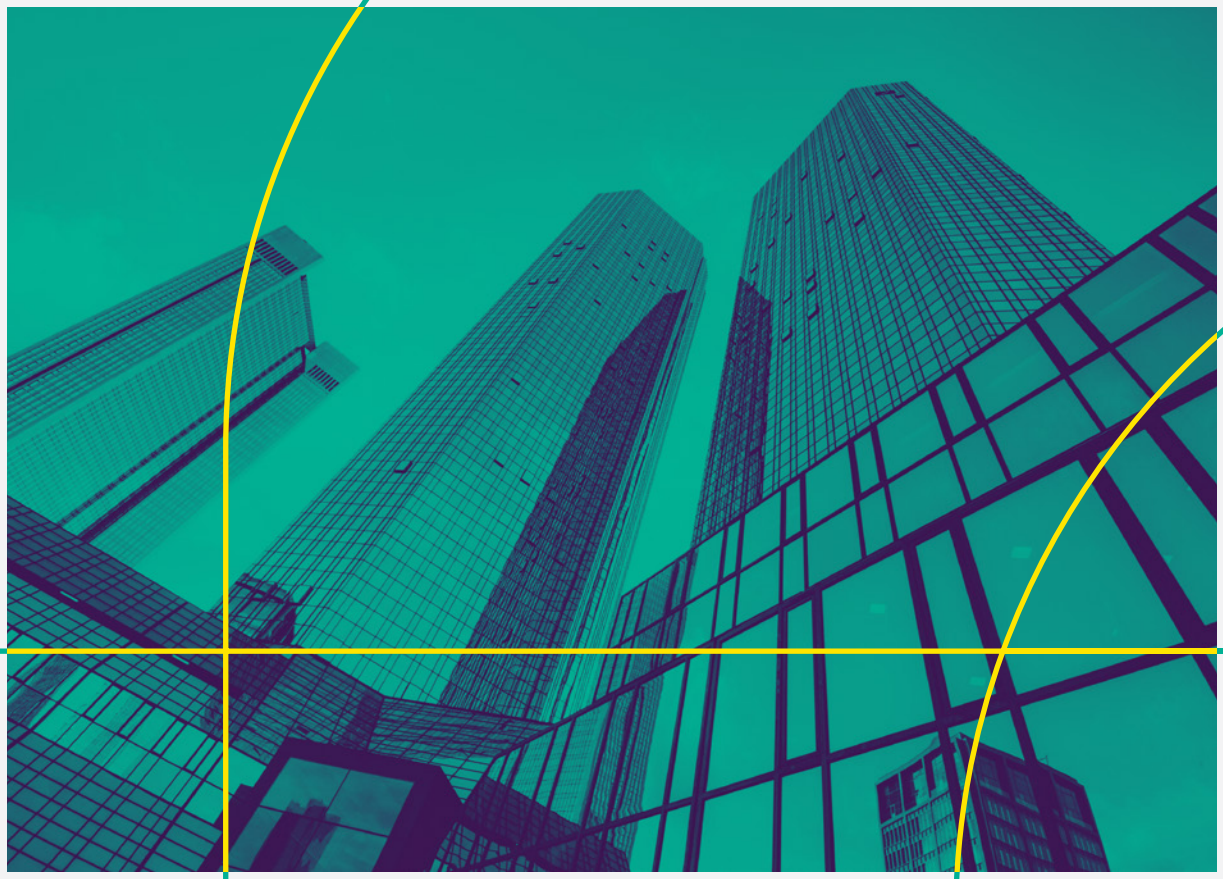
Joining the dots — UKRI's role as a strategic system integrator

Business investment in R&D depends on a web of interconnected factors — not only grants and incentives, but also the wider conditions that shape confidence and capability:

- Stable policy and regulation that provide predictability over the long term;
- Skills and talent pipelines aligned to emerging industrial priorities;
- Infrastructure and planning that enable access to facilities, clusters and testbeds;
- Energy and input costs that determine international competitiveness;
- Finance and investment climate, from venture funding to patient capital; and
- Demand signals and procurement that create markets for innovation.

These drivers span multiple departments and institutions. No single organisation owns them all — yet coherence across them is what businesses notice most. Like Skills England's ambition to "act as if it owns" the post-16 skills system, UKRI should act as if it owns the UK's innovation system. While it cannot control every lever, it can connect and align them.

As the UK's largest public R&D funder, UKRI can serve as the strategic integrator, linking research excellence to industrial priorities, talent, and investment. This means coordinating effort across councils, government departments, and delivery partners so that, to the business user, the system feels joined-up and purposeful — one where world-class research, industrial strategy and national missions pull in the same direction.



1.3 Turning plans into progress

These recommendations set the direction. What unlocks business confidence now is not another plan, but visible, reliable delivery against it.

Businesses highlighted that frequently the UK's challenge is not a lack of strategy, but a lack of delivery. Successive governments have recognised the same problems and produced strategies that businesses welcomed — but too few have been followed through with the urgency, focus, and consistency needed to make change real. For firms making long-term R&D investments, confidence depends on continuity and visible delivery. When priorities shift or commitments fade, that confidence erodes — and with it, the private investment those strategies were meant to unlock.

To turn plans into progress, the UK must now adopt an operational mindset: agile, accountable, and outcome-focused. That means embedding delivery fundamentals across the R&D system — clear accountability, appropriate resourcing, rigorous performance management, and a culture of execution. These are not bureaucratic details; they are the difference between ambition and achievement.

If the UK can sustain focus, simplify access, and reform its institutions around delivery, it can turn its world-class research strength into a powerful engine of innovation and growth — and close the confidence gap that has held back business investment for too long.

Delivery fundamentals

All three levers—Focus, Simplify, and Reform—depend on a common set of delivery fundamentals. These must be embedded across government, funding bodies, and institutions if the UK is to break the cycle of strong strategy but weak execution.

- **Accountability:** empower the Science Minister to lead cross-government coordination; make ministerial and departmental ownership of missions explicit; hold UKRI, and in time other funders and organisations in the ecosystem, accountable for business-led R&D outcomes through mandate and metrics.
- **Appropriate resourcing:** tie mission funding to clear milestones, sunset dates and reviews; free up capacity by retiring legacy programmes; strengthen delivery capacity in DSIT, UKRI and partners.
- **Performance and measurement:** establish a DSIT–UKRI analytics function to track business participation, co-investment, and impact; use real-time data to course-correct and scale what works.
- **Culture of execution:** shift the system from strategy-heavy design to rapid deployment, backed by tight governance and continuous business engagement.

Section 2:
Understanding business R&D investment in the UK

Section 2 summary and conclusions

This section examines where and why business R&D investment in the UK is weakening—by firm size, sector, ownership, region, and collaboration—and shows how structural imbalances between a world-class research base and faltering business demand are undermining the UK's capacity for growth.

The UK's world-class research base remains a defining national strength, but it is no longer being matched by sustained business investment in R&D. Despite global leadership in scientific excellence, private R&D spending has fallen in real terms— with the sharpest percentage declines among SMEs, but the largest impact driven by reductions in R&D spending by major firms in key manufacturing sectors that anchor productivity. Foreign-owned firms now account for almost half of total business R&D, underscoring the UK's continuing appeal as a global research hub. However, the accompanying fall in R&D-related foreign direct investment (FDI)—with the number of new greenfield R&D projects down by around 30 percent since 2022/23—suggests that while incumbent global companies are deepening their UK operations, the country is attracting fewer new entrants.

Universities continue to play a pivotal role as bridging institutions—connecting global research flows with local innovation ecosystems—but their ability to link research supply to business demand depends on wider system conditions: firm capability, intermediary strength, and stable translational funding. The result, compounded by financial problems in the university sector, is a widening gap between research excellence and industrial performance—a structural challenge that threatens the UK's long-term competitiveness unless confidence, stability, and the connective tissue of the R&D system are reinforced.

2.1 Introduction and framing

R&D is a cornerstone of productivity and long-term economic growth. Across advanced economies, sustained business investment in R&D is associated with higher output, innovation, and competitiveness.

The UK continues to perform exceptionally well on one part of this equation—the strength of its research base. It ranks fourth globally in total publication output, behind only China, the United States, and India, yet outperforms all three in per capita terms. In 2022, the UK produced over 60 per cent more publications per person than the US, five times more than China, and more than fourteen times than India. The UK also leads all major research economies in field-weighted citation impact (FWCI), with publications cited 54 per cent above the global average (DSIT, 2025). These figures confirm the UK's distinct comparative advantage in research quality and productivity.

However, business investment in R&D has not kept pace, leaving a persistent gap between research excellence and industrial performance. Much of the UK's policy and measurement focus has centred on research commercialisation — the spinout, the start-up, and the licensing deal. These are vital parts of a healthy research and innovation system, but they represent only one end of the pipeline. The greater challenge lies in connecting research strengths to the established firms — large and small — whose sustained R&D investment significantly drives productivity and growth. The question, therefore, is not simply how to create more new ventures, but how to strengthen the conditions that encourage existing businesses to invest and innovate in the UK.

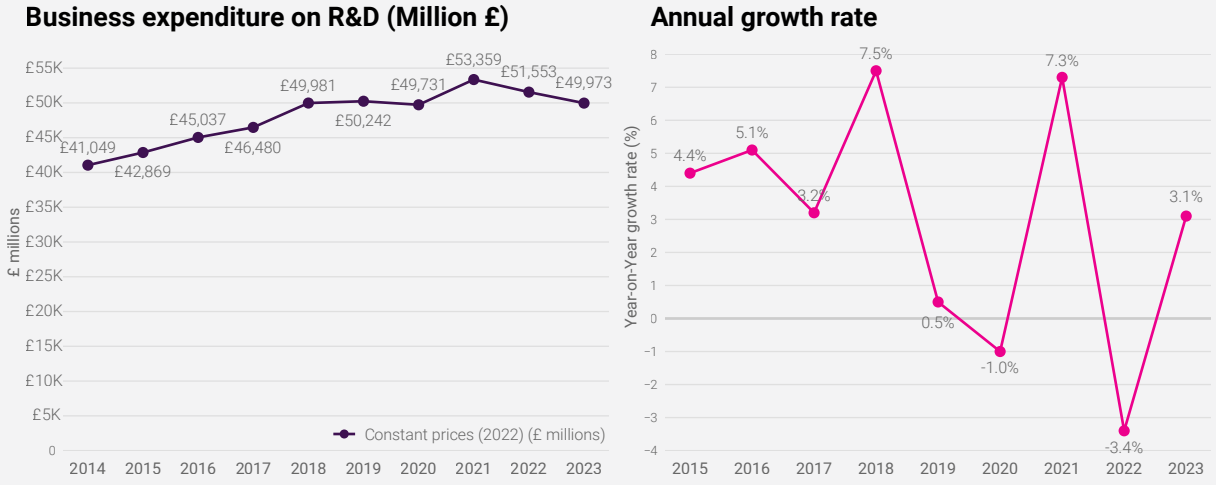
For clarity, business R&D investment in this report refers to *expenditure by enterprises on research and experimental development activities performed within the business sector itself,* as defined in the OECD Frascati Manual (2015). It does not include broader innovation spending or financial investment in R&D-performing companies. Understanding trends in this type of investment is vital, as it captures the extent to which firms are committing their own resources to developing new products, processes, and technologies.

The analysis below draws together a range of datasets to examine recent trends in UK business R&D and place them in international context. It identifies where investment is growing or declining, how patterns vary by firm size, sector, ownership, and region, and what these reveal about the underlying strength of business demand for research and development.

2.2 Trends in UK business R&D investment

In 2023, UK Business Expenditure on R&D (BERD) was £49.97 billion—down 3.1% in real terms from 2022, extending a decline that began in 2021 (**Figure 1**). Over two years, real-terms investment has fallen by £3.4 billion (6.3%). Although nominal BERD rose 2.9% due to inflation, underlying R&D spending continued to contract, consistent with HMRC data showing a 2.4% real-terms drop in R&D expenditure claimed for tax relief.

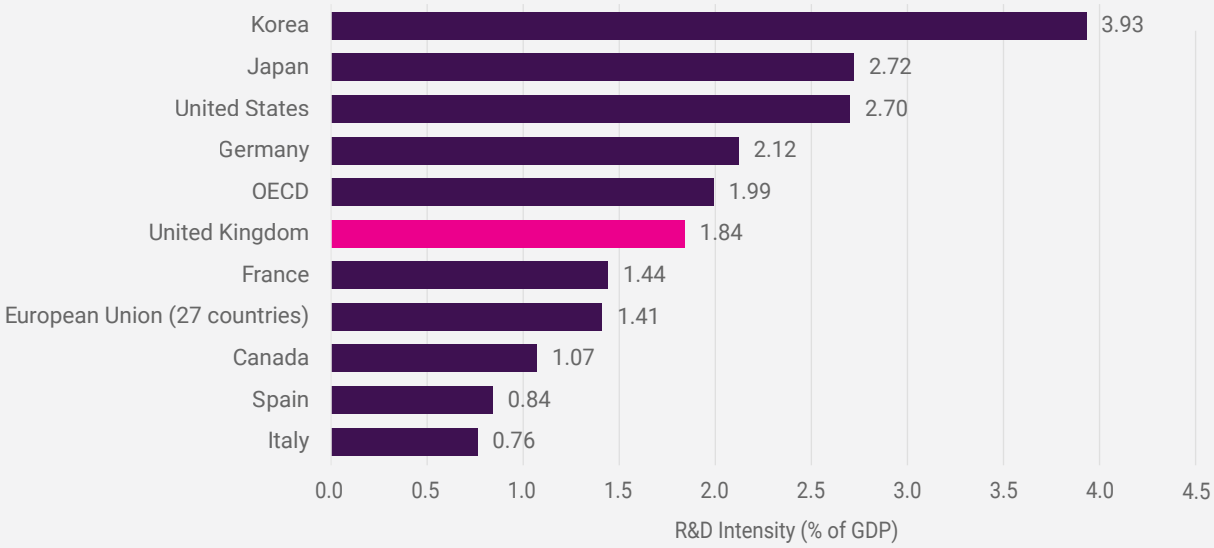
Figure 1. Expenditure on R&D performed in UK businesses: 2014 to 2023 constant prices and growth rate



Source: NCUB (2025), based on ONS BERD data 2024.

The UK's business investment in R&D is projected to have reached 1.84% of GDP in 2023, placing it below the OECD average of 1.99%, and behind leading innovation economies such as Korea (3.93%), Japan (2.72%), the United States (2.70%), and Germany (2.12%) (**Figure 2**). While the UK performs better than countries like France, Canada, Spain, and Italy, it remains outside the top tier of R&D-intensive economies.

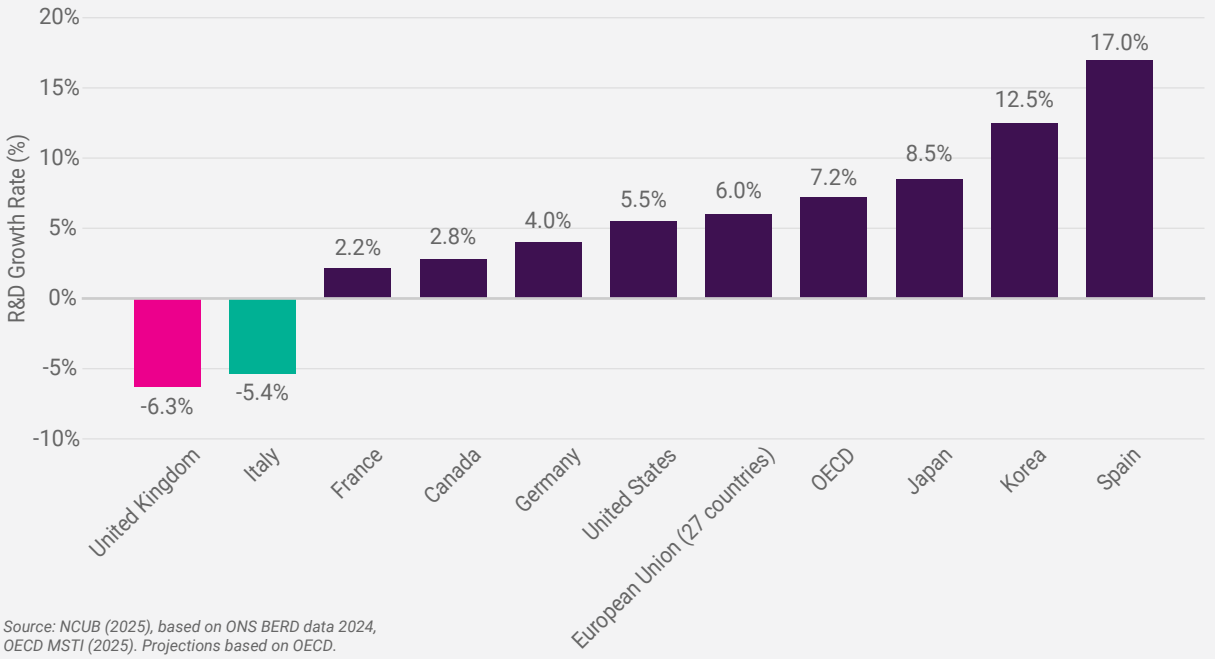
Figure 2. Business expenditure on R&D, projected percentage of GDP



Source: NCUB (2025), based on ONS BERD data 2024, OECD MSTI (2025). Projections based on OECD.

