



Innovate
UK

Behind the Breakthroughs

Who's driving innovation in
the private sector workforce?

Foreword

Innovation drives productivity, competitiveness and long-term economic resilience. Yet over the past decade, innovation activity in UK businesses has declined. Between 2012 and 2022 the proportion of innovation-active businesses fell across most sectors, posing risks to growth and competitiveness¹.

To address this, we need a clearer understanding of how innovation works in practice, and of the people, roles and skills that make it possible. Existing evidence focuses mainly on a conventional view of research and development (R&D), leaving much of the workforce invisible.

In truth, innovation relies on cross-functional teams combining technical and non-technical expertise. Product and project managers, developers, designers and scientists work alongside R&D specialists, while commercial, marketing and operational roles help shape strategies and outcomes. Many of these roles fall outside formal classifications, limiting visibility of the full innovation workforce.

This is especially true for SMEs where innovation is embedded across broader job functions and multidisciplinary teams. This 'hidden' workforce makes it harder to identify skills gaps or target support effectively.

This study provides a more complete and inclusive view of the UK's private sector innovation workforce. By capturing the diversity of roles and team structures, it offers a stronger evidence base for policy initiatives, workforce planning and investment decisions to strengthen innovation capacity across businesses of all sizes and in all sectors.



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¹ United Kingdom innovation survey 2023: report, Department for Business & Trade [United Kingdom innovation survey 2023: report – GOV.UK](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/118444/uk-innovation-survey-2023-report.pdf)



Executive summary

Our current understanding of who delivers innovation and the skills involved is limited, often overlooking wider technical, creative and commercial capabilities across various sectors, regions and business sizes. This study, commissioned by Innovate UK and conducted by Perspective Economics, provides a clearer picture of the UK's private sector innovation workforce.

The study combines data from a survey of UK businesses, interviews with innovation leaders and workforce specialists, analysis of labour market data, and in-depth case studies. This approach gives us a more multidimensional understanding of the private sector innovation workforce, going beyond current occupational classifications.

The results confirm that innovation in the private sector extends far beyond formal R&D functions. Only a limited share of roles involved in innovation explicitly reference it or sit within R&D teams. Instead, innovation activity is carried out by people in a diverse range of roles, such as engineers, product developers, data specialists, designers, project managers and commercial professionals. These roles are often invisible in official datasets, creating gaps in workforce evidence and making it harder to understand where innovation capability sits across the economy.

To address this, the study developed a Private Sector Innovation Roles Framework, bringing together roles covering leadership, strategy, product and service innovation, process innovation, commercialisation, design and early-career positions. Survey responses strongly supported the framework, with reported business roles aligning closely with its categories.

The framework provides a practical tool for understanding innovation activity and identifying workforce gaps at organisational, regional and sectoral levels.

Findings also highlight differences in how innovation is organised. Larger businesses often maintain formal innovation departments and R&D units, while SMEs embed innovation across multifaceted roles. The distribution of roles also varies by business maturity: start-ups and venture companies concentrate on leadership roles, reflecting smaller, leadership-heavy teams, while established businesses have a greater share of process and product innovation roles, consistent with their capacity to formalise these functions.

Recruitment and skills supply remain major challenges. Employers struggle to find people with the right combination of technical expertise, problem-solving skills and cross-functional experience. As careers progress, innovation capability often develops through exposure to multiple disciplines rather than a linear occupational route.

Strong leadership, a supportive culture and effective collaboration are key enablers of innovation. Approaches such as agile working, semi-autonomous teams, and partnerships with universities, Catapult centres, industry clusters and other businesses can all help to sustain innovation over time.

Overall, the study reinforces that innovation is a shared capability shaped by people, leadership and culture, as well as technology. Improving the visibility of innovation roles is essential for effective policymaking, workforce planning, skills development and collaboration between employers and education providers.



