LEARNING AND WORK INSTITUTE

Training and skills needs: Trends and challenges in UK growth sectors

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February 2026

Learning and Work Institute
Patron: HRH The Princess Royal | Chief Executive: Stephen Evans
A company limited by guarantee, registered in England and Wales
Registration No. 2603322 Registered Charity No. 1002775
Registered office: Unit 1.23, St Martin's House, 7 Peacock Lane, Leicester, LE1 5PZ

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Published by National Learning and Work Institute

Unit 1.23, St Martins House, 7 Peacock Lane, Leicester, LE1 5PZ UK

Company registration no. 2603322 | Charity registration no. 1002775

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Executive Summary

With support from the Nuffield Foundation, L&W and the Universities of Strathclyde and Ulster are working together to explore how UK employers make decisions about training, and how employees are responding to the need to upskill and retrain in a transitioning economy. This is a multi-year project, due to be completed in May 2026. The backdrop is that employer investment in training will be increasingly important to help people and employers make the most of change given longer working lives and a changing economy; but employers are investing 29% less in real terms per employee on training than in 2011.

To understand key growth sectors in the UK where there is significant need for retraining and upskilling, the research is focused on financial and business services; creative, digital and design; clean technologies; and information and communications. These industries are strategically significant for productivity and competitiveness, and their evolving skill needs are a critical test of whether the UK's workforce system can adapt to structural change.

This report, the second in a series of publications for this project, presents the results of the data analysis strand. It explores the level of estimated skills needs in UK businesses, alongside the level and type of training that employers provide.

The analysis combines domestic labour market microdata with international survey evidence and job postings data to provide a comprehensive picture of training activity and skills demand. Findings are based on secondary analysis of the following datasets: Employer Skills Survey (ESS); Labour Force Survey; OECD 2023 Survey of Adult Skills (PIAAC); Lightcast job postings data.

What is employers' skills demand?

The UK labour market has cooled steadily in recent years, but there has been continued employment growth in key sectors. Over the past five years, an additional 0.3 million jobs have been added to the labour market in the four sectors examined in this research. Across these sectors, a consistent picture emerges: the fastest growing parts of the UK labour market are defined by digitalisation, decarbonisation, cultural production and financial services.

Each of the four sectors is marked by demand for higher level qualifications, technical depth and sector specific expertise. At the same time, essential employment skills remain broadly required, supporting employers' and workers' adaptability and resilience to respond to changes in technologies and business models. Workers who combine technical depth alongside strong interpersonal skills are increasingly in-demand. There is also a need for adaptability, with job postings data showing ongoing change in the skills asked for in job adverts for many occupations.

Employers view most of their existing employees to be proficient in their roles; in 2024, only one in every 25 employees was not considered to have all of the skills required for their job. Skills gaps across the four sectors are largely in line with the wider economy, deviating by roughly one percentage point from the economy-average. This suggests a general lack of demand for upskilling of existing staff. However, there are some notable pinch points in terms of specific roles and geographical areas. For example, in 2022 27% of employees in the creative and cultural sector in Yorkshire and the Humber were considered to be not fully proficient, compared to 5% nationally. In addition, many employers struggle to recruit staff due to a lack of skills, qualifications or experience. This is particularly acute in certain sectors; in 2022, this applied to just over a third of vacancies (36%) nationally but almost half of vacancies in clean technologies (47%) and information and communications (46%).

Of course, not all skills gaps are bad. They may result from business growth or the development of new products, a sign of 'growing pains'. However, the data show that only one fifth of employers highlight a 'positive' reason for skills gaps, a level that has remained broadly consistent since 2015.

How much training do employers provide?

Employer investment in training has substantially declined; analysis of the 2024 ESS shows it has fallen in real terms by 13% per employee since 2022, and 29% since 2011. However, this decline has generally been associated with a lower quantity of training per person, with the number of training days per trainee having fallen by 27% over this period, rather than reduced access to it. Access to training – both across the four sectors and the wider economy - is typically wide but shallow, with relatively few days training per employee, and has been steadily getting shallower over time. Employees at larger firms are more likely to receive training than those in smaller organisations – and this is consistent across sectors and internationally. For example, 95% of UK employers with 100 or more staff arranged training in the previous year, compared to 44% of those with two to four employees. However, where small employers do provide training it tends to be more intense; on average, each trainee at an employer with two to four staff will spend 8.2 days training per year – almost double the 4.5 days spent at employers with 100 or more staff.