Perhaps most concerningly, the UK's comparative performance is declining. The UK has seen the sharpest decline in business R&D investment among major economies since 2021. Business R&D fell by 6.3% in real terms, placing the UK at the bottom of selected economies (**Figure 3**). In contrast, countries such as Spain (+17.0%), Korea (+12.5%), and Japan (+8.5%) recorded significant increases, highlighting a growing divergence in business investment trends. Even the OECD average saw a 7.2% rise, underscoring the UK's relative underperformance. This decline signals a concerning trend in the UK's R&D capacity and may reflect broader challenges in the investment environment, policy uncertainty, or structural barriers to private sector R&D.

Figure 3. Business expenditure on R&D, growth rate between 2021 and 2023 across selected economies

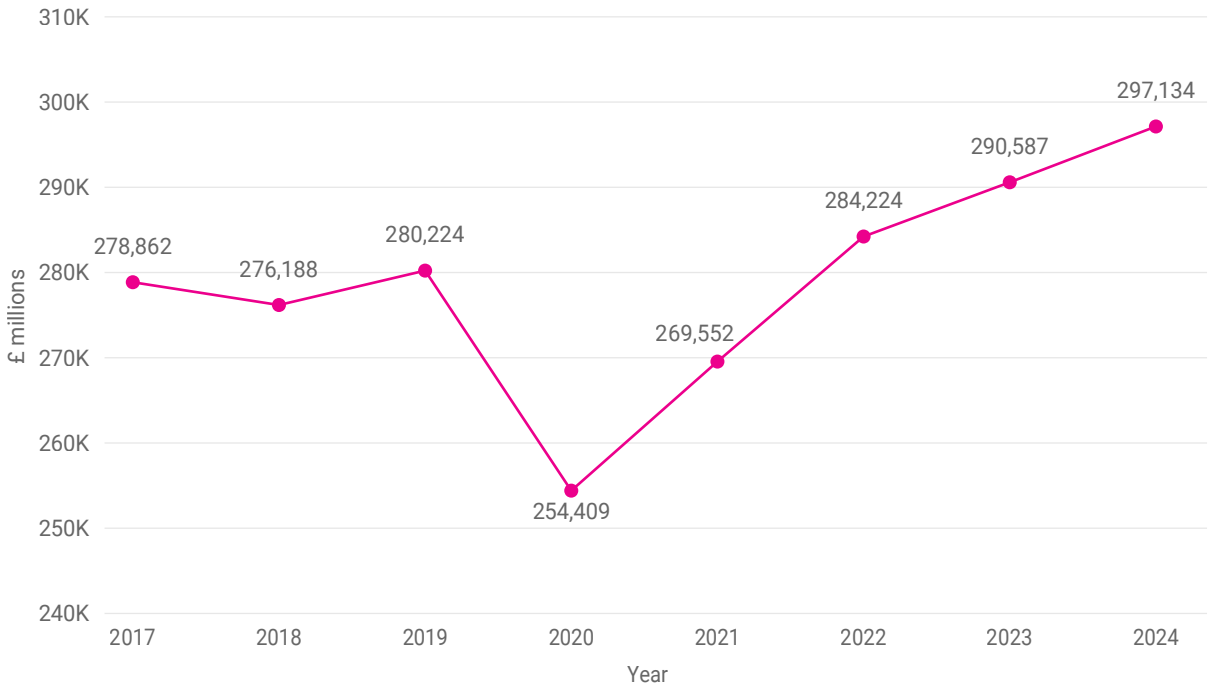


Source: NCUB (2025), based on ONS BERD data 2024, OECD MSTI (2025). Projections based on OECD.

2.3 Business R&D and the wider investment picture

Business R&D forms part of a wider pattern of business investment that underpins the UK's long-term productive capacity. Over the past five years, overall business investment has grown steadily—up around 10% in real terms between 2021 and 2024 (**Figure 4**), marking five consecutive years of expansion and a clear rebound from the Covid-19 pandemic.

Figure 4. UK business investment, 2017-2024



Source: NCUB (2025), based on ONS business Investment by Asset Sep 2025. Chained Volume Measure, seasonally adjusted.

However, this recovery comes from a low base. The UK continues to record the lowest business investment share of GDP in the G7, a position it has held for most of the past three decades. Between 2017 and 2023, the UK also recorded the slowest growth in overall business investment among the G7 economies (**Figure 5**). While firms are investing more overall, the UK remains an outlier among advanced economies in the scale, growth, and composition of its investment effort.

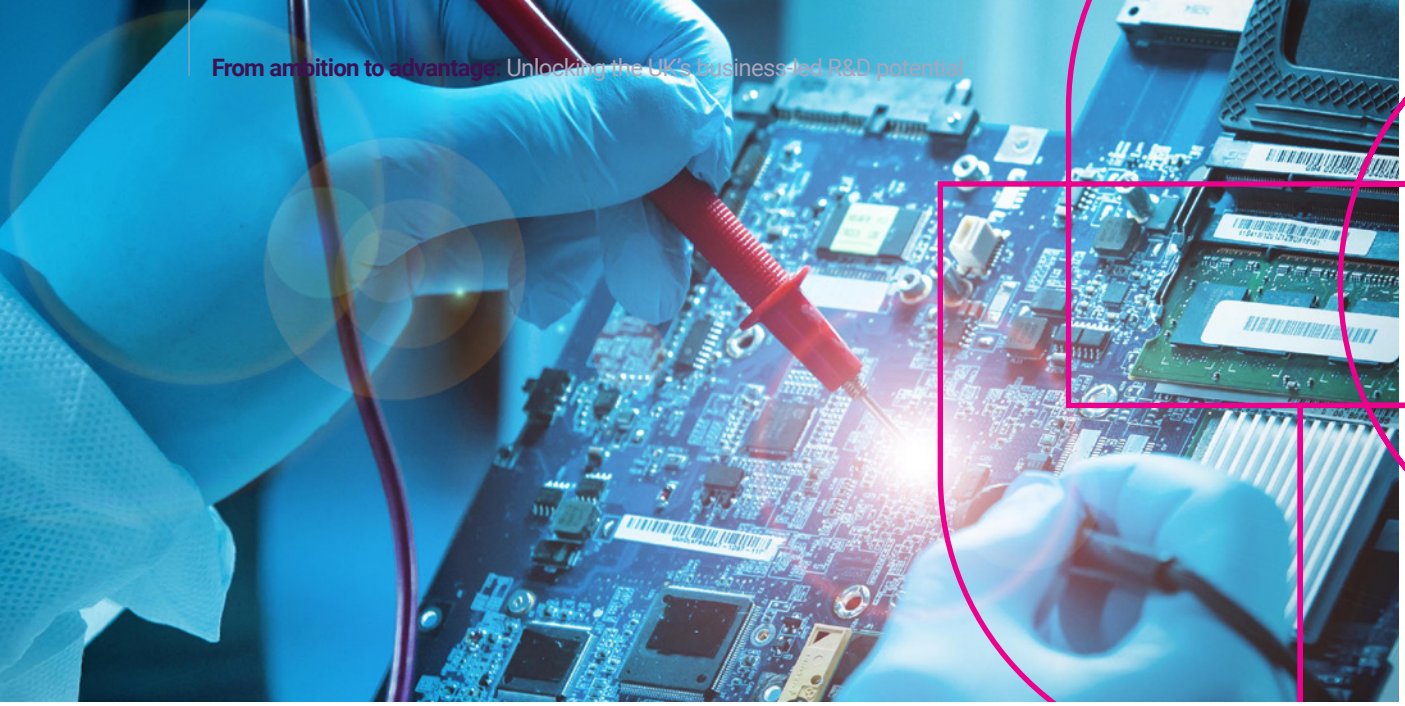
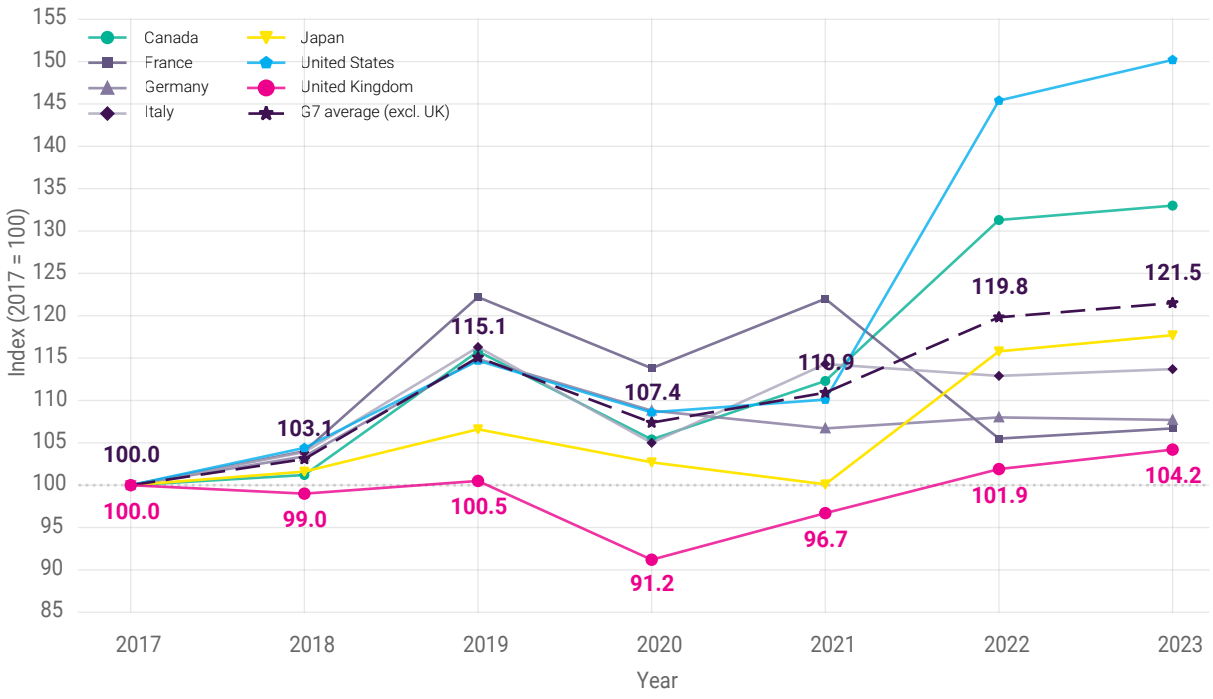


Figure 5. Business investment across G7 economies, 2017-2023



Source: NCUB (2025), based on OECD Investment by sector.

However, it is interesting to observe that within the broader modest increase in business investment, business spending on R&D has moved in the opposite direction. This divergence matters. R&D investment is the foundation of long-term growth: it generates new technologies, intellectual property, and know-how that sustain productivity and competitiveness across sectors.

Indeed, even marginal movements in R&D investment carry large macroeconomic consequences. A fall of just 0.1 percentage points in business R&D intensity –around £2.7 billion per year –could translate into nearly £10 billion in lost GDP over five years, largely through lower productivity growth.[1]

1 *Estimate based on NCUB analysis linking business R&D capital stock to productivity. Empirical studies (e.g., Frontier Economics, 2023; Herzer, 2022) suggest that a 1% increase in the private R&D capital stock is associated with a 0.07–0.13% rise in total factor productivity (TFP). A 0.1 percentage-point fall in R&D intensity—equivalent to around £2.7 billion less annual investment on a £50 billion base—implies a cumulative productivity loss of approximately £9–£10 billion in GDP over five years, assuming proportional effects and average UK output levels.*

2.4 Where is decline and stagnation happening

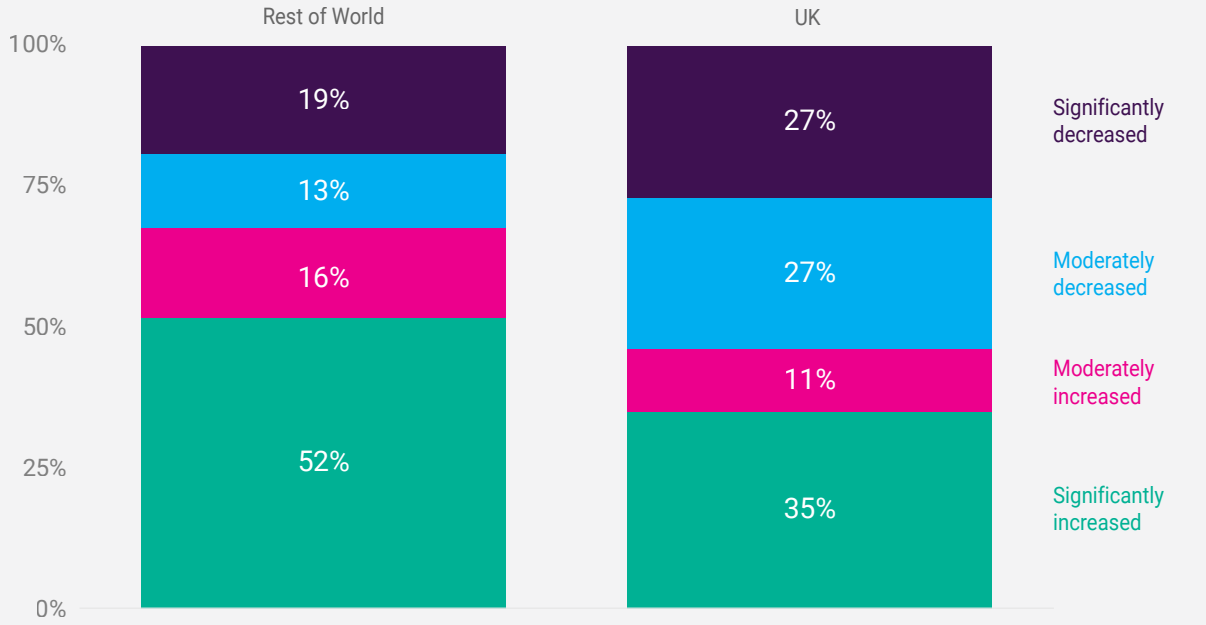
The contrast between rising overall business investment and falling R&D points to a deeper reallocation within the economy. To understand what this means in practice—and where it is most pronounced—this section now look more closely at the composition of the decline.

This section asks a single question: where is private R&D weakening? It first shows the whole-economy trend, then examines five dimensions: firm size, sector, ownership, place, and university–business activity.

The UK's shifting position in global R&D investment

Data from the EU Industrial R&D Investment Scoreboard (world's top 2,000 R&D investors) show that most growth in global R&D investment over the past decade has come from established multinational firms expanding their research portfolios internationally. Between 2021 and 2023, almost 70% of the world's leading R&D-performing companies increased their total R&D spending, compared with around 46% of leading UK firms (**Figure 6**). This highlights a critical challenge for the UK: while global R&D investment is increasingly mobile, with large firms seeking R&D ecosystems in which to anchor long-term activity, the UK has been less successful than some competitors in attracting and retaining that investment. Building an R&D-intensive economy therefore requires more than nurturing new high-tech firms; it depends equally on enabling established companies—domestic and international—to expand, embed, and lead R&D activity in the UK.

Figure 6. Percentage change in R&D investment by top companies, 2021-2023



Source: NCUB (2025), based on European Industrial R&D investment Scoreboard 2024.

Although there have been notable new commitments—BioNTech's £1 billion expansion, Vishay's £250 million semiconductor facility in Newport, and Unilever's £80 million R&D investment near Liverpool—the wider trend among the UK's largest R&D performers points in the opposite direction. A greater share of these firms has reduced their R&D spending, even as global peers expanded theirs.

Because the largest R&D performers account for the majority of total business R&D, even modest retrenchment among them has a disproportionate effect on national performance. Building an R&D-intensive economy therefore requires attention to both ends of the spectrum: enabling established large firms to expand, embed and lead R&D activity in the UK, and restoring the confidence and capability of SMEs to innovate and grow.

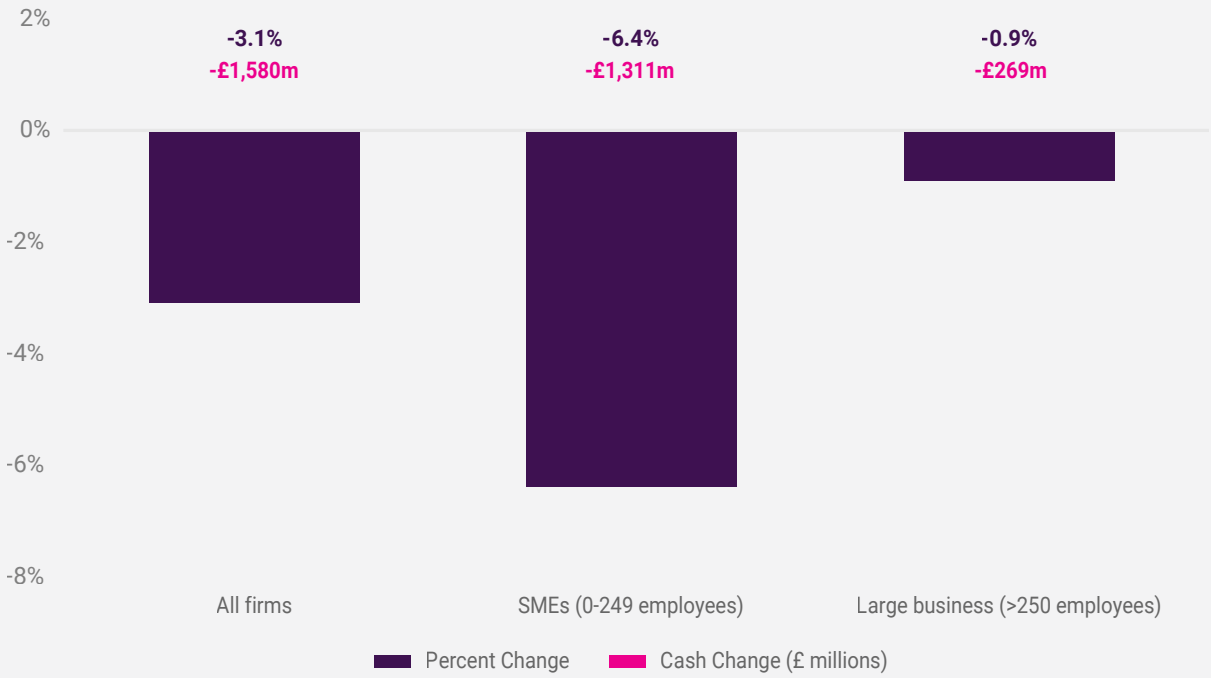
Trends by business size, industry, product group and location

Data captured by the ONS, coupled with insights from sources such as HMRC tax credit data, provide a clearer picture of where declines in R&D activity are occurring. However, the ONS currently provides more granular BERD data only for 2022 and 2023, so further data will be needed to confirm longer-term trends. The following preliminary observations are therefore indicative but should be interpreted with caution given the short time span available.