Understanding the innovation workforce

There is growing recognition that innovation is enabled by a wide range of occupational profiles. Studies of innovation-intensive businesses highlight the contribution of roles such as software developers, data scientists and product managers alongside more traditional R&D occupations¹. At the same time, there is evidence that commercial, marketing, customer insight and operational functions play a critical part in shaping innovation strategies and outcomes, underscoring that innovation extends beyond purely technical work². However, many of these roles, particularly those in commercialisation, design and data-driven functions, fall outside conventional R&D definitions and are not well captured within standard occupational classifications, limiting understanding of the full innovation workforce.

In addition, innovation roles are often 'hidden' within broader job functions or embedded in multidisciplinary teams, particularly in SMEs. Interviews with private sector innovation leaders indicate that innovation activity is typically distributed across a wide range of functions rather than concentrated within formal R&D units. In many businesses, innovation capability emerges through collaboration between roles that combine technical expertise, leadership, data insight, creative design and customer engagement. This dispersion reduces the visibility of innovation roles and obscures how they contribute to innovation, and how innovation activity is organised within businesses. As a result, both employers and policymakers face challenges in identifying capability gaps and targeting effective improvements.

¹ Innovate UK, CBI Economics. (2023). Understanding skills needs in R&D-intensive businesses.

² Nesta (2014). Innovation Population: The UK's Views on Innovation. <https://www.nesta.org.uk/report/innovation-population/>

A new framework for innovation roles

To provide a clearer picture of the innovation workforce, a framework has been created to define and categorise the roles that support innovation across the private sector. The framework draws on data and evidence from several complementary sources. Web-based employment data was integrated with analysis from Lightcast's labour market platform to identify roles associated with innovation-related skills. These skills were mapped against the [Innovation Skills Framework](#), co-developed by the Innovation & Research Caucus and Innovate UK, to ensure consistency with emerging national definitions of innovation capability.

The resulting framework – refined through stakeholder consultation – groups innovation roles into seven main categories: Innovation Leadership, Innovation Strategy & Insight, Product & Service Innovation, Commercialisation & Growth, Process Innovation, Design, and Entry & Emerging Roles. Each category includes sub-roles, from senior leadership positions, such as Chief Innovation Officer and Chief Technology Officer, to early-career roles, such as Innovation Intern. The structure aims to reflect how innovation is delivered in practice, highlighting the range of technical, creative and commercial expertise across the private sector workforce.