There is some variation in our sectors of focus, highlighting differences in approach and access to training between sectors. In 2022, employers in finance and business services (67%) and clean technologies (65%) were more likely to provide training than the economy average (60% in 2022). In contrast, creative and cultural employers were substantially less likely to provide training (52%). Employers in information and communications (59%) were broadly in line with the economy average. There were also particularly large geographical variation within sectors in terms of access to training. For example, only 45% of information and communications businesses in the East Midlands provided training compared to 73% in the North East.

The findings suggest that training is more expensive in the four growth sectors, with a higher cost per training day for each compared to the wider economy. The highest training cost is for clean technologies, at £1,352 per day (in 2022 prices); this is more than two and a half times the costs for the whole economy (£496). Costs are also high in finance and business services (£936), information and communications (£784) and creative and cultural (£660). This may impact the amount of training provided within these sectors, with our analysis showing that all but information and communications have fewer training days per employee than the economy average, despite each sector spending more per employee on training.

Who has access to training

When training does occur, there are large inequalities in who has access to it. In particular, employees who already have higher qualification levels are substantially more likely to receive training than their lower qualified peers. For example, analysis of OECD's 2023 Survey of Adult Skills (PIAAC) data shows that employees with qualifications at level 4 and above are twice as likely to receive training as those with level 2 qualifications (68% vs 34%). Our findings show that this is true both in the UK and internationally, and reinforces existing divides whereby those who already start with higher prior attainment continue to build skills and those with lower prior attainment least likely to access it.

Training is also concentrated among those who work in larger firms and workers in regulated professions. Workers in industries associated with low pay and routine occupations are the least likely to receive training at work. For example, 66% of employees in professional and associate professional occupations received training in 2022, compared to 46% of process and machine operatives. There is also a particular gap in training for people in management occupations: managers and directors are consistently the least likely to receive training (44% in 2022), despite high levels of skills gaps.

What training is provided

Compared to other countries, the UK has a high volume of short duration training. Although a relatively high proportion of employees receive training, training intensity is highly uneven. More than half of UK training episodes last a single day or less, which, at 58%, is the highest proportion in the OECD. This compares with an OECD average of 44%.

A 'little and often' approach for training may be good for employee productivity, but training in the UK has a large focus on mandatory and compliance training. For example, nearly one in five (19%) UK employees report security and health and safety as the primary focus of their training (the largest single category). In contrast, training in areas such as advanced digital skills or project management remains smaller in scale than in many comparator countries. For example, project management is the primary

focus of training for 6% of UK employees, compared to 8% in the USA, 10% in Singapore and 13% in Japan. The concentration of short, compliance-driven training may be necessary to teach people ways of working in an organisation and support health and safety, but less emphasis is placed on developmental learning that can build transferable skills for future progression. Data also shows that training participation declines beyond the first months of employment, with 34% of people employed for under six months receive training compared to 24% of those employed for more than five years. This suggests that after a period of induction training, many workers lack access to ongoing development once they have settled into their role. This pattern of training be a limitation of the way the UK's labour market flexibility operates– while it supports high employment, it may disincentivise the development of portable, long-term capabilities.

Where it does occur, four fifths of employees (79%) say that training is useful for their role, although motivations often reflect obligation rather than career advancement. For example, 24% of UK employees say that they did training because they were obliged to, compared to 21% who do it to better carry out work tasks and 19% to improve job or career opportunities. Younger employees and those with lower-level qualifications are the most likely to find training to be useful; older age groups also generally find it useful, but for different reasons.

Conclusion

The findings demonstrate the variable nature of skills needs and training across the UK workforce. There is ongoing change in the skills required for some occupations, and an increasing demand across the economy for workers who combine technical depth alongside strong interpersonal skills. Employers consider existing employees to have relatively few skills gaps, but at the same time frequently struggle to recruit individuals with the right skills and experience.