1. ***Small and medium-sized enterprises (SMEs) are experiencing the sharpest immediate declines in R&D expenditure, but reductions among large firms carry the greatest weight overall.***

According to ONS data, large firms recorded a relatively modest decline of 0.9% in R&D spending between 2022 and 2023, compared with a sharper contraction of 6.4% among SMEs (**Figure 7**).

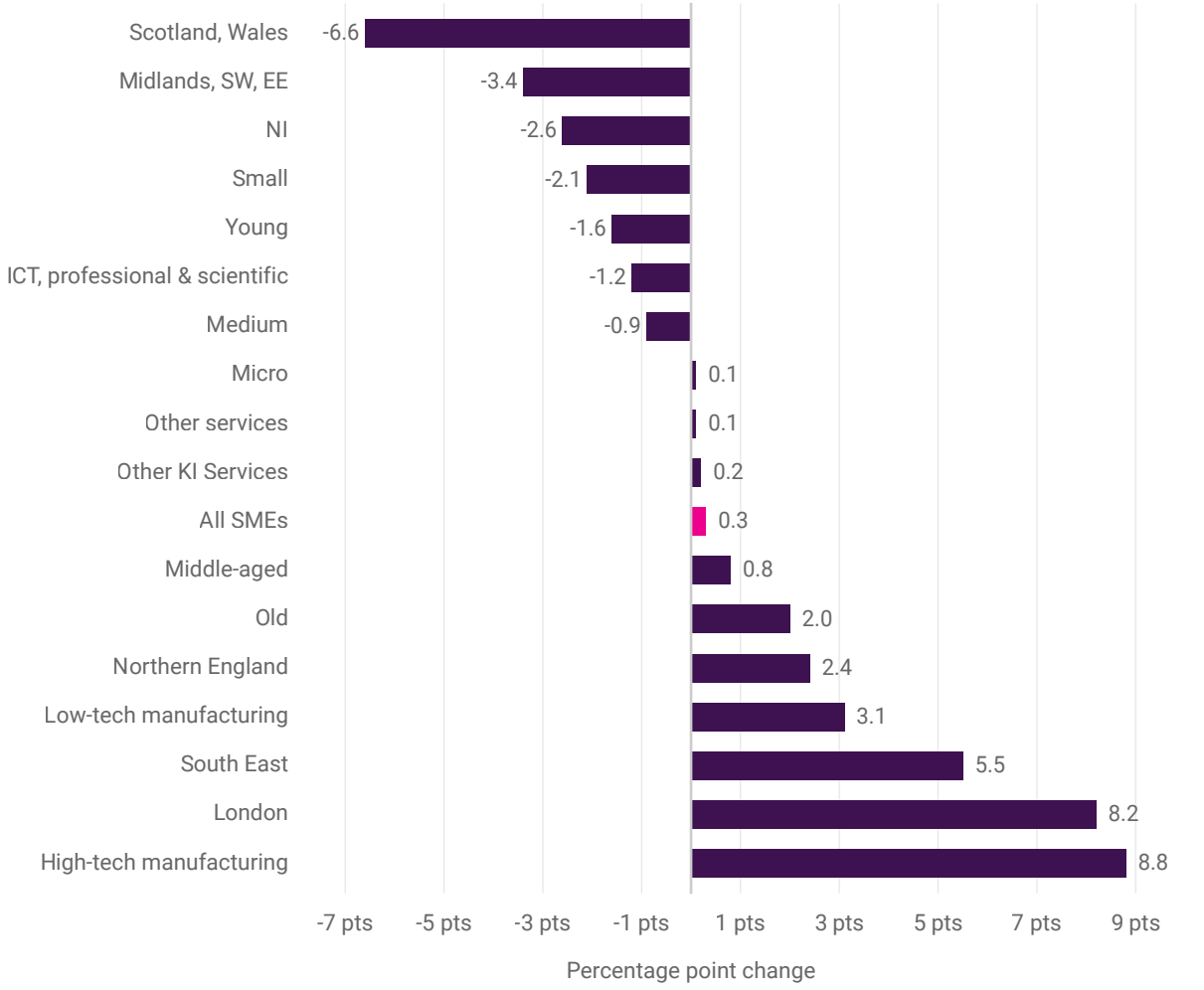
Figure 7. Percentage change in R&D expenditure performed by UK businesses by business size, adjusted for inflation (2022-23)



Source: NCUB (2025), based on ONS BERD data 2024.
Note: Business size breakdowns are only available from 2022 onwards, as earlier data are not comparable due to changes in ONS BERD methods.

This significant fall in SME R&D activity is captured in other datasets as well. R&D tax credit data shows a 7% real-terms decline in SME-eligible expenditure over the same period (HMRC, 2024), but is also evident in business surveys, including the Longitudinal Small Business Survey (LSBS). This shows that the share of SMEs conducting formal R&D has continued to decline across most regions, age groups, and firm sizes—particularly among smaller and younger businesses, and in parts of the Midlands, South West, and devolved nations (ERC, 2025). While some sectors such as high-tech manufacturing and firms in London saw modest increases, the overall pattern points to a systemic contraction in SME-led R&D (**Figure 8**).

Figure 8. Change in the share of firms which are R&D active between 2021-2023



Source: NCUB (2025), analysis of Longitudinal Small Business Survey, DBT.
Note: Uses weighted sums. Young firms are those which have been incorporated for between 1 and 13 years; Middle-aged, 14-29 years; Old, 30 years and above. Micro firs are those with between 1-9 employees. Small, 10-49; Medium, 50-249.

Nonetheless, while the decline in SMEs is the sharpest and most visible, the smaller reductions among large firms remain macro-economically significant. Because large R&D performers account for the bulk of total private R&D investment, even fractional cutbacks materially depress national totals (Shefer and Frenkel, 2005; Demirel and Mazzucato 2012). Moreover, the UK's performance contrasts starkly with global peers, where leading multinationals are expanding their R&D commitments. The combined effect is a two-sided squeeze: a sharp contraction among SMEs that erodes the base of innovation, and a slower but highly consequential retrenchment among major R&D performers that determines the aggregate trajectory of UK business R&D.

Understanding and addressing the factors influencing investment decisions across the full spectrum of firms—from early-stage innovators to established global leaders—is therefore essential to reversing the UK's overall decline.

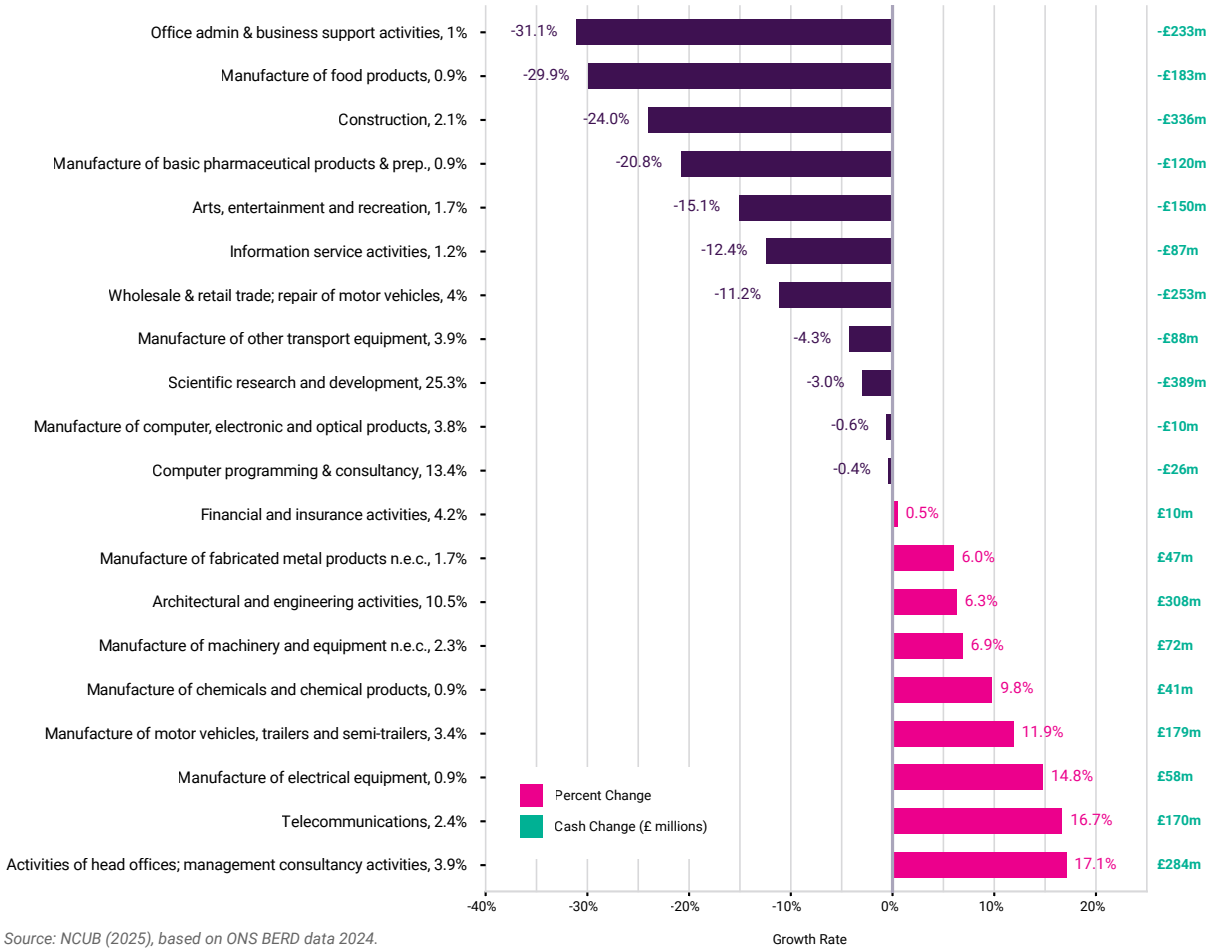
2. *Declines are concentrated in the UK's largest R&D-intensive sectors, offset only partly by growth in a mix of emerging and moderately R&D-intensive industries*

Figure 9 highlights pronounced disparities in business R&D investment growth across sectors between 2022 and 2023. Some of the strongest growth occurred in services not traditionally viewed as R&D-intensive. Head office and management consultancy activities grew by 17% (£284m), telecommunications by 17% (£170m), and electrical equipment manufacturing by nearly 15% (£58m). Gains were also recorded in motor vehicles, chemicals, and machinery manufacturing—pointing to ongoing strength in parts of advanced manufacturing and digital infrastructure.

By contrast, steep declines were seen in several of the UK's core innovation sectors. Scientific research and development contracted by 3% (£389m), and pharmaceuticals by a substantial 21% (£120m). These sectors encompass core activities in experimental development, biotechnology, and medicinal manufacturing—areas that have historically underpinned the UK's high-intensity R&D base. Construction, food manufacturing, and office support services registered even deeper falls, with reductions of between 20% and 30%. These are largely mid- and low-intensity R&D sectors, including civil engineering, food processing, and administrative services. Given that pharmaceuticals and scientific R&D account for a large share of total business expenditure, their downturns have a disproportionate effect on the national total, amplifying the headline decline in UK business R&D.

It is worth noting that sector classifications in the BERD data are defined at the two-digit SIC level, which groups together diverse activities within broad categories. As such, sectoral figures should be interpreted as indicative rather than granular, offering a high-level picture of where R&D activity is expanding or contracting rather than a detailed mapping of innovation across subsectors.

Figure 9. Percent and cash change in UK business R&D expenditure, 2022-23, by performed by the top 20 industries by size of investment, adjusted for inflation



Source: NCUB (2025), based on ONS BERD data 2024.

Findings from the NCUB 2025 SME R&D Survey reinforce this pattern of uneven performance. R&D engagement is highest among SMEs in Clean Energy (89%), Advanced Manufacturing (84%), and Life Sciences (81%)—sectors closely aligned with the UK's strategic priorities. In contrast, participation falls sharply in Professional Services (51%) and the Creative Industries (65%), and drops to just 38% among firms not aligned with any Industrial Strategy sector.

3. R&D composition by sector and firm size reveals structural differences shaping recent trends

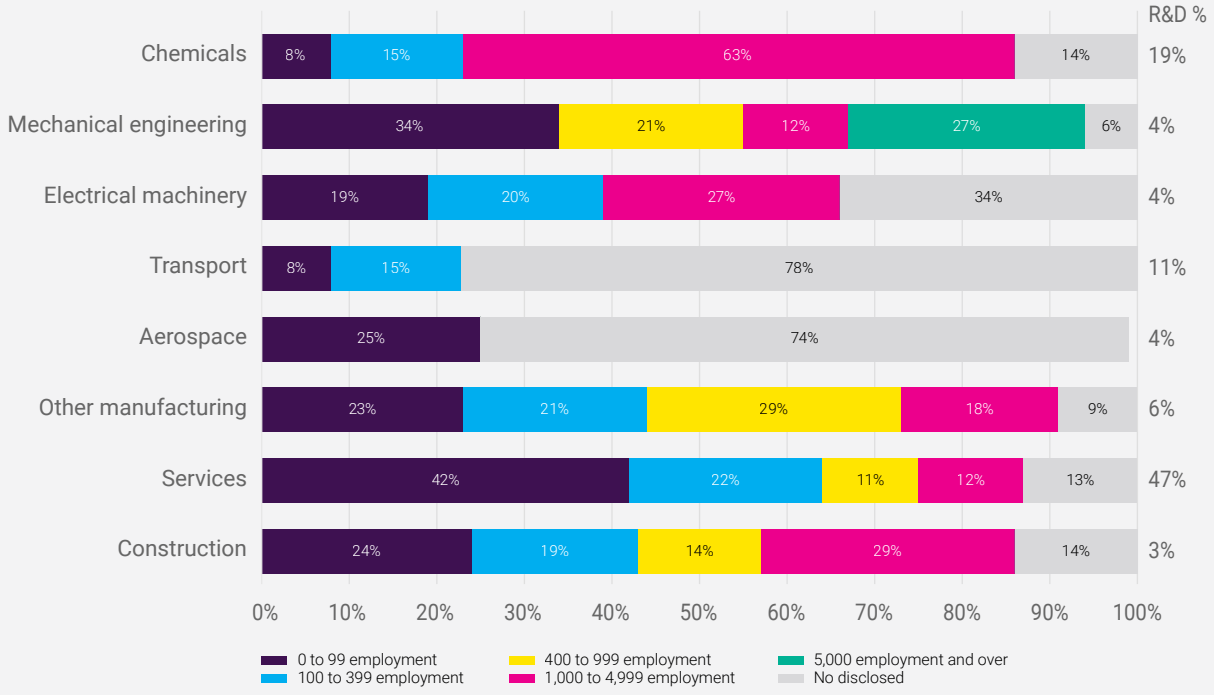
Business R&D in the UK is broadly split between the manufacturing and service sectors, each making distinct contributions to overall investment (**Figure 10**). The figure shows the distribution of R&D across employment size bands within each major sector.

In manufacturing much of the R&D base is concentrated in larger companies, particularly in capital- and scale-intensive industries such as chemicals and mechanical engineering, where firms employing 400 to 4,999 people account for over 70% of total R&D activity. In contrast, sectors such as electrical machinery and other manufacturing show a more even spread across firm sizes, with mid-sized firms playing a more significant role and smaller businesses contributing meaningfully to innovation.

In the services sector, the picture is reversed. Smaller firms dominate R&D activity, with businesses employing fewer than 100 people responsible for 42% of service-sector R&D, and those with 100 to 399 employees contributing a further 22%. Across the economy as a whole, nearly one-third of all UK business R&D is undertaken by firms in the smallest employment size band

These contrasting structures help to explain the divergent trends observed across sectors. Declines in large-firm R&D spending within key manufacturing industries weigh heavily on overall investment levels, while sharper contractions among smaller firms have a more pronounced effect in service sectors.