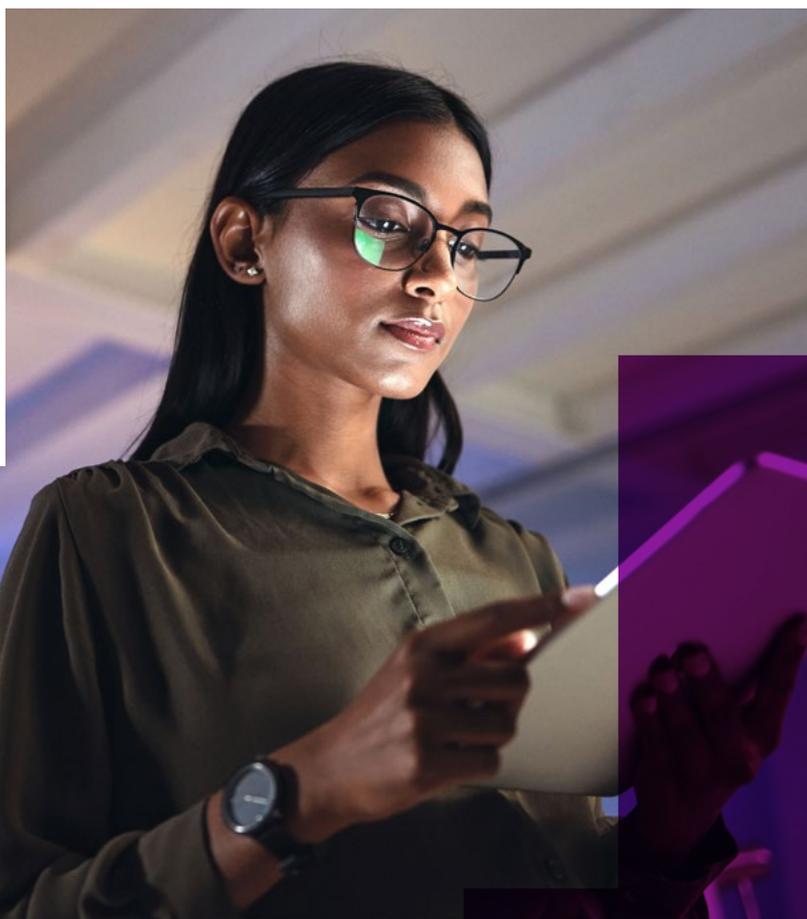


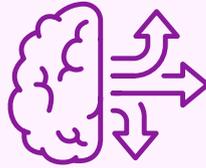
Figure 1 – Private Sector Innovation Roles Framework

Source: Perspective Economics, 2025



Innovation Leadership

- Chief Innovation Officer
- Chief Technology Officer
- Commercial Director
- Director / Head of Innovation
- Head of Strategy
- Innovation Lead / Manager



Innovation Strategy & Insight

- Innovation Analyst
- Innovation Strategist
- Innovation Consultant
- Innovation Architect
- Innovation Advisor
- Data Scientist



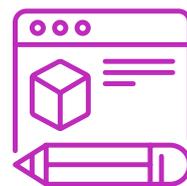
Commercialisation & Growth

- Innovation Engagement Officer
- Business Development Lead / Manager
- Brand Manager
- Marketing Lead / Head of Marketing



Product & Service Innovation

- Product Developer
- Product Innovation Manager
- Application Engineer
- Software Engineer
- Mechanical Engineer



Design

- Design Consultants
- Product Design
- Service Designer
- Design Lead

Process Innovation

- Change Agent
- Innovation Coordinator
- Technician
- Implementation Engineer
- Process / Process Development Engineer



Entry & Emerging Roles

- Innovation Intern
- Innovation Associate



The framework is intended to be a practical tool for stakeholders to understand the composition of the innovation workforce, identify where capability is strong or limited, and target support or interventions more effectively. It also provides a basis for evaluating provision, mapping gaps and comparing workforce structures across sectors and regions.

To explore the real-world applicability of the framework, the study conducted a survey of 66 businesses, capturing how they describe innovation roles and where innovation activity sits, along with the skills and functions involved. Respondents listed the main roles contributing to innovation, providing a bottom-up view rather than relying on predefined categories. Mapping these self-reported roles to the framework confirmed broad alignment, with minor discrepancies in design and entry-level roles likely to reflect sample composition rather than the wider workforce.

Quantitative analysis of around 11,000 web-based employment profiles further reinforces the framework. Roles in innovation leadership, commercialisation and strategy dominate the workforce, while fewer employees occupy roles in process innovation, product and service innovation, design or entry-level positions. The distribution also varies by business maturity: start-ups and venture-stage¹ companies concentrate on leadership roles, reflecting smaller, leadership-heavy teams, while established businesses have a greater share of process and product innovation roles, consistent with their capacity to formalise these functions.

¹ Venture-stage companies have developed their business models and technology over multiple years, typically securing investment and a valuation in the millions. They'll likely have some revenue, and may be expanding their initial product range. Venture rounds typically involve private equity and VC funds, although may tap into crowdfunding too.

Figure 2 - Proportion of innovation workforce roles that sit within each of the higher-level roles categories in start-up, venture, and established firms.

Roles category	Start-Up	Venture	Established
Entry & Emerging Roles	2.9% (n=13)	2.6% (n=29)	2.4% (n=135)
Design	7.5% (n=33)	8.2% (n=92)	7.9% (n=435)
Commercialisation & Growth	23.1% (n=102)	21.1% (n=236)	21.6% (n=1,194)
Process Innovation	4.8% (n=21)	5.6% (n=63)	10.3% (n=571)
Product & Service Innovation	9.3% (n=41)	8.3% (n=93)	10.1% (n=557)
Innovation Strategy & Insight	15.2% (n=67)	15.6% (n=175)	16.1% (n=889)
Innovation Leadership	37.3% (n=165)	38.5% (n=431)	31.6% (n=1,744)

Source: Perspective Economics, 2025. n=~7,000 profiles matched to companies.