Figure 10. Employment distribution by sector and firm size

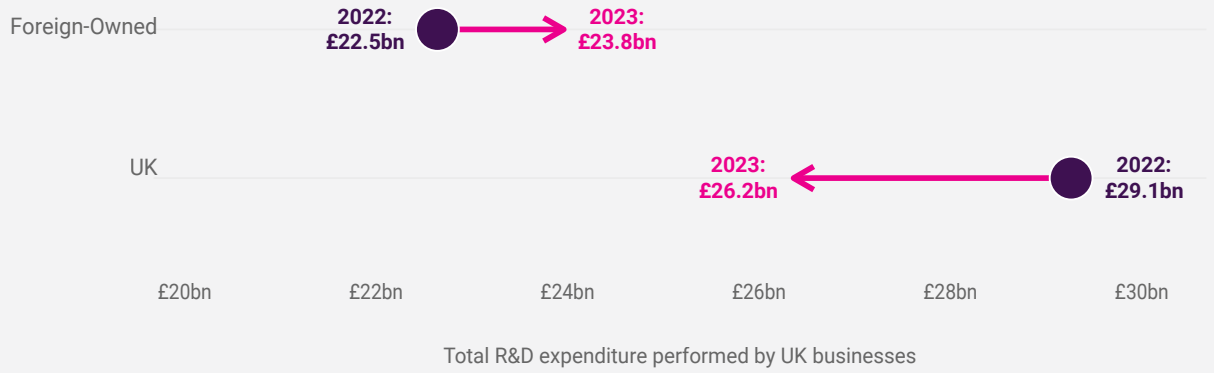


Source: NCUB (2025), based on ONS BERD data 2024.

4. Foreign-owned R&D investment is rising, but mainly among incumbents as domestic investment falls

Our analysis shows a clear divergence between domestic and foreign-owned businesses. R&D spending by foreign-owned firms increased in 2023, while investment by UK-owned companies declined (**Figure 11**). As a result, foreign-owned activity now accounts for around 48% of total business R&D, underlying the UK's continuing strength as a global R&D location.

Figure 11. Total business R&D expenditure by company ownership country of origin, adjusted by inflation



Source: NCUB (2025), based on ONS BERD data 2024.

However, this headline growth largely reflects reinvestment by incumbent foreign firms rather than the arrival of new investors. Data on R&D-related foreign direct investment show that the number of new greenfield R&D projects fell by around 30% between 2022/23 and 2024/25 (DBT, 2025), suggesting that multinational companies are deepening existing UK operations rather than launching new R&D facilities. While this reflects the UK's enduring appeal as a base for advanced research, it also exposes a risk: reliance on a smaller pool of major investors could leave the national R&D base more vulnerable to global corporate restructuring or location shifts.

Foreign investment remains an essential component of the UK's R&D system, nearly matching total public R&D spending (NCUB, 2023). In 2023, overseas-owned firms invested over £23.8 billion, concentrated in sectors such as motor vehicles, pharmaceuticals, software development, business services, and scientific R&D, which together account for roughly two-thirds of all foreign-owned R&D.

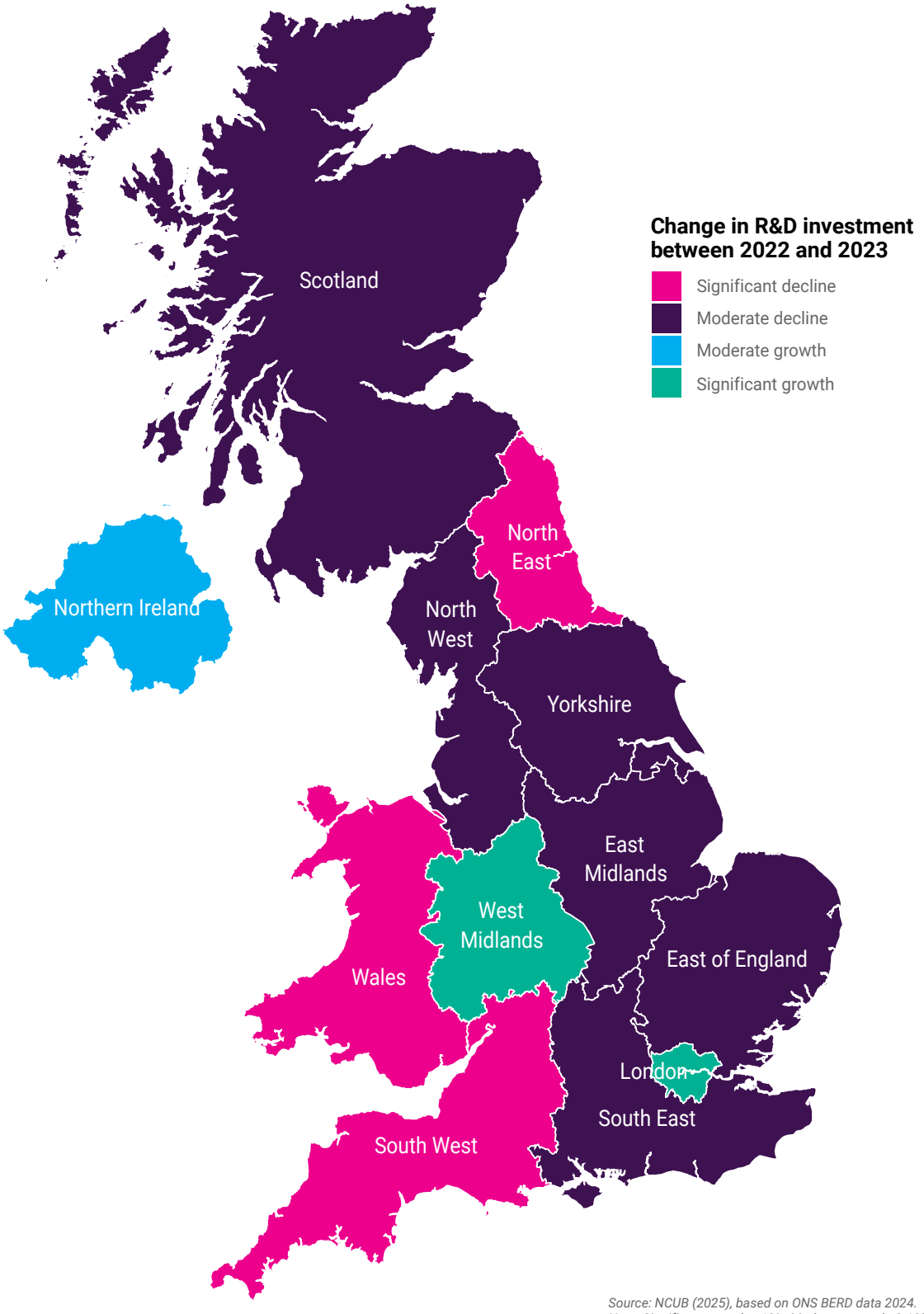
To ensure long-term resilience, the UK must maintain its attractiveness to incumbent global firms while reviving domestic and inbound project activity, particularly in high-value and emerging technology sectors.

5. Declining levels of R&D are unequal across the UK

The data reveal a clear geographic imbalance in business R&D performance. Most regions of the UK recorded real-terms declines in R&D spending between 2022 and 2023, with growth limited to a handful of areas — notably London, the West Midlands, and Northern Ireland (**Figure 12**). These share strong sectoral specialisations and established innovation clusters: London in digital and financial services, the West Midlands in advanced manufacturing and automotive R&D, and Northern Ireland in software and telecommunications.

Elsewhere, the contraction of R&D-intensive manufacturing and weaker SME activity in services have driven broader declines, particularly in regions with less diversified industrial bases or fewer anchor firms. This uneven geography mirrors the structural composition of the UK's R&D economy, where both firm size and sectoral concentration shape regional performance. Analysis by Forth & Jones (2020) highlights a "missing £4 billion" in R&D investment outside the Greater South East — a gap that reflects long-standing disparities in both public and private R&D intensity across regions. Sustaining national growth in business R&D therefore depends on strengthening regional innovation ecosystems — supporting both major clusters and the emerging capabilities in underrepresented parts of the country.

Figure 12. Change in business R&D expenditure between 2022 and 2023



Source: NCUB (2025), based on ONS BERD data 2024.
Note: Significant growth: >10%; Moderate growth: 0-10%; Significant decline: <-10%; Moderate decline: -10-0%

2.5 Why the UK must reverse this decline in business R&D

The evidence is clear: while overall business investment in the UK is increasing, investment in R&D has contracted. Firms are spending more in total, but allocating proportionally less to R&D. This reallocation away from R&D is happening just as global competitors are scaling their own efforts, signalling a deeper structural challenge in how the UK supports and rewards long-term, research-driven investment.

This is not only a short-term concern but a structural warning sign. Business R&D is the single largest source of innovation funding in the economy and the main channel through which scientific excellence is translated into productivity, exports, and industrial capability (Griffith, Redding, & Reenen, 2004; Hall & Lerner, 2010; OECD 2015). Yet the UK continues to record the lowest overall business investment share of GDP in the G7 — a position that limits growth and competitiveness even before accounting for the specific contraction in R&D.

If this decline continues, the UK risks eroding the very foundations of its long-term growth. The effects will be cumulative: weaker firm-level productivity, slower diffusion of new technologies, and a diminished ability to attract and retain high-value industries (Romer, 1990; Aghion & Howitt, 1992: Van Reenen, 2021; Acemoglu, 2023; Garcia-Macia & Korosteleva, 2025).Private R&D does more than generate new products — it builds a firm's capacity to absorb external knowledge, adopt new technologies, and sustain competitive advantage (Cohen & Levinthal, 1990). As global competitors intensify their R&D investment, a persistent UK gap would mean falling behind in emerging technologies, reduced resilience in supply chains, and fewer high-skill, high-wage jobs (Acemoglu & Autor, 2011; Mokyr, 2017; Haskel & Westlake, 2018: Bloom, Jones & Van Reenen, 2020).

The stakes are high. Over half of the UK's productivity growth in the 2000s was linked to innovation, and firms that invest consistently in R&D remain significantly more productive than those that do not (Department for Business Innovation and Skills, 2014). A sustained contraction in business R&D would therefore risk not only slower economic growth, but also the weakening of the research–industry link that underpins the UK's wider innovation system.

Reversing this trend requires rebuilding business confidence to invest — through policy stability, predictable translational funding, and institutions that connect the UK's world-class research base with clear, long-term industrial opportunity. Only by ensuring that R&D regains its place at the centre of business investment decisions can the UK convert its scientific excellence into lasting economic advantage.

Section 3:
Business perspectives – what is holding firms back from investing in R&D

Section 3 summary and conclusions

This section brings the voice of business (large firms and SMEs) and universities to the fore to explain why UK private R&D is faltering—and what would restore confidence. The evidence points to strong scientific assets but weak system alignment: priorities are diffuse, mid-TRL pull-through is patchy, engagement is complex for firms to navigate, and university–business links are under strain as sector finances tighten.

What businesses and universities told us

- **Strengths endure:** a world-class research base, stable core incentives (RDEC, Patent Box), and strong university capabilities remain magnets for collaboration and talent.
- **But pull-through is the pinch point:** the "missing middle" (TRL 4–7) lacks predictable, scaled, multi-year routes from discovery to deployment; the loss of challenge-driven programmes has increased fragmentation and delay.
- **System not wired to demand:** governance and delivery are not consistently organised around industrial needs or commercial timescales; UKRI's integrator role is underpowered, and Innovate UK linkages are uneven.
- **SMEs face sharper edges:** thin cashflow, complex access routes and time-intensive processes keep most smaller innovators outside the formal support system; non-financial help (advice, networks, diffusion) rarely reaches them.
- **University bridge under pressure:** collaboration volumes have stalled and SME interactions have fallen from mid-2010s peaks; spin-outs and licensing continue to grow, but broader partnership activity is harder to sustain as universities face financial pressures. HEIF (and devolved equivalents) is pivotal 'glue' funding for brokerage, SME on-ramps and translation capacity.
- **International context:** peers with clearer missions, stronger mid-stage instruments, and tighter evaluation are gaining ground—reinforcing the need for UK focus, stability and delivery discipline.

3.1 Introduction and framing

Building on the evidence that business R&D investment in the UK is weakening, this section examines why—exploring the factors that shape firms' decisions to invest, or hold back, in research and development.

It draws together insights from both large R&D-intensive businesses and small and medium-sized enterprises (SMEs) across the UK to understand the systemic barriers and enabling conditions that influence private R&D behaviour. The findings are drawn from four complementary sources of evidence:

- **In-depth interviews were conducted with senior leaders at 18 major R&D-performing firms, including both global and UK-based R&D executives.** These interviews were carried out by NCUB and Taskforce members and involved a strategically selected sample of organisations. The sample reflected a deliberately diverse cross-section of R&D performers, encompassing both domestic and internationally headquartered companies. Participating firms represented a broad spectrum of the Industrial Strategy sectors—including pharmaceuticals, professional services, defence, aerospace, and advanced manufacturing—ensuring that insights captured a wide range of strategic, operational, and sector-specific perspectives on R&D activity in the UK.
- **A survey of over 2,000 SMEs, including nearly 1,000 R&D active SMEs,** commissioned by NCUB and delivered by YouGov. The survey asked a range of questions to understand an SME's R&D activity, as well as engagement with public support for R&D and innovation, and collaboration with universities. A separate report has been published to detail its findings.
- **A series of meetings with universities and business executives and wider representative groups** to consider emerging findings from the interviews and surveys, expand on identified themes and consider the role of public policy and universities.
- **A data and literature review** of existing sources of evidence on private R&D in the UK and globally.

Taken together, these perspectives reveal the systemic barriers constraining R&D investment in the UK as well as the enabling conditions that businesses say would unlock greater ambition.

The analysis below draws together multiple sources of evidence to understand what is holding back business investment in R&D—and what could unlock it. It begins by outlining the main factors shaping firms' R&D decisions (**3.2**), then examines the experiences of large businesses (**3.3**) and SMEs (**3.4**). It explores where R&D activity is expanding or retreating across sectors (**3.5**) and concludes by analysing how governance, institutions, and the wider research system influence business confidence and connection to industrial demand (**3.6**). Together, these perspectives reveal the systemic barriers that constrain private R&D and the conditions needed to restore business confidence and growth.

3.2 Understanding what drives R&D investment decisions

The Taskforce's work recognises that business R&D investment is shaped by a wide constellation of interconnected factors — many beyond the immediate reach of government policy.

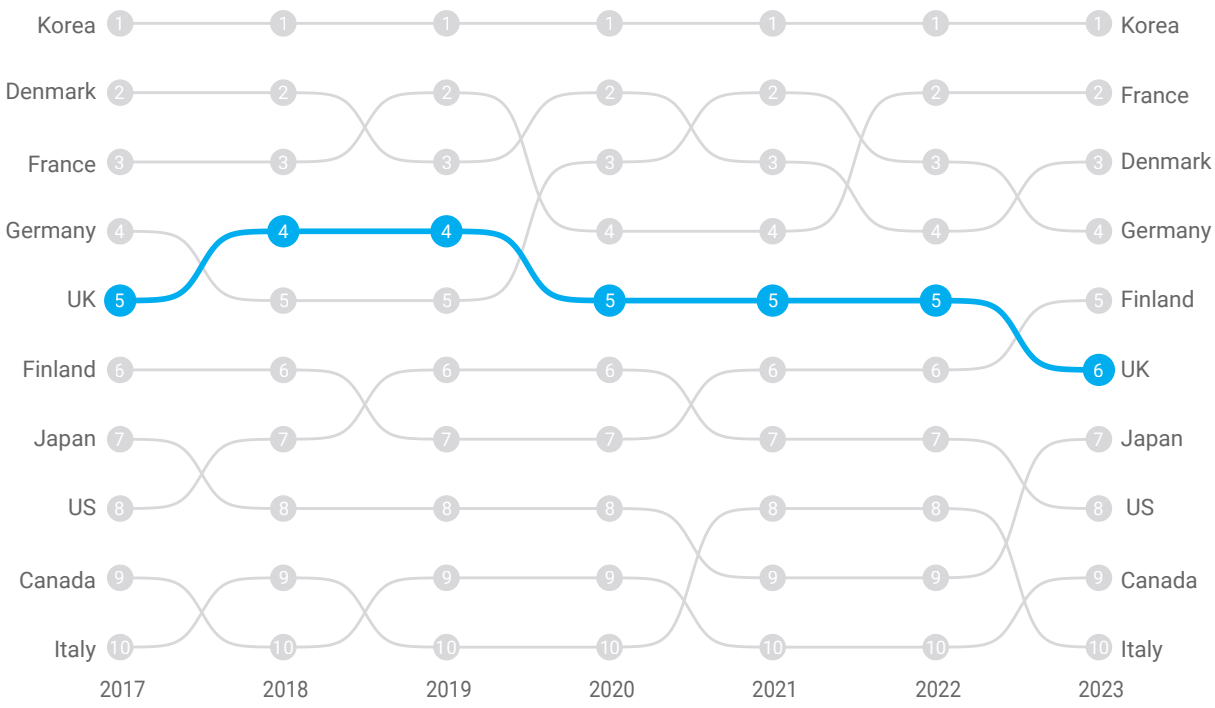
Decisions about where and how much to invest reflect not only the quality of the research base, but also the wider conditions that determine whether research and innovation can take root and bring tangible company benefits.

Insights from this work reaffirm that six broad domains influence private R&D investment:

- **Talent and skills:** The depth of skilled human capital, sector-specific expertise, and leadership capacity. Firms emphasised that access to specialist talent — and the agility of visa, mobility, and training systems — is often decisive in R&D location decisions.
- **Market and policy environment:** Market size, macroeconomic stability, input costs, and energy prices all shape confidence. Policy and regulatory stability underpin long-term planning and signal that R&D investment will be supported over time.
- **Infrastructure and innovation ecosystem:** The availability of enabling infrastructure — from digital networks to testbeds, transport, and facilities — and the density of complementary assets, such as universities, clusters, and finance, influence where firms choose to anchor activity.
- **Incentives and support:** Public support, competitive tax reliefs and co-funding mechanisms can crowd in private R&D when it is simple, stable and connected to priorities. The challenge is persistence—maintaining leverage beyond the initial 2–3 years.
- **Global stability and resilience:** The wider geopolitical and economic environment, as well as the reliability of supply chains, energy systems, and digital infrastructure, affect how firms assess national risk and resilience.
- **Finance and capital markets:** Depth, cost and speed of capital—equity, debt and strategic co-investment—shape whether firms can commit to long-duration, high-risk R&D. Risk appetite has tightened, lengthening deal times and raising hurdles, particularly for SMEs.

There is some, but limited, data on the UK's global competitiveness in a number of areas. Across key dimensions of competitiveness — including the R&D environment, innovation performance, infrastructure, human capital, government support, and overall business climate — the UK's position has remained broadly stable over the past seven years but shows early signs of erosion (**Figure 13**). After rising to fourth place in 2018 and maintaining that position through 2019, the UK has gradually slipped, falling back to fifth between 2020 and 2022 and to sixth in 2023. This decline contrasts with the steady leadership of Korea, Denmark, and France, and the resilience of Germany in fourth place.

Figure 13. Shifts in R&D investment capacity rankings, 2017-2023



Source: NCUB (2025) based on a range of indicators across 5 dimensions: Talent and Skills, Market and Policy, Infrastructure, Incentives and support, and Global Stability. Data drawn from different sources.
Note: Data which is missing for a year is imputed using the average value of a given country in all other available years.

The comparative rankings by component in **Figure 14**, show that while the UK performs solidly on Talent and Skills and Incentives and Support, it lags behind on Market & Policy Stability, Infrastructure, and Global Stability – areas where countries such as South Korea, Denmark, and Germany demonstrate sustained advantage.

Figure 14. R&D investment rankings by components, based on most recent year

Rankings based on effectiveness (1 = strongest, 10 = weakest)

Component	Korea	Denmark	Germany	France	Finland	UK	Canada	US	Italy	Japan
Talent & Skills	2	4	6	3	7	5	1	8	9	10
Market & Policy	1	8	4	5	9	6	10	3	7	2
Infrastructure	1	2	4	7	3	9	8	5	6	10
Incentives & Support	2	10	3	1	6	4	7	8	9	5
Global Stability	2	1	3	7	4	6	5	9	8	10

Strongest (1st) — Weakest (10th)
UK highlighted

Countries are ordered (left to right) based on their overall rankings. Lower ranking number indicates better performance.
Source: NCUB (2025).
Note: Rankings are based on the average of all metrics in category in the most recent year of available data. The latest year is dependent on data availability but is always 2021 or later.

The pattern underscores a persistent challenge: while the UK remains a strong performer, its relative capacity to attract and retain R&D investment is not keeping pace with international frontrunners. Without renewed focus on policy stability, translational funding, and institutional alignment, the UK risks being overtaken by countries with more cohesive long-term research and innovation systems.

This trend data highlights why the Taskforce's qualitative evidence is essential: while international rankings show where the UK is losing ground, engagement with businesses and universities explains why—and what can be done to reverse it.

While many of these influences are structural or macroeconomic, the Taskforce has focused on the levers Government can most directly pull to restore business confidence and create stronger conditions for R&D investment.

These levers are not a substitute for action on skills, infrastructure, or energy competitiveness — but they are the foundation for coordinating them. A system that is focused on clear priorities, simplified for users, and responsive in delivery enables government to align these wider factors more effectively: to connect talent initiatives to real industrial demand, to target infrastructure where innovation clusters can thrive, and to anticipate where regulation or energy policy most constrain growth. In short, improving how the UK focuses, connects, and delivers its R&D effort does more than fix the research system; it makes every other part of the growth agenda work harder — turning world-class research into a sustained magnet for private investment.

3.3 Insights from large businesses: strengths, frictions, and the need for boldness

Global business R&D investment is expanding rapidly, led by major multinational firms increasing their research spending and deepening international R&D footprints. Yet the UK stands apart in this trend.

Data outlined in section 2 shows that R&D intensive firms in the UK are more likely to decrease their R&D expenditure than increase, opposite to the trend seen globally. This divergence underscores a central challenge for the UK: its largest and most R&D-intensive firms, which anchor national productivity and innovation capacity, are not growing their investment at the same pace as global peers. As these firms account for the majority of total business R&D, even small reductions carry outsized effects on aggregate performance.

To understand why, the Taskforce engaged extensively with large R&D-intensive businesses across sectors. This section summarises their feedback.

Recognised strengths: academic foundations and stable incentives
Across the board, large firms expressed strong appreciation for the UK's world-leading academic base and scientific excellence, often citing collaborations with universities as essential to their R&D activities. The strength and predictability of regulatory frameworks, particularly in sectors such as health and finance, were also seen as enabling conditions that support early-stage research and development.

In addition, companies acknowledged the value of public incentives such as the R&D Expenditure Credit (RDEC) and the Patent Box, which were viewed as internationally competitive mechanisms that help anchor research activity within the UK.

Weak "pull": a lack of focus and follow-through
Despite these strengths, firms repeatedly emphasised that the UK lacks the strategic clarity and delivery discipline needed to attract, retain, and grow new or specialised R&D investment.

As a result, several of companies told the Taskforce that they may choose the UK for broad-based R&D activities, but less for increasingly specialised or targeted R&D. Too often, policy signals to businesses about the UK's specific R&D strengths are vague, short-lived, or not followed by concrete action. This uncertainty contrasts with competitor countries that are clearer about their strategic intent and more consistent in executing long-term research and innovation plans.

As a result, companies report that investment is frequently redirected to places with more dependable public-private alignment. In this context, "focus" emerged as a recurring theme. Businesses argued that strategic prioritisation is essential—not only to guide funding—but to ensure that delivery efforts are focused, coherent, and outcome-oriented, rather than fragmented across too many overlapping initiatives. Industry-government partnership, and as appropriate leadership, in identifying strategic R&D and innovation, needs to be strengthened in the UK. SMEs feel the same, with 65% of R&D-active SMEs and 84% of non-R&D-active SMEs disagreeing that the government listens to businesses on investment priorities.

To maximise the impact of the UK's R&D and innovation efforts, greater intentionality and policy consistency are required. Firms supported the idea of embedding national priorities—through the Industrial Strategy—to provide the framework that guides funding, collaboration, and public policy alignment. Such a strategy

should articulate the role of business-led R&D in the UK's future economy and define the areas in which the UK intends to lead globally. In the absence of this clarity, firms noted that the UK risks being perceived as a valuable research hub—but not necessarily a place to scale or commercialise innovation.

> **"**The UK has a world leading higher education sector that develops internationally recognised research and innovation. A partnership with business that is enabled and supported by incentives and trust, can deliver new companies and technological breakthroughs that have real world commercial applications. Businesses not only bring investment, but also play a role in identifying, evaluating and supporting science and technology to establish what has commercial potential. The UK has enormous potential to be at the forefront of global R&D by creating an ecosystem that is critical to stimulating innovation.**"**
>
> **Marie-Pierre Paquin, Head of Science and Partnerships, Rio Tinto**

The "missing middle": translation and fragmentation

Large firms consistently identified the middle of the R&D pathway—between academic discovery and commercial application—as the area most in need of reform. The issue is not the strength of early-stage research, but the limited ability to pull that knowledge through to deployment, where businesses invest at scale.

At these stages, companies themselves play the leading role. They undertake the engineering, prototyping, and testing that transform promising concepts into products and processes ready for market. Yet this activity is high-risk and capital-intensive, meaning that strategic public support can have an outsized impact—not by substituting for private investment, but by reducing risk and accelerating progress. When designed well, such support crowds investment in, encouraging firms to expand their own R&D expenditure and generating wider spillovers across supply chains, regions, and sectors.

However, business feedback and independent reviews highlight that the UK lacks the stable, large-scale mechanisms to enable this type of co-investment. The Royal Academy of Engineering (2025) points to a systemic weakness in mid-stage R&D support, mirroring firm observations that TRL 4–7 funding is fragmented, inconsistent, and insufficient.

Several firms noted the loss of challenge-driven, multi-year funding streams—such as the Industrial Strategy Challenge Fund—which previously provided predictable routes to collaborate from research through to application. In its absence, even well-aligned national programmes must now assemble multiple smaller grants from different sources, slowing progress, diluting focus, and undermining confidence.

Firms also emphasised that the benefits of this kind of public–private co-investment extend well beyond individual projects. When designed to engage supply chains and smaller partners, it stimulates innovation diffusion and capability-building across the wider economy. But if public programmes are fragmented or fail to reach those partners—due to eligibility rules, complexity, or lack of awareness—those broader benefits are lost.

> **"**Clear missions, consistent mid-TRL support, and accountable delivery are exactly what UK business needs to invest with confidence. These recommendations would help the UK turn research strength into market advantage.**"**
>
> **Howard Watson, CTO Chief Security & Networks Officer, BT**

The need for a system integrator

Businesses repeatedly stressed that priorities only change behaviour when they are delivered well: clear ownership, stable budgets, proportionate assurance, and visible progress against outcomes. Several businesses said they want UKRI to act more deliberately as a system integrator: joining up councils with Innovate UK around defined priorities; embedding business expertise earlier in programme design; and setting turnaround expectations that reflect commercial decision windows. Several firms told the Taskforce they have engaged extensively with UKRI on programmes and councils, but often felt like minority voices in predominantly academic fora. They perceived limited fluency with commercial R&D dynamics (investment cycles, product pipelines, supply-chain diffusion), which weakened the system's ability to translate priorities into bankable opportunities.

The evolving skills challenge

Alongside these systemic issues, firms also emphasised that skills and talent are increasingly central to R&D investment decisions. Businesses consistently recognised the UK's strong academic base, deep graduate talent pool, and openness to international researchers as competitive advantages. However, they also voiced concern about whether the UK is sufficiently agile to meet the fast-changing labour market needs of emerging industries—particularly in areas such as digital, data, advanced manufacturing, and engineering biology.

Several companies argued for a more focused and anticipatory approach to skills, aligned to national innovation priorities and sectoral needs. This includes clearer signals to universities and training providers, more flexible support for mid-career reskilling, and a streamlined, targeted visa system to attract and retain highly skilled global talent in areas of strategic shortage. Businesses saw this as an integral part of delivery: a system that not only funds research and innovation, but also ensures the right people are in place to make it happen.

Policy and the need for boldness

Finally, businesses described the UK's policy and regulatory approach as overly cautious compared with international peers. Countries such as the United States are combining clear strategic intent with significant public commitment—ARPA-E, the CHIPS and Science Act, and the Inflation Reduction Act were repeatedly cited as examples of how bold, mission-driven policy can unlock large-scale private R&D investment.

Where the UK has succeeded—such as BioNTech's £1 billion vaccine centre—these wins have been underpinned by targeted public co-investment and long-term partnership. The Life Sciences Sector Plan, with its goal to "land at least one major strategic partnership per year," was welcomed as a model of focus and follow-through that could be extended to other sectors.

Companies also highlighted that risk-averse regulation can slow adoption. In sectors such as infrastructure, firms must often re-prove technologies already demonstrated safely abroad. The establishment of the new Regulatory Innovation Office was widely supported as a step toward more proportionate, innovation-friendly regulation.

Pulling the thread together

Taken together, large firms told a consistent story. The UK's science base, incentives and regulation are genuine strengths, but weak pull-through and fragmented delivery blunt their effect. Companies want clearer priorities, faster and more predictable routes from collaboration to deployment, and a more deliberate system-integrator role from UKRI—one that joins up councils with Innovate UK, brings business voice in early, and runs at commercial pace.

3.4 SME perspectives: widespread challenges, untapped potential

Many of the same dynamics identified for large firms appear among smaller businesses—but with sharper edges. SMEs face thinner balance sheets, tighter cashflow, and less capacity to navigate a complex support landscape.

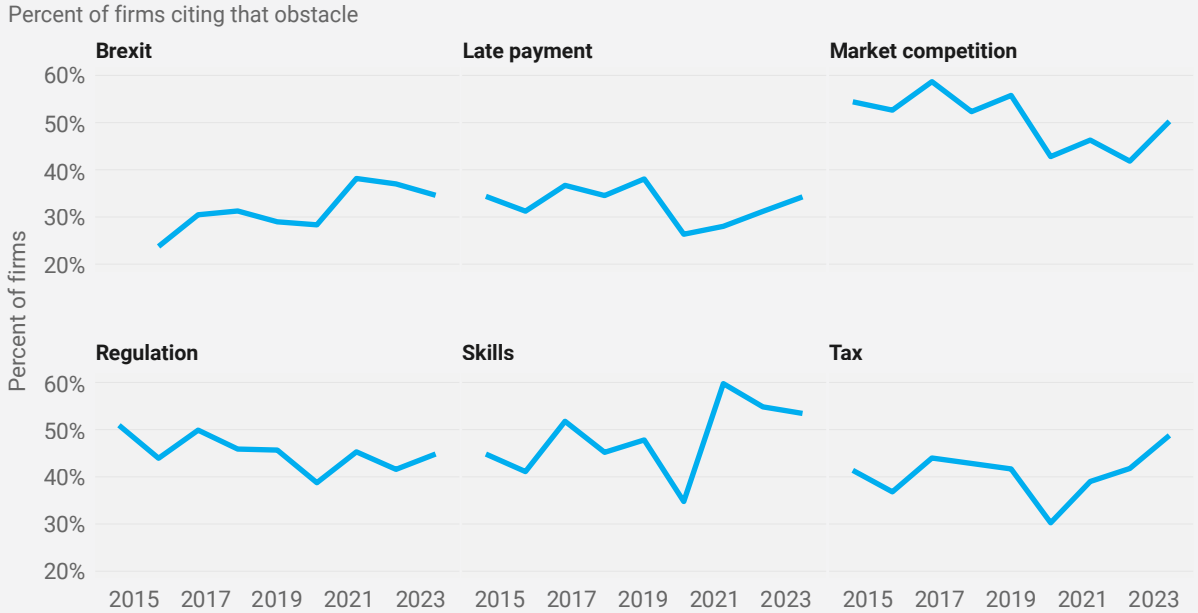
Delays, fragmented schemes, and unclear entry points therefore bite harder. To understand what drives this steeper R&D decline—and what a simpler, more connected system would need to look like to crowd investment back in—NCUB commissioned a new survey of over 2,000 SMEs, including nearly 1,000 that are R&D-active. The survey captures how smaller firms conduct and fund R&D, the barriers they face, and what types of support would most effectively unlock greater participation.

Vulnerability, uncertainty, and the cycle of SME R&D underinvestment

SMEs have experienced the sharpest contraction in R&D activity and spending in recent years, accounting for much of the national decline in business R&D. They make up over 99% of UK businesses and are central to the diffusion of innovation across supply chains and regions, yet their R&D is typically informal and self-financed. Their smaller scale and narrow margins mean economic shocks—rising costs, interest-rate volatility, or weaker demand—translate directly into cuts in R&D activity. Structural factors such as post-Brexit supply-chain adjustment, trade frictions, and acute skills shortages have further raised costs and uncertainty, especially for smaller manufacturers and exporters (British Business Bank, 2024; Bank of England, 2023).

Data from the Longitudinal Small Business Survey (LSBS) reinforces this picture. SMEs increasingly cite access to finance, skills shortages, and regulation as obstacles to growth, with sharp rises in concern about tax and Brexit since 2020. Meanwhile, issues such as regulation and market competition remain persistently high (**Figure 15**). Together, these pressures define an environment in which the capacity of smaller firms to plan and sustain R&D investment has eroded.

Figure 15. Obstacles to growth cited by SMEs

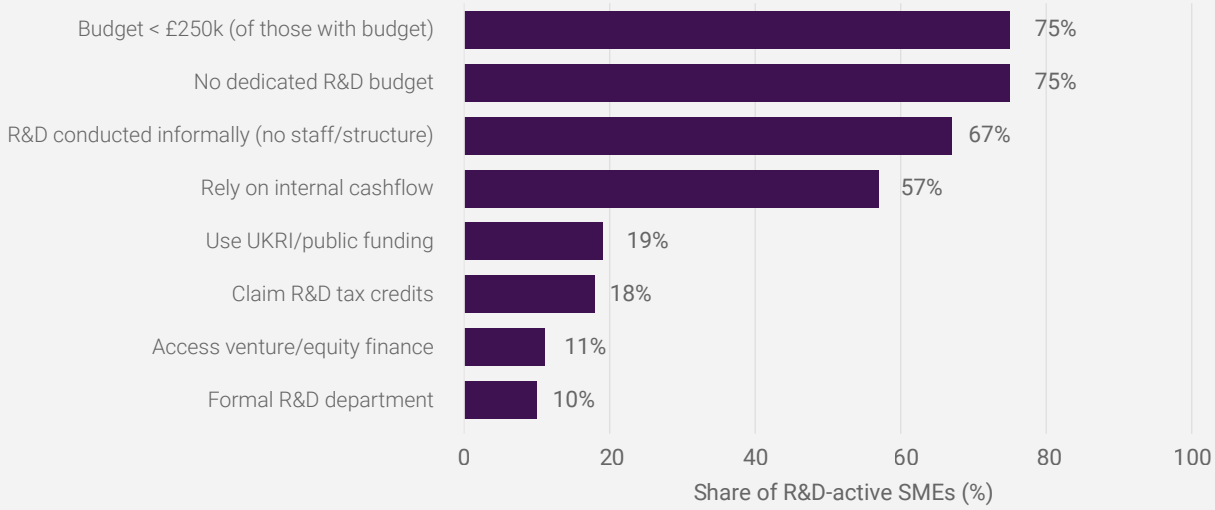


Source: NCUB (2025) based on the Longitudinal Small Business Survey, DBT 2024.