What do workforce dynamics tell us?

Embedding innovation within business teams

Innovation roles in the private sector are often fluid and dynamic, rather than confined to formal R&D units. Interviews highlighted that these roles are often structured in informal ways, reflecting broader challenges in defining the innovation workforce. Across many businesses, innovation activity cuts across teams, functions and organisational hierarchies, rather than sitting within a distinct occupational category.

Quantitative evidence reinforces this pattern. Analysis of approximately 11,000 employment profiles shows that 86% of innovation-related roles are 'implicit' innovation roles, 11% are R&D roles, and just 3% are 'explicit' innovation roles, where innovation appears in the job title or as a core function.

Business size plays an important part in how innovation is structured. Survey findings show that larger businesses are significantly more likely to have dedicated innovation functions (71%) than SMEs (44%), and they tend to institutionalise innovation through formal teams, structured recruitment and visible career pipelines. In contrast, SMEs are more likely to embed innovation within organisational culture, with individuals often holding multiple innovation-related responsibilities. This pattern aligns with previous research indicating that business size strongly influences workforce capacity, with larger businesses benefiting from more resources, formal R&D departments and greater visibility in competitive labour markets¹.

¹ Innovate UK, CBI Economics. (2023). Understanding skills needs in R&D-intensive businesses.; Innovation & Research Caucus, ESRC and Innovate UK. (2024). Innovation State of the Nation Survey. <https://www.enterpriseresearch.ac.uk/innovation-state-of-the-nation-survey/>



“In small companies, everyone has to be innovative; innovation comes from the culture.”

Private Sector Innovation Lead

Where recruitment and progression fall short

Recruitment practices further illustrate the ambiguity around the way businesses structure and embed innovation within their teams. During the interviews, few businesses discussed advertising explicitly for innovation roles. Instead they look for people with creative, analytical and problem-solving capabilities, often framed within technical or managerial job descriptions. Innovation capability is implied through attributes and an individual's character rather than within roles. In start-ups and smaller businesses this more implicit approach is particularly common and employees are expected to perform a range of innovation-related functions, from idea generation to commercialisation, without having any formal distinction in their roles.

Interviewees described careers characterised by movement between technical, research and commercial domains, suggesting that innovation often develops through exposure to multiple disciplines rather than a linear occupational route. Early-career staff often take on significant innovation responsibilities, benefiting from flatter hierarchies and less rigid role definitions. However, progression can be challenging as conventional promotion frameworks often reward measurable outputs and risk-averse behaviours rather than experimentation or creative problem-solving.

In the survey, 40% of respondents reported that there was no formal career path or progression route for innovation roles within their business.

For some businesses, the term 'innovation' carried negative or unclear connotations associated with short-term projects or initiatives rather than core business activity. Several interviewees noted that employees contributing directly to new products, processes or services did not necessarily view themselves as innovators, particularly when innovation was framed narrowly around R&D or technology. This reflects a broader definitional challenge: while innovation capability may be widespread, its visibility is often limited by language, organisational framing, and measurement practices.

40% of survey respondents reported no formal career path or progression route for innovation roles.





Breaking down the barriers

Skills gaps and recruitment challenges are significant barriers to innovation. Employers across all sectors and business sizes struggle to recruit people with the right mix of technical expertise, creativity and practical experience. While graduate recruitment is relatively strong, shortages are most acute at mid-career level where applied innovation, project delivery and cross-functional skills are essential. Interviewees described a 'missing middle' with too few people able to lead projects through to commercialisation. Larger businesses can partly address this through internal training and progression, while fewer resources in SMEs means greater difficulty retaining staff.

Survey findings show widespread under-resourcing across the innovation workforce. While innovation leadership roles were most often adequately resourced (69%), functions such as product and service innovation, process innovation, design and commercialisation were frequently under-resourced. Strategy and insight roles were most affected, and early-career roles were often absent or poorly defined, limiting long-term capability building. Smaller businesses face the greatest pressure, often relying on a small number of staff to cover multiple innovation responsibilities.

At an organisational level, barriers to innovation tend to be structural and cultural. In larger businesses, survey participants described governance and performance systems that prioritise short-term delivery over experimentation, with rigid milestones and accountability mechanisms that limit scope for higher-risk activity. For smaller businesses, constraints are more often related to financial and wider resourcing constraints. Many smaller businesses in the private sector operate with limited capacity, which means innovation activity competes with day-to-day operational pressures.

"It's a cultural thing. If senior managers are in innovation, they may understand this better, but without that it can make it quite hard to articulate... How do you quantify innovation outputs when there is a high chance of failure...?"

Private Sector
Innovation Lead

Ways to build innovation capacity

Interviews highlighted several factors that enable sustained innovation. Leadership emerged as critical: in businesses where senior teams actively champion innovation, allocate resources and create space for experimentation, innovation is integrated into strategy more effectively. Culture and communication are equally important, as open dialogue, cross-functional collaboration and tolerance for failure help to translate ideas into outcomes. In many businesses, innovation is embedded in their identity rather than confined to a single team.

“Flexibility and being able to share ideas and work with each other, having respect and empathy for people’s ideas and risk taking – these act as safeguards for innovation.”

Innovation Partner

Agile, semi-autonomous teams, often modelled on the skunkworks approach¹, allow small groups to explore ideas with autonomy and minimal oversight. This approach, used historically at Lockheed Martin and adapted by businesses like BT, helps to overcome bureaucracy, protect innovation time and accelerate outcomes.

¹ In this model a small, dedicated group is given explicit autonomy, relatively loose oversight and the freedom to explore novel ideas without the constraints of standard operating processes.

External partnerships are equally important. Collaborations with Catapult centres, research businesses and industry clusters provide access to expertise, equipment and networks. These connections are especially valuable to SMEs, helping to overcome scale and resource constraints.

Survey data reflects this, with partnerships and collaborations among the most frequently selected enablers of innovation in the past year, alongside leadership support and access to skilled staff. When respondents were asked to rank potential improvements to innovation capability, ‘support to recruit and retain innovation talent’ emerged as the highest priority overall, especially among manufacturing firms, while technology businesses placed the greatest emphasis on ‘better access to collaboration opportunities with research businesses and industry peers’. Stronger innovation leadership and organisational culture also ranked highly across most sectors, reinforcing the importance of vision and empowerment identified in interviews².

Overall, evidence suggests that building private sector innovation capacity relies less on formal functions and more on environments that enable skilled, creative people to work across boundaries, collaborate effectively and act on ideas. Businesses investing in leadership, culture and collaboration demonstrate greater resilience and sustained innovation performance.

² Survey respondents were asked ‘What would most improve your business’ ability to innovate? Please rank in order of significance’. Options: a) Support to recruit and retain innovation talent; b) Better graduate awareness of innovation as a career path; c) Better awareness of/ access to collaboration opportunities, d) A more supportive regulatory environment; e) Stronger innovation leadership and organisational culture; f) Greater availability of innovation-specific workforce training/professional development.



How do businesses maintain momentum?

Sustaining innovation depends on a combination of organisational, workforce, and systemic factors. Larger firms typically support innovation through formal structures, internal R&D functions, and more stable funding. SMEs, by contrast, often innovate in cycles shaped by specific projects or client demand. While this flexibility can be a strength, it can also limit the long-term embedding of innovation when resources are constrained.

Interviews showed that innovation activity frequently fluctuates with market conditions and resourcing pressures, rather than operating as a permanent organisational function. In many firms, innovation depended on a small number of individuals, such as founders, senior leaders, or technical specialists, whose motivation and networks helped sustain momentum. Firms that embedded innovation more successfully tended to focus on long-term capability building, supported by strong leadership and organisational culture.