R&D structure and financing

SME R&D in the UK remains largely informal and episodic. Two-thirds of R&D-active SMEs run R&D without dedicated staff or teams, and three-quarters have no formal R&D budget. Most rely on internal cashflow (57%), with limited use of UKRI grants (19%), R&D tax credits (18%), or private international funding (19%). Over half report receiving no non-financial support of any kind. The result is an R&D landscape dominated by ad hoc, short-term projects with little resilience to cost shocks or downturns (**Figure 16**).

Figure 16. R&D structure and financing among R&D-active SMEs

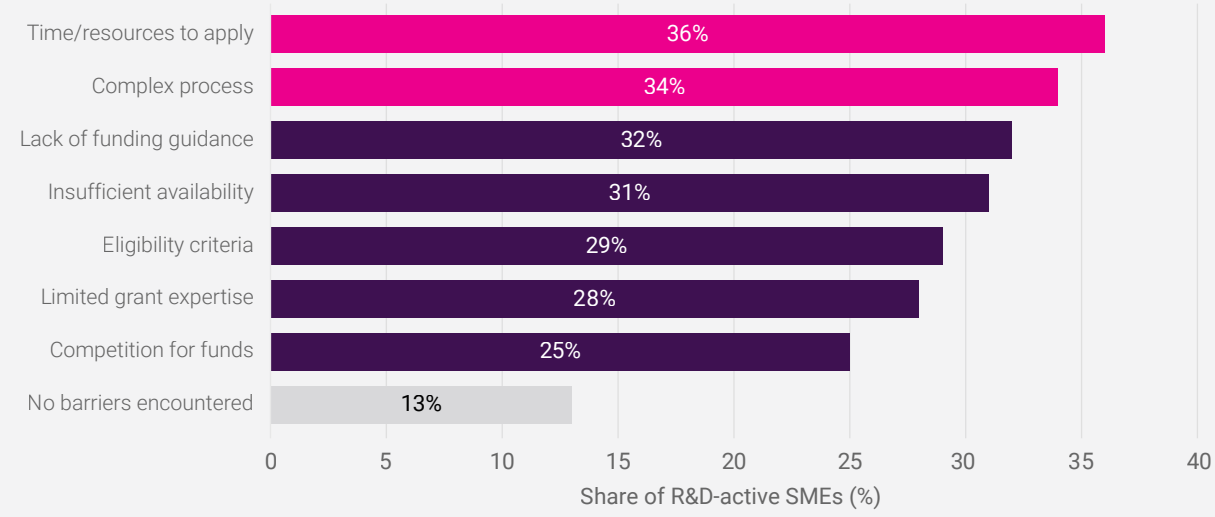


Source: NCUB analysis of NCUB (2025) SME survey results. Survey carried out by YouGov.
Note: For firms with an R&D budget below £250k, the base comprises (n=196) R&D-active firms that reported having a dedicated R&D budget, excluding those that responded "don't know" to the amount. For firms with no dedicated budget, the base is (n=909) R&D-active firms, excluding those unsure whether their firm had a dedicated R&D budget. The remaining options are based on a weighted total of (n=210) R&D-active firms that specified their R&D funding sources.

Barriers that block participation and growth

The survey reveals a clear hierarchy of obstacles preventing SMEs from fully engaging with the UK's R&D and innovation support system. **Figure 17** shows that these barriers are practical and procedural rather than a lack of interest or capability. The most common challenge is lack of time and resources to apply (36%), followed by complex application processes (34%) and difficulty identifying suitable funding opportunities (32%). Around one-third of firms also cite insufficient funding availability (31%) and restrictive eligibility criteria (29%), while 28% report limited grant-application expertise. Only 13% encountered no barriers at all.

Figure 17. Barriers faced by R&D-active firms when accessing public funds



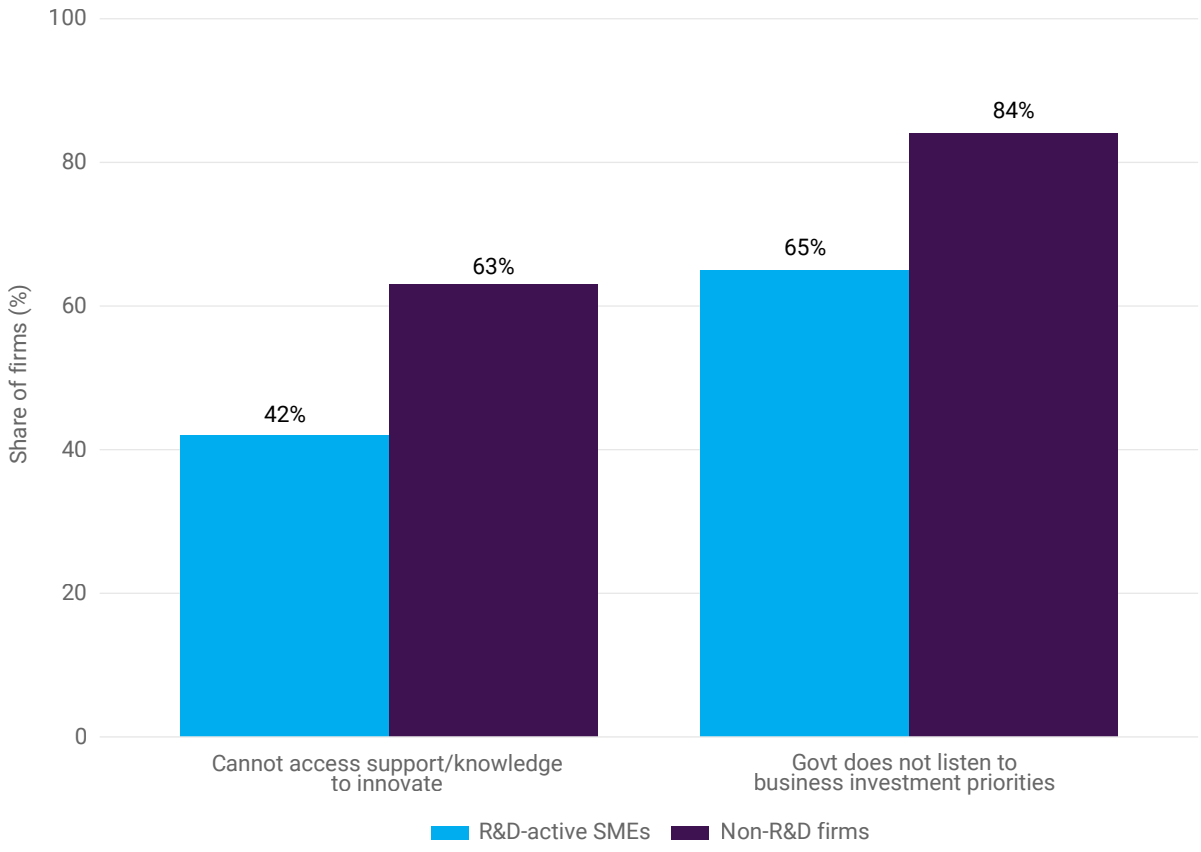
Source: NCUB analysis of NCUB (2025) SME survey results. Survey carried out by YouGov.
Note: Base (N=588) is the weighted number of R&D active firms which tried to access public funds, excluding respondents which responded do not know.

These findings confirm that administrative complexity and fragmentation, rather than appetite or ability, are the main reasons smaller firms disengage from public R&D programmes. For small businesses with limited administrative capacity, every additional form or eligibility hurdle becomes a deterrent. Public funding—though extensive on paper—therefore fails to reach most potential innovators. This challenge is especially acute outside London and the South East, where SMEs have fewer intermediaries and weaker institutional networks to help them navigate the system.

A widening confidence and connection gap

The survey also reveals a growing disconnect between SMEs and the institutions designed to support them. Forty-two percent of R&D-active SMEs—and sixty-three percent of non-R&D firms—say they cannot access the support or knowledge needed to innovate, underscoring a widespread sense of exclusion from the UK's formal innovation ecosystem. Sixty-five percent of R&D-active SMEs and eighty-four percent of non-active SMEs believe the Government does not listen to business investment priorities, and over half disagree that government treats industry as a genuine partner in setting them (**Figure 18**).

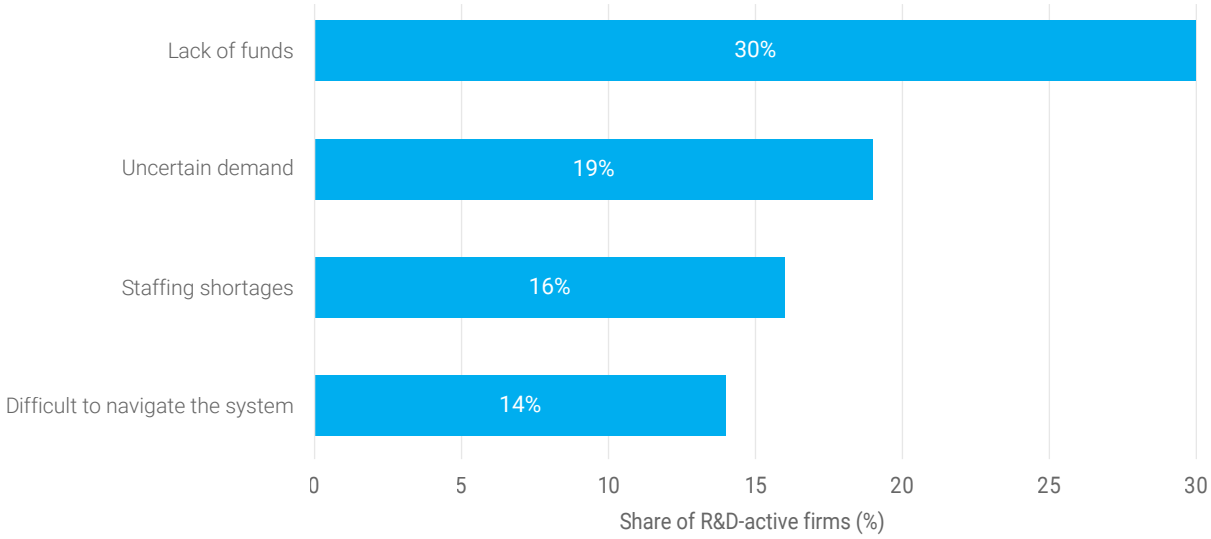
Figure 18. Access & voice: perceptions of the innovation system



Source: NCUB analysis of NCUB (2025) SME survey results. Survey carried out by YouGov.
Note: Bases vary by option. For "Cannot access support/knowledge to innovate", the bases are (n=642) for R&D-active firms and (n=481) for non-R&D-active firms. For "Government does not listen to business investment priorities", the bases are (n=696) and (n= 672), respectively.

This erosion of trust has behavioural consequences. One-third of R&D-active firms (32%) report that they plan to stop undertaking R&D altogether, citing lack of funds (30%), uncertain demand (19%), staff shortages (16%), and difficulty navigating the system (14%) as key reasons (**Figure 19**). These are not marginal concerns but indicators of an innovation environment that smaller firms increasingly find inaccessible and unrewarding. Unless confidence and connectivity are rebuilt, this disengagement risks accelerating the erosion of the UK's business-R&D base—the very foundation of innovation-led growth.

Figure 19. Why firms say they plan to stop R&D



Source: NCUB analysis of NCUB (2025) SME survey results. Survey carried out by YouGov.
Note: Base (n=221) is the weighted number of R&D-active firms which do not plan on continuing R&D. Excludes firms which did not specify a reason.

Funding SME R&D: a persistent and evolving barrier

Finance remains the most significant constraint on SME innovation. While self-funding dominates, access to affordable external finance has worsened. Persistently high interest rates, inflation volatility, and tighter collateral requirements have reduced investment appetite, while behavioural barriers—fear of rejection, complex processes, and aversion to debt—limit uptake even when finance is available. Although successive governments have sought to address these issues through the British Business Bank, pension-fund reforms, and other mechanisms, many SMEs still struggle to navigate options or meet eligibility criteria. The British Business Bank's expanded strategic role, as outlined in the Industrial Strategy sector plans, could be critical to addressing this gap and supporting firms to invest.

Evidence of growing disconnection

Universities play a critical role in supporting R&D in smaller firms—brokering expertise, offering access to facilities, training and consultancy, supplying graduate talent and placements, and de-risking early work.

However, there is growing evidence that those crucial links are weakening. University finances are under strain, squeezing brokerage time, small seed schemes and match-funding for initiatives, while the end of European Structural Investment Funds—and a patchy transition to successors—has removed a major source of place-based SME support. NCUB tracking shows falls in several indicators of SME–university engagement. The consequence is fewer "on-ramps" into collaborative R&D, a thinner pipeline to mid-TRL activity where private investment scales, and weaker diffusion into supply chains. Rebuilding this connective tissue—stabilising university engagement capacity, restoring local SME programmes, and simplifying routes—will be essential to reverse the decline.

Making it work for SMEs: finance, focus, and on-ramps

The picture is not one of SMEs losing interest in R&D, but of capacity and connectivity being squeezed just as macroeconomic headwinds rise. Most SMEs still see clear value in experimentation and improvement but are forced to fund from cashflow, navigate alone, and operate below their potential. In our survey, SMEs point to better access to government support—financial and advisory—as the single most decisive factor in expanding their R&D activity. Rebuilding those routes, simplifying engagement, and restoring collaboration pathways between firms, universities, and intermediaries are essential steps to crowd private investment back in and revitalise the UK's innovation base.

3.5 Sectoral divergence: not all declines are equal

The large company and SME picture helps to explain much of the recent decline, but pressures and prospects do not fall evenly across the economy.

To understand where UK R&D is resilient and where it has retrenched, this section examines sectoral divergence across all companies: where activity is growing, where it is slipping, and where there are particularly strong sector-specific challenges.

The Industrial Strategy and sector plan process creates an opportunity to run deeper, sector-by-sector reviews to sit alongside this report's cross-cutting analysis; doing so would be strengthened by more granular, consistently defined sectoral R&D data that maps cleanly to industry classifications, enabling better real-time monitoring of patterns and turning points.

> "The recommendations chart a compelling and pragmatic roadmap to turn the UK's research strength into real-world industrial outcomes at pace. As a sector tackling resilience and environmental management challenges, we see immense value in a more focused, connected R&D system – one that rewards delivery and drives sustainable economic growth."
>
> **Jo Harrison, Director of Strategic Planning and Sustainability, United Utilities**

Why are some sectors growing or holding steady?

As set out in section 2, head office & management consultancy, telecommunications, electrical equipment and automotive posted strong gains in 2022/23, with chemicals and mechanical engineering also advancing. The Taskforce interviews and research suggest that this resilience could be explained by several structural features:

- **Clear demand signals and standards:** Telecoms benefits from regulated investment cycles and service obligations. For electrical equipment and automotive, mandated transitions (EVs, charging, grid upgrades), product standards, and public procurement create predictable pipelines. Chemicals and mechanical engineering see pull from decarbonisation, process modernisation, and supply-chain retooling. Head office & consultancy grows on compliance, transformation, and digital projects.
- **Policy predictability:** Where policies are stable—net-zero trajectories, spectrum/licensing frameworks, product standards—firms report greater confidence to commit multi-year R&D. Sectors like telecoms and software are at the heart of ongoing digitalisation trends. R&D investment is driven by competition, customer demand, and constant technology upgrades.
- **Smart regulation as an enabler:** For companies operating under regulated monopoly or public service frameworks, providing reliable returns that support ongoing investment is important. For example, regulated utilities are often required to invest in innovation to meet performance or sustainability targets. Nonetheless, engagement with utility companies highlighted that an ambitious government could go further using the regulatory system not only to protect existing R&D levels, but also to strategically accelerate growth in areas aligned with national priorities, such as the energy transition or digital infrastructure. The Industrial Strategy has set out its intentions to achieve this, such as through the new Regulatory Innovation Office, and commissioning the Regulatory Horizons Council to develop a framework that supports regulators to take proportionate risks when regulating technologies and innovation.
- **Infrastructure modernisation:** Continued public and private investment in upgrading infrastructure—particularly in energy, transport, and digital networks—helps sustain a predictable R&D pipeline. The Government is looking to provide further certainty to industry on its infrastructure plans, via the new Planning and Infrastructure Bill, and an ambition to update National Policy Statements at least every five years.

These sectors benefit from a relatively coherent policy environment, predictable revenue streams, and clear innovation trajectories. As such, they present not only a foundation of resilience but a platform for targeted growth, where strategic intervention could unlock further innovation and economic impact.

Why is R&D falling in certain sectors?

Some of the UK's most R&D-intensive bases—scientific R&D and pharmaceuticals—saw marked reductions, while computer programming and electronics dipped slightly. Declines were also evident in construction, food manufacturing, and office support, albeit from smaller R&D bases. Because the heaviest falls are in sectors hosting many of the UK's largest performers, the drag on the national total is outsized.

There are some sector specific barriers to R&D that were highlighted in the interviews carried out, summarised in Table 1.