Leadership and culture emerged as central to sustaining innovation. Where senior teams set clear expectations, encourage experimentation, and promote openness, collaboration, and tolerance for failure, innovation activity was more consistent and productive. Interviewees often noted that culture change, rather than structural reform, was the most effective lever. This was reinforced through cross-functional working, protected time for idea generation, and recognition of innovation contributions.

Approaches to sustaining innovation vary by firm size. Larger businesses tend to invest in structured talent pipelines, internal R&D, and partnerships with universities or Catapult centres. SMEs rely more on flexible resourcing and external collaboration, with partnerships providing access to expertise and facilities they could not otherwise maintain. Strong external networks and internal knowledge sharing further support sustained innovation.

Overall, innovation is most resilient when it is integrated into everyday operations and supported by leadership, embedded learning, and collaborative networks, even in the face of financial or structural constraints.

What our findings mean for businesses, policymakers and skills bodies

This study provides new insight into the composition, characteristics and dynamics of the UK's private sector innovation workforce. The evidence shows that innovation activity extends beyond formal R&D functions and is delivered through a broad mix of technical, creative and commercial roles.

For businesses, the evidence reinforces that innovation is a collective capability embedded across teams rather than confined to specialist units. Strengthening innovation capacity therefore requires investment in people and culture as much as in technology. There is scope for recognising and developing innovation-related skills, creating opportunities to collaborate across disciplines and functions, and building clearer career pathways to support progression.

For policymakers and skills bodies, improving the visibility and classification of innovation roles will be essential to understanding and supporting the workforce. Policy interventions should prioritise addressing mid-career and technician-level skills gaps, expanding regional training provision, and supporting SMEs to access the talent and skills programmes needed to build innovation capacity. Strengthening connections between employers, education providers and research institutions can help ensure that training systems are better aligned with industry needs, while promoting regional balance and inclusion within the innovation workforce.



Study methodology

The quantitative work examined the size, composition and characteristics of innovation roles across the private sector. Web-based labour market data from the Lightcast platform was analysed, including job postings and anonymised worker profiles, using a bespoke framework developed for this study. This framework enabled detailed insights into the types of roles involved in innovation, their seniority and skill profiles, and their prevalence across sectors.

Around 11,000 worker profiles were analysed from a broader population of roughly 100,000 potential innovation roles. Business-level information, including size, age and sector, was added using secondary sources, helping to identify patterns in how innovation roles are distributed across different types of business.

Qualitative research added depth and context, exploring how innovation is structured and supported within businesses. An online survey of 66 businesses captured how innovation is embedded in roles, along with skills gaps and recruitment challenges. This was complemented by 17 in-depth interviews with innovation leaders and workforce specialists across a range of sectors, regions and business sizes, examining pathways into innovation roles and factors that sustain innovation. Six detailed case studies illustrated real-world practices in businesses of varying sizes, maturity and sectors.



Quantitative and qualitative findings were combined to identify workforce patterns, role profiles, skills requirements, and barriers affecting innovation. Emerging insights were reviewed in a validation workshop with Innovate UK.

Study limitations include incomplete capture of innovation roles in existing datasets and potential self-selection bias in survey and interview participation. These were addressed by using multiple data sources and expert validation to ensure a comprehensive and reliable view of the innovation workforce.

The full technical report by Perspective Economics is available on request from Innovate UK.



About Perspective Economics

Perspective Economics provides strategy, economics, and policy research and advice to public and private sector clients. We use modern methods and machine-driven analytics to gather and interpret evidence; providing insight and clarity on important economic, social and global issues.

About Innovate UK

Innovate UK drives productivity and economic growth by supporting businesses to develop and realise the potential of new ideas. We connect businesses to the partners, customers and investors who can help them turn ideas into commercially successful products and services and business growth. We fund business and research collaborations to accelerate innovation and drive investment in R&D. Our support is available to businesses across all economic sectors, value chains and UK regions. Innovate UK is part of UKRI. For more information, visit ukri.org/councils/innovate-uk.

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