Table 1. Sector-specific drivers of R&D retrenchment

Sector	Strategic importance	Key drivers of decline
Pharmaceuticals	Major UK strength; global pharmaceutical hub	- High NHS rebate rates (23%+) disincentivise investment - Loss of public co-funding (e.g. AstraZeneca's planned £450m vaccine facility, was scaled back following reductions in expected public investment) - Declining international competitiveness (clinical trial speed, medicine access, exports) - Offshoring of medicine manufacturing (down 29% since 2009) - Shift in global pharma models: UK seen more as a research hub than a full-spectrum R&D base
Arts, entertainment & recreation	Fast-growing, export-rich; key for digital tech & IP	- Innovation not well captured by standard R&D metrics - Difficulty accessing scale-up finance - Weak innovation infrastructure outside major hubs - Shortages in creative-tech digital skills
Construction	Critical to net zero, housing, and productivity	- High rates of offshoring R&D to other countries
Manufacture of food products	Vital for food security, climate, regional economies	- Slow adoption of new technologies - Perceived reliance within the sector on public investment

While many of these pressures are sector-specific, cross-cutting cost factors have also compounded the challenge. Across manufacturing in particular, rising energy prices and carbon costs have sharply reduced margins, limiting firms' capacity to reinvest in R&D. Companies such as Ineos have explicitly linked these pressures to reduced UK investment, underscoring the importance of affordable and predictable energy policy within the UK's 2025 Industrial Strategy.

Finally, the challenges facing business R&D are not evenly distributed across the country. Both the ONS R&D data and the 2025 SME R&D Survey shows pronounced regional disparities: firms in London are far more likely to engage in R&D than those in the North East or South West. This uneven geography of R&D reinforces concerns raised by the Taskforce that regional ecosystems remain fragile. Unless addressed, such spatial inequalities could further entrench the decline of R&D in key industries and limit the national productivity gains the Government seeks.

3.6 R&D governance and institutions: strong research base, limited industrial connection

Businesses of all sizes and across sectors consistently told the Taskforce that the UK's institutions for research and innovation do not yet function as a fully connected system.

They recognised, and often celebrated, the UK's world-class science base and the significant improvements made in recent years to strengthen research commercialisation. Many praised the stronger culture of collaboration that has emerged over the past decade—research teams that are more commercially aware, easier to engage with, and quicker to respond to business needs. Firms described seeing more entrepreneurial activity around universities and more professional partnership models.

However, businesses also emphasised that these advances remain largely concentrated at the front end of the pipeline—where ideas emerge and early-stage ventures form. Beyond that point, they said, the system becomes harder to navigate and less predictable. The challenge, in their view, is less about a lack of translation capacity than about alignment: the institutions that fund and coordinate R&D are not yet consistently organised around industrial demand, nor do their processes and timescales always match the pace and risk profile of commercial development.

This feedback mirrors what successive independent reviews have found. The Nurse, Tickell, Grant, and National Audit Office (NAO) reviews[2] all describe a public R&D system that excels at generating knowledge but lacks clear mandates, governance coherence and delivery discipline for connecting that knowledge to industrial application. The result is a gap between the UK's research strength and its ability to convert that strength into sustained, business-led R&D at scale.

Why UKRI matters most

While many departments and agencies play roles in R&D, businesses repeatedly identified UK Research and Innovation (UKRI) as the institution whose effectiveness most shapes their experience of the public system. As the UK's largest public funder—responsible for more than £8 billion annually across discovery research, translational programmes and business innovation—UKRI is uniquely positioned to set standards for coherence and accessibility across the wider ecosystem. When UKRI functions well, it signals focus, simplifies engagement, and gives firms confidence that priorities are backed by delivery. When it does not, the whole system feels fragmented.

Firms told the Taskforce that they value UKRI's convening power and the expertise within its councils, but many also felt that the organisation does not yet act as a true system integrator. Collaboration between Innovate UK and the research councils was seen as ad hoc rather than strategic, and processes were described as slow and burdensome. Several businesses said that, despite extensive engagement, they often felt like "minority voices in academic spaces," with limited understanding of commercial realities such as investment timing, product cycles, or supply-chain diffusion.

These concerns are echoed in formal reviews. The Grant Review (2022) found that the UKRI Chief Executive lacks authority to drive coherence across its nine councils, leading to siloed decision-making and slow reform. The Nurse Review (2023) argued that the UK lacks "effective system stewardship" to connect research excellence with economic impact, while the Tickell Review (2022) highlighted pervasive bureaucracy that absorbs time and resources without improving outcomes. The NAO and Public Accounts Committee (2024)

2 *Independent Review of the Research, Development and Innovation Organisational Landscape (***Nurse Review***, 2023); Review of Research Bureaucracy (***Tickell Review***, 2022); Review of UK Research and Innovation (UKRI) (***Grant Review***, 2022); National Audit Office Progress Review of UKRI (***NAO Review***, 2024).*

further noted that government expectations of UKRI are spread across more than 100 strategy documents, with incomplete metrics to show how public R&D spending translates into growth or private investment.

It is worth noting that the Government has agreed to the recommendations set out by the Public Accounts Committee in a recent response. DSIT will set strategic objectives for UKRI to monitor the body's delivery against government priorities, which will include the Industrial Strategy and the five missions. Each objective will be underpinned by a set of measurable results, and set out "UKRI's role in enabling innovation, commercialisation, and scale-up across the UK".[3]

Review	Full title & year	Headline finding(s)
Nurse Review (2023)	Independent Review of the Research, Development and Innovation Organisational Landscape	Called out the absence of a clear system steward for translation and innovation, arguing the UK lacks institutional mechanisms to coordinate research excellence with industrial need.
Tickell Review (2022)	Review of Research Bureaucracy	Identified that bureaucracy, fragmented assurance systems, duplicative reporting and complex processes hinder agility, calling for principles of simplicity, harmonisation, proportionality, flexibility, transparency, fairness, sustainability.
Grant Review (2022)	Review of UK Research and Innovation (UKRI)	Found that UKRI's internal structures—especially limited CEO authority over councils and diffused accountability—constrain coherence and cross-council reform.
NAO Review (2024)	National Audit Office Progress Review of UKRI	Emphasised that government expectations are spread over many strategy documents, measurable outcomes are underdeveloped, and UKRI lacks consolidated data on mission impact and private leverage.

International lessons

To understand whether these issues are unique to the UK, NCUB benchmarked policy approaches across the G7 using the OECD's STI Compass database. The analysis compared nearly 900 initiatives focused on innovation in firms. The findings show that the UK performs strongly on the quality of its research base and fiscal incentives (R&D tax credits, Patent Box), but lags behind peers on accessibility, integration, and governance coherence.

Figure 20 visualises these rankings across nine support mechanisms. It shows a clear divide between countries with cohesive, mission-oriented strategies—such as Germany, France, and the United States—and those with more fragmented systems, including the UK and Japan. Germany consistently ranks among the strongest performers, particularly on networking and clusters, direct financial support, and integration, reflecting a tightly coupled research-industrial ecosystem. The United States also performs well on policy instruments and cluster alignment, indicating strong institutional coordination.

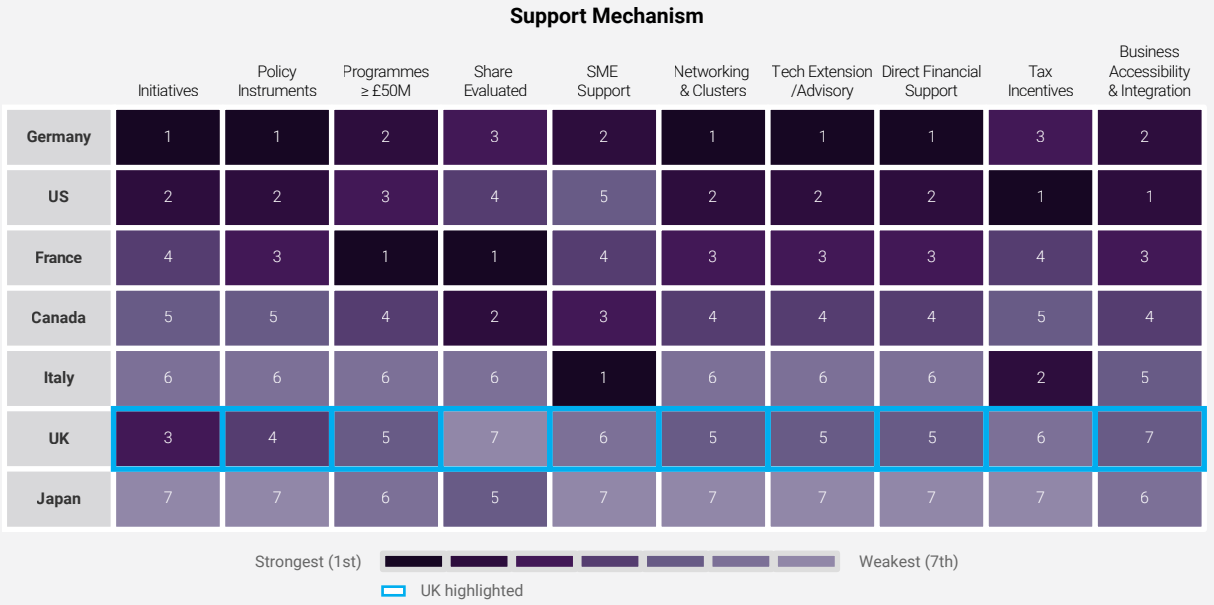
3 *HM Treasury (2025). Government response to the Committee of Public Accounts on the Thirty-Fifth to the Forty-Second reports from Session 2024-25.*

By contrast, the UK's profile is uneven. While it performs competitively on tax incentives and initiatives, it ranks last among the G7 on business accessibility and integration—highlighting gaps in how support translates into visible outcomes for firms. This pattern reinforces perceptions of a complex, hard-to-navigate system and underscores why business engagement with UKRI and other public schemes remains patchy.

Other G7 countries have addressed similar challenges by simplifying mandates and strengthening institutional alignment:

- France and Germany concentrate objectives within large, mission-oriented programmes, providing clear long-term signals to business.
- The United States and Germany embed cluster and infrastructure policies directly within governance structures, aligning research and industrial delivery.
- Canada outperforms on SME support and direct financial instruments, while France and Canada systematically evaluate programme outcomes.

Figure 20. G7 Comparison: Effectiveness of support mechanisms for innovation, ranks per dimension



Source: NCUB analysis based on data from the OECD's STI Compass database

Notes: This chart compares G7 countries across multiple policy dimensions relevant to innovation in firms. Each dimension is ranked from 1 (strongest performer) to 7 (weakest performer), enabling direct comparability across indicators with different underlying scales. Countries are ordered by average rank. Darker shading represents stronger relative performance within each dimension, while lighter cells indicate weaker performance relative to peers. Rankings are illustrative and should be interpreted as relative positioning within the G7, not as absolute measures of policy quality or effectiveness.

In contrast, the UK's landscape remains fragmented: overlapping programmes, variable evaluation, and limited visibility of business outcomes. The UK's relative weakness on business accessibility and integration helps explain why industry perceives UKRI—and by extension, the wider system—as complex and difficult to engage with.

This aligns with previous NCUB analysis, which found that the UK delivers comparatively high short-run returns to public R&D investment, its performance in sustaining long-term private R&D leverage is weaker than that of several G7 peers –particularly those embedding missions, mid-stage instruments, and systematic evaluation frameworks (NCUB, 2024).

The case for reform

Despite these structural weaknesses, UKRI's potential remains significant. Where its councils have worked in partnership with business—such as through Innovate UK's Investor Partnerships programme—public funding has successfully leveraged more than ten times its value in private investment. If that approach were embedded systematically across large, priority-driven programmes, it could transform the UK's R&D performance.

Because of UKRI's central role, reform here has system-wide implications. Strengthening its mandate, governance, and business-facing functions would not only improve its own impact but also catalyse broader alignment across departments and agencies. In this sense, the Taskforce's focus on UKRI is not about assigning blame but about unlocking the greatest leverage point in the system: turning an institution designed to connect research and innovation into one that consistently delivers it.

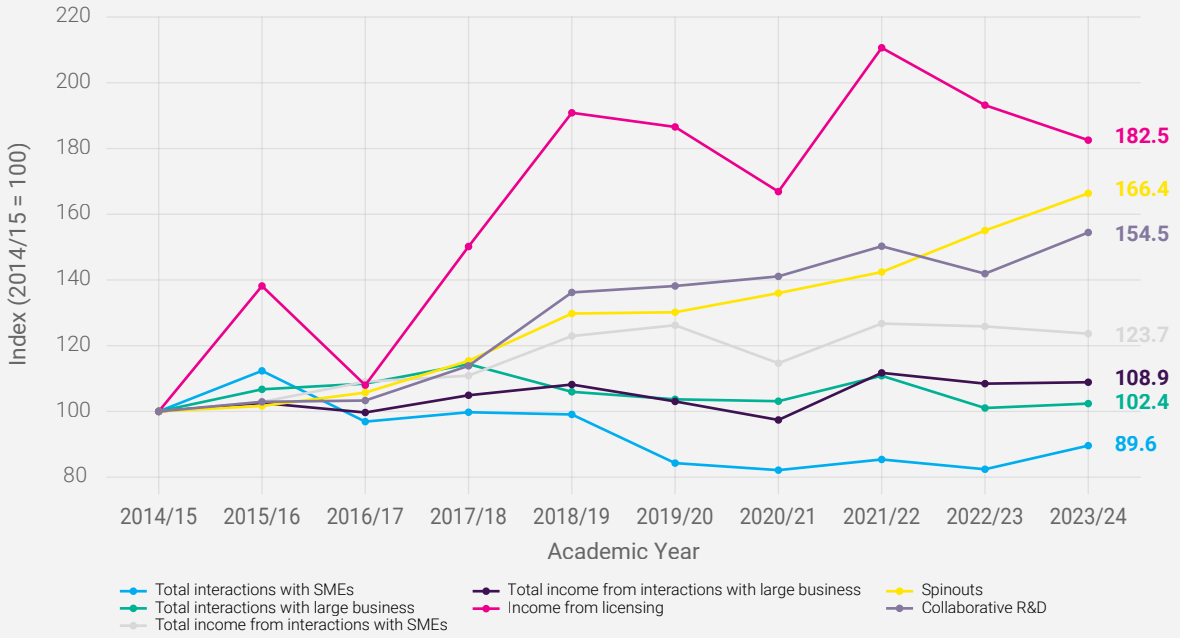
Universities: a strong bridge under growing strain

Universities remain one of the UK's greatest strategic assets in research and innovation. Businesses consistently described them as dependable, creative, and collaborative partners—sources of new ideas, specialist facilities, and highly skilled talent. For global firms, universities are often the gateway into the UK's research ecosystem, while for domestic firms—especially SMEs—they are sometimes the most accessible route to R&D capability and expertise.

As part of the work of the Taskforce, NCUB also engaged extensively with universities themselves. Their perspectives closely mirrored those of business: recognition of world-class strengths, but also concern that the system linking discovery to deployment is under increasing pressure. Universities expressed strong commitment to working with government and industry to strengthen this connection, but noted that the financial environment facing the sector could make this harder to sustain.

Figure 21 illustrates how university-business collaboration is changing. After a decade of steady expansion, the pace of business–university collaboration has stalled. Total interactions with SMEs have declined below 2014/15 levels, while engagement with large firms has plateaued. Income from business partnerships has grown only modestly, suggesting that universities are maintaining existing links rather than expanding their reach. In contrast, licensing income and spin-out creation have continued to rise sharply, driven by strong performance in research commercialisation—particularly in digital and life sciences fields.

Figure 21. University-business collaboration trends (indexed to 2014/15 = 100)



Source: NCUB (2025), based on HEBCI–HESA (2025).

This pattern underscores a growing imbalance within the knowledge exchange system: the push of university-generated innovation remains robust, but the pull from business demand is weakening. Without stronger translational mechanisms and greater absorptive capacity in firms, the UK risks a system in which world-class research excellence continues to advance, yet fewer businesses are able to turn that knowledge into innovation-led growth.

University leaders highlighted that the financial sustainability of their institutions directly affects this middle part of the innovation system. Inflationary pressures, frozen domestic tuition fees, and rising cross-subsidy from international student income are reducing flexibility to invest in long-term, strategic partnerships with business. Brokerage time, small-scale match funding, and staff capacity for relationship management—the activities that make collaboration possible—are more challenging to sustain when budgets tighten.

These concerns echoed findings from previous NCUB's (2024) *Arresting the Decline report*[4], which warned that mounting financial constraints were already eroding institutional capacity underpinning collaboration. The report highlighted that partnership infrastructure—such as business engagement teams, translational support, and seed funding—is often invisible but essential, and that its gradual depletion risk creating a "collaboration deficit". Without renewed investment in these enabling functions, the UK's innovation system could become more fragmented and less responsive to business needs.

In this context, the Higher Education Innovation Fund (HEIF) and its devolved equivalents were repeatedly cited as critical enablers of all aspects of research commercialisation and business engagement—supporting partnership development, SME engagement, and translation activity that connects research to industrial demand. Many universities warned that reduced funding for collaboration, including through the loss of European Structural Investment Funds and patchy replacement schemes, risk eroding these capabilities just when business demand for collaboration needs to be rebuilt.

Universities want to play a greater role in mid-stage innovation and industrial deployment, but they need stable translational funding, clearer national priorities, and simpler, proportionate mechanisms for collaboration. Strengthening the role of bodies like UKRI in relation to business R&D should therefore strengthen this bridge—giving universities and intermediaries the tools and flexibility to act as true connectors between world-class science and business-led growth. As Arresting the Decline concluded, protecting and expanding collaborative capacity of universities is not a peripheral issue—it is a precondition for reversing the UK's decline in business investment in R&D and for unlocking sustained, innovation-led recovery.

4 *See report: https://www.ncub.co.uk/wp-content/uploads/2021/07/Arresting-the-Decline-NCUB.pdf*

3.7 What this evidence implies

Taken together, the interviews, SME survey and institutional review do not reveal a shortage of ideas or capability; they reveal a system that performs strongly in its parts but fails to connect them at speed and scale—most acutely across the mid-TRL "missing middle."

Economic headwinds are amplifying these structural weaknesses: when uncertainty rises, firms—especially SMEs—cut R&D first; when R&D falls, productivity and confidence weaken further. Market forces will not correct this cycle. Government must act to restore confidence, reduce risk and reconnect the pipeline—by focusing effort on a small number of long-term priorities, simplifying access and mid-stage routes that SMEs and supply chains can actually use, and reforming institutions—starting with UKRI—to integrate research councils and Innovate UK at commercial pace. Universities remain a critical bridge, so stable, mission-aligned translational funding (including HEIF and devolved equivalents) is essential. And delivery must rest on clear accountability, multi-year budgets tied to milestones, proportionate assurance and real-time performance data—to turn strategy into results.

Section 4:
Conclusions and implications

This section brings together the Taskforce's core conclusions and sets out the implications for policy and delivery. It draws directly on the evidence from Sections 2 and 3 and links back to the three north stars that frame this report—Focus, Simplify, Reform.

The diagnosis: strong research foundations, fragmented pathways

Across this report, a consistent picture emerges.

Section 2 demonstrated that UK business R&D investment is weakening, even as global competitors expand. The decline spans firm sizes and sectors, with the sharpest contractions among SMEs but the greatest aggregate impact among large manufacturers. Foreign-owned firms continue to invest, but domestic activity and regional balance are slipping.

Section 3 sought to explain why. Businesses of all sizes praised the UK's research excellence and stable incentives but described a system that is fragmented, hard to navigate, and misaligned with industrial demand. Large firms cited unclear priorities and weak mid-stage support; SMEs pointed to complexity and inaccessibility; universities warned that financial pressures are eroding their ability to sustain partnership and translation capacity.

Together, the evidence shows a system of great strengths that too often pull in different directions. The UK excels at discovery but lacks the connective tissue—stable priorities, mid-stage funding, and delivery discipline—that would allow those assets to compound into global industrial advantage.

These weaknesses matter even more in a difficult economic climate. When uncertainty rises, firms cut R&D first; when R&D falls, productivity and confidence weaken further. In such conditions, market forces alone will not correct the cycle. Even small shifts in R&D intensity carry large economic consequences. This illustrates how quickly the benefits of R&D and innovation can erode if confidence and investment are allowed to slip. That is precisely when Government-steered, industry-driven focus, coordination, and long-term prioritisation matter most — to give firms the confidence to keep investing, to align public and private effort, and to ensure that world-class research continues to translate into world-class industries. Government must intervene boldly and strategically — not to substitute for private effort, but to restore confidence, reduce risk, and reconnect the pipeline from discovery to deployment.

The response: Focus, Simplify Reform.

The evidence from business and universities shows that three actions, pursued together, would have significant impact: Focus, Simplify Reform, as set out in section 1.

1. Focus: Concentrate effort where the UK can lead

What the evidence shows:
Section 2 revealed that UK business R&D investment is contracting even as global competitors expand, particularly in major manufacturing and scientific sectors. Interviews and survey insights in Section 3 showed that firms attribute this to unclear strategic direction, short policy cycles, and an absence of visible long-term priorities that crowd in private investment. Both large and small businesses emphasised that the UK's system signals excellence in science but uncertainty in execution — making it hard to plan, co-invest, or scale R&D.

What this implies:
To reverse this decline, the UK must move from breadth to **focus**. Businesses consistently said they respond to stable, visible priorities with clear long-term commitment — the same feature that has driven R&D expansion in Korea, Germany and the US. The Industrial Strategy now provides the framework to deliver this focus through a small number of **Industrial Innovation Priorities**, jointly owned by government, industry, and universities. Aligning funding, regulation, and skills around these priorities would not constrain ambition but channel it — turning the UK's scientific strengths into clear industrial propositions.

Universities also need stable, mission-aligned translational funding to play their bridging role effectively. Financial pressures are eroding their ability to invest in long-term partnerships; HEIF and devolved equivalents must therefore be protected and strengthened as the foundation of collaboration capacity.

2. Simplify: Make the system usable and connected

What the evidence shows:
SME survey data and engagement outlined in Section 3 highlighted how fragmentation and bureaucracy deter smaller innovators more than lack of ambition or ideas. Thirty-six percent cited lack of time or resource to apply for support, and one-third said they could not find relevant programmes at all. Engagement with non-financial support is even thinner: over half of R&D-active SMEs have no contact with universities, regulators, or Catapults. Large firms also described disjointed mid-TRL pathways and multiple, unaligned schemes that make collaboration slower and riskier.

What this implies:
Simplification is not an administrative preference but an economic necessity. Creating a mission-aligned, unified portfolio of support with a single digital "front door" would greatly increase business accessibility and uptake. Simplification also means strengthening the connections that make collaboration work — faster mid-stage routes, proportionate assurance, and robust brokerage. As universities' finances tighten, seed funds to encourage collaboration are becoming the essential "connective tissue" that sustain partnership, SME engagement, and local innovation capacity.

3. Reform: Institutions built for delivery and impact

What the evidence shows:
Businesses and independent reviews alike — Nurse, Grant, Tickell, and NAO — converge on a single point: the UK's institutional arrangements for research and innovation are not consistently wired for delivery. Section 3.6 showed how UKRI's mandate and governance still reflect the divide between research and innovation, leaving it underpowered to act as a true system integrator. Firms want UKRI to bridge this gap — joining up research councils with Innovate UK around defined missions, engaging business earlier, and running at commercial pace.

At the same time, universities face growing financial strain that is eroding the very partnership capacity the system depends on. Collaboration volumes have stalled, and SME engagement has fallen sharply since the mid-2010s. Without stable translational funding and simpler collaboration mechanisms, the bridge between research and industry will weaken further.

What this implies:
Targeted reforms would give UKRI a clearer delivery mandate — with explicit accountability for business engagement, private leverage, and cross-council coherence. Strengthening UKRI's authority and simplifying its assurance and decision-making processes would enable programmes to run at commercial speed and scale, turning strategy into action. Because of its size and central role — responsible for more than £8 billion in annual public R&D — UKRI is the natural starting point: reform here would set the tone and standard for the wider system, demonstrating what proportionate, outcome-focused delivery looks like and crowding in private investment through clarity and consistency.

In sum: evidence to action

Sections 2 and 3 revealed that the UK's innovation challenge is not one of capability but of connection. Focus, Simplify, and Reform are not abstract principles; they respond to the evidence:

- **Focus** responds to firms' call for clarity and long-term alignment.
- **Simplify** tackles the procedural barriers that keep SMEs and supply chains from engaging.
- **Reform** strengthens the institutional bridge that turns research into business investment.

Together, these actions would help restore business confidence, unlock private R&D, and re-establish the UK as a global leader in R&D — converting its world-class research base into world-class industrial performance.

From strategy to delivery

Sections 2 and 3 showed why UK business R&D is faltering: not because firms lack ideas or universities lack excellence, but because the system lacks focus, simplicity, and alignment in delivery. These are not new insights. Businesses repeatedly told the Taskforce that the barriers identified in this report have been recognised before — in previous strategies, reviews, and plans that they largely welcomed at the time — but that momentum has too often faded before results were realised. The UK's challenge is therefore less about designing new strategies than finally executing the ones it already has, with discipline, consistency, and accountability.

Success now requires returning to the fundamentals of effective delivery:

- **Accountability:** Clear ministerial ownership of missions and explicit business-R&D outcomes in UKRI's mandate — so that responsibility for delivery is visible, measurable, and politically sustained over time.
- **Resourcing:** Multi-year budgets tied to milestones and sunset reviews — providing the predictability that firms need to commit long-term investment, while ensuring programmes stay focused and evidence-led.
- **Performance and data:** Real-time tracking of business participation, private co-investment, and outcomes — turning good intentions into evidence-based management and enabling mid-course correction when needed.
- **Culture:** A shift from strategy design to operational delivery — embedding business expertise throughout implementation, learning by doing, and ensuring policies are built around how innovation actually happens in firms.

Conclusion: from excellence to confidence

The UK remains a global leader in research but a follower in business R&D growth. Competitor nations are investing with mission clarity and institutional discipline. The UK's advantage lies ready to be converted—if policy focuses, the system simplifies, and institutions reform to deliver.

If government acts decisively, it can restore business confidence, unlock billions in private R&D, and translate world-class science into world-class industries. The research base is ready, the business community is willing; what remains is delivery.

References

Acemoglu, D. (2023, May). *Distorted innovation: does the market get the direction of technology right?.* In AEA Papers and Proceedings (Vol. 113, pp. 1-28). 2014 Broadway, Suite 305, Nashville, TN 37203: American Economic Association. https://www.aeaweb.org/articles?id=10.1257/pandp.20231000

Acemoglu, D., & Autor, D. (2011). *Skills, tasks and technologies: Implications for employment and earnings.* In Handbook of labor economics (Vol. 4, pp. 1043-1171). Elsevier.

Aghion, P., & Howitt, P. (1990). *A model of growth through creative destruction.* Econometrica Vol. 60, No. 2 (Mar., 1992), pp. 323-351 (29 pages) Published By: The Econometric Society. https://doi.org/10.2307/2951599

Bank of England (2023). *Credit Conditions Survey Q4 2023.* https://www.bankofengland.co.uk/credit-conditions-survey/2023/2023-q4

Bloom, N., Jones, C. I., Van Reenen, J., & Webb, M. (2020). *Are ideas getting harder to find?.* American Economic Review, 110(4), 1104-1144.

https://www.aeaweb.org/articles?id=10.1257/aer.20180338

British Business Bank (2024). *Small Business Finance Markets Report 2023/24.* https://www.british-business-bank.co.uk/about/research-and-publications/small-business-finance-markets-report-2024

Cohen, W & Levinthal, D (1990). *Absorptive capacity: a new perspective on learning and innovation.* Administrative Science Quarterly, (Vol. 35, No. 1), Special Issue: Technology, Organizations, and Innovation, pp. 128-152.

Demirel, P., & Mazzucato, M. (2012). *Innovation and Firm Growth: Is R&D Worth It?.* Industry and Innovation, 19(1), 45–62. https://doi.org/10.1080/13662716.2012.649057

Department for Business Innovation and Skills. (2014). *Innovation Report 2014: Innovation, Research and Growth.* https://www.gov.uk/government/publications/innovation-report-2014-innovation-research-and-growth

Department for Science, Innovation & Technology (DSIT). (2025). *International comparison of the UK research base, 2025.* https://www.gov.uk/government/publications/international-comparison-of-the-uk-research-base-2025/international-comparison-of-the-uk-research-base-2025

Department for Science, Innovation & Technology. (2022). *Independent review of UK Research and Innovation (UKRI): Final report and recommendations.* GOV.UK. https://www.gov.uk/government/publications/independent-review-of-uk-research-and-innovation-ukri/independent-review-of-uk-research-and-innovation-ukri-final-report-and-recommendations

(Note: Although the review was commissioned by the Department for Business, Energy & Industrial Strategy, the page appears under the Department for Science, Innovation & Technology.)

Department for Business, Energy and Industrial Strategy. (2023). *Independent Review of the UK's Research, Development and Innovation Organisational Landscape: Final report and recommendations* (PDF). UK Government. https://assets.publishing.service.gov.uk/media/6409fda2d3bf7f02fef8832b/rdilandscapereview.pdf

Department for Business and Trade. (2025). *Clean Energy Industries Sector Plan.* https://assets.publishing.service.gov.uk/media/68920c9066bdd4490c610990/industrial_strategy_clean_energy_industries_sector_plan_accessible.pdf

Department for Business and Trade. (2025). *Digital and Technologies Sector Plan.* https://assets.publishing.service.gov.uk/media/6892104df15b237bf6610996/industrial_strategy_digital_and_technologies_sector_plan_accessible.pdf

Department for Business and Trade. (2025). *Advanced Manufacturing Sector Plan.* https://assets.publishing.service.gov.uk/media/68920a3366bdd4490c61098f/industrial_strategy_advanced_manufacturing_sector_plan_accessible.pdf.

Department for Business and Trade. (2025). *The UK's Modern Industrial Strategy.* https://assets.publishing.service.gov.uk/media/68595e56db8e139f95652dc6/industrial_strategy_policy_paper.pdf.

Department for Business and Trade. (2025). *DBT inward investment results 2024 to 2025.* https://www.gov.uk/government/statistics/dbt-inward-investment-results-2024-to-2025/dbt-inward-investment-results-2024-to-2025-html-version

Enterprise Research Center (ERC). (2025). *The State of Small Business Britain Report 2024.* Published: 25 March 2025. ERC Research Report. https://www.enterpriseresearch.ac.uk/publications/the-state-of-small-business-britain-report-2024/

Forth, T. & Jones, R. *The missing £4 Billion. Making R&D work for the whole UK.* Nesta. May 2020. https://media.nesta.org.uk/documents/The_Missing_4_Billion_Making_RD_work_for_the_whole_UK_v4.pdf

Frontier Economics. (2023). *Rate of Return to Investment in R&D: A Report for the Department for Science, Innovation and Technology.* London: Frontier Economics. https://www.frontier-economics.com/media/015adtpq/rate-of-return.pdf

Garcia-Macia, D., & Korosteleva, J. (2025). *Tracing productivity growth channels in the UK.* Research Policy, 54(1), 105149. https://doi.org/10.1016/j.respol.2024.105149

Griffith, R., Redding, S., & Reenen, J. V. (2004). *Mapping the two faces of R&D: Productivity growth in a panel of OECD industries.* Review of economics and statistics, 86(4), 883-895.

Hall, B. H., & Lerner, J. (2010). *The financing of R&D and innovation.* Handbook of the Economics of Innovation, 1, 609–639. Elsevier. https://doi.org/10, 1016, S0169-7218

Haskel, J., & Westlake, S. (2018). *Capitalism without Capital: The Rise of the Intangible Economy.* Princeton University Press. https://doi.org/10.2307/j.ctvc77hhj

Herzer, D. (2021). *An Empirical Note on the Long-Run Effects of Public and Private R&D on TFP.* Journal of the Knowledge Economy, 13(4), 3248–3264. Springer US. https://doi.org/10.1007/s13132-021-00851-5

Innovate UK. (2024). *The State of Innovation 2024.* https://www.ukri.org/wp-content/uploads/2024/12/IUK-051224-StateInnovation2024Report.pdf

Mokyr, J. (2017). *A Culture of Growth: The Origins of the Modern Economy.* Princeton University Press. https://doi.org/10.2307/j.ctt1wf4dft

National Audit Office. (2025, May 14). *UK Research and Innovation: providing support through grants* (Report – Value for money). National Audit Office. https://www.nao.org.uk/reports/uk-research-and-innovation-providing-support-through-grants/

National Centre for Universities and Business (NCUB). (2024). *Unlocking growth: The impact of public R&D spending on private sector investment in the UK.* Research series. August 2024. https://www.ncub.co.uk/insight/unlocking-growth-the-impact-of-public-rd-spending-on-private-sector-investment-in-the-uk/

National Centre for Universities and Business (NCUB). (2024). *Arresting the decline: Unlocking the potential of University-SME interaction in the UK.* June 2024. https://www.ncub.co.uk/insight/arresting-the-decline-unlocking-the-potential-of-university-sme-interaction-in-the-uk/

National Centre for Universities and Business (NCUB). (2023). *Attracting international investment in R&D.* Research report. October 2023. https://www.ncub.co.uk/insight/attracting-international-investment-in-rd/

National Centre for Universities and Business (NCUB). (2023b) *State of the Relationship Report.* https://www.ncub.co.uk/wp-content/uploads/2021/07/6098_NCUB_State_of_the_Relationship_2023_V11_spreads.pdf

Organisation for Economic Co-operation and Development. (2015). *The innovation imperative: Contributing to productivity, growth and well-being.* Organisation for Economic Co-operation and Development. https://www.oecd.org/en/publications/the-innovation-imperative_9789264239814-en.html

Romer, P. (1990). Endogenous Technological Change. Journal of Political Economy. Vol. 98, No. 5, Part 2: The Problem of Development: A Conference of the Institute for the Study of Free Enterprise Systems (Oct., 1990), pp. S71-S102 (32 pages) Published By: The University of Chicago Press

Royal Academy of Engineering (Raeng). (2025). *Late-stage R&D: Business perspective.* https://nepc.raeng.org.uk/media/km4c0miu/nepc-late-stage-r-d-investment.pdf

Shefer, D., & Frenkel, A. (2005). *R&D, firm size and innovation: an empirical analysis.* Technovation, 25(1), 25-32.

Van Reenen, J. (2021). *Innovation and human capital policy* (No. w28713). Cambridge, MA: National Bureau of Economic Research. https://www.degruyterbrill.com/document/doi/10.7208/chicago/9780226805597-006/pdf

National Centre for Universities and Business

For further information

The National Centre for Universities and Business
The Clarence Centre
6 St George's Circus
London SE1 6FE
United Kingdom

020 7383 7667
ncub.co.uk
@NCUBtweets

Registered Charity No. 1066956