Although training is provided by most employers, it is often of a short duration and frequently focused on mandatory and compliance training. Access to training is also uneven – with rates of training varying across occupation and employer size, and being more common among employees with higher existing qualifications. This underscores the need for action to ensure not only that the trend in the decline in investment in training is reversed, but to also address the variation in rates of training between employees. Doing so will help to ensure the potential benefits of retraining and upskilling – to individuals, firms, and the economy more broadly – are maximised.

Introduction

Shifts in the UK economy, including advances in technology and the transition to net zero, are impacting job types and skills demand. Employer investment in skills can enable businesses to adapt to changing circumstances and boost productivity. Yet, UK employer investment in training has fallen by 29% in real terms per employee since 2011.[1]

With support from the Nuffield Foundation, L&W and the Universities of Strathclyde and Ulster are working together to explore how UK employers make decisions about training, and how employees are responding to the need to upskill and retrain in a transitioning economy. This is a multi-year project, due to be completed in May 2026.

To understand key growth sectors in the UK where there is significant need for retraining or upskilling, the research is focused on financial and business services; creative, digital and design; clean technologies; and information and communications. These industries are strategically significant for productivity and growth, and are included within the growth-driving sectors identified within the UK Industrial Strategy.[2] Their evolving skill needs are a critical test of whether the UK's workforce system can adapt to structural change.

The research is taking a mixed-method approach, drawing together insights from several strands of work, including: a review of existing literature; qualitative fieldwork with policy experts, employers, providers and employees; analysis of Employer Skills Survey (ESS) and wider labour market data; and a review of international approaches to training and upskilling.

This report, the second in a series of publications for this project, presents findings from the data analysis strand.

Aims

The aim of this report is to explore the level of skills needs in UK businesses, alongside the level and type of training that employers provide. It has a particular focus on the four growth sectors (outlined above), with consideration of the wider UK economy where relevant. It considers:

- Employers' skills demand, including skills gaps and shortages and the types of skills employers require.
- The level of training provided by employers, with differences by employer characteristic and location.

[1] UK Government, 2024, Employer Skills Survey.
[2] DBT, 2025. Industrial Strategy Sector Definitions List.

- Who has access to training, and how this varies by employee characteristics.
- The type of training provided by employers.
- How the UK compares internationally in training provision.

Methods

The analysis combines UK labour market microdata with international survey evidence and job postings data to provide a comprehensive picture of training activity and skills demand.

Findings are based on secondary analysis of the following datasets:

- **Employer Skills Survey (ESS)**. This includes analysis of published data from the 2024 survey alongside detailed analysis of firm-level data from the 2015-2022 surveys[3]. Analysis focuses on skills gaps, skills shortage vacancies and training provision. It should be noted that the 2019 survey does not include data from Scotland.
- **Labour Force Survey (LFS)**. This includes analysis of LFS microdata, examining both socio-economic characteristics of the workforce and job type characteristics such as contract status, working hours, firm size and tenure.[4] Comparative data on training participation were drawn from Eurostat, enabling benchmarking of the UK against other European economies.
- **OECD's 2023 Survey of Adult Skills (PIAAC)**. This includes analysis of microdata to explore differences in training rates across employees with different socio-economic backgrounds, as well as variation by firm characteristics and the UK's position against international comparators. It should be noted that the latest data is available for England only, but we have considered this as representative of UK data for ease of comparison.
- **Lightcast job postings data**.[5] Job postings data was used to assess employer demand. Lightcast enables the identification of top roles in demand within each sector and the key skills and competencies highlighted in recruitment adverts. Analysis of these postings provided a complementary perspective on the changing profile of skills demand, and offered a forward-looking indicator of the skills most valued by employers

As described in the previous section, the analysis focuses on four sectors that are important for future growth: Information and Communications, Clean Technologies, Creative and Cultural Industries, and Financial and Business Services (see Box 1). For

[3] Firm-level data was accessed through the ONS Secure Research Service.
[4] A review of job-to-job moves within the sectors of focus was also conducted using the LFS. However, small sample sizes limited the robustness of these findings and the results are therefore not presented in this paper.
[5] Lightcast is a labour market analytics company that collects and curates millions of online job adverts globally.

the majority of the analysis, sectors were defined by Standard Industrial Classification (SIC) codes. It should be noted that findings for clean technologies should be treated only as indicative, due to the difficulty in defining this sector.[6] The exception is analysis of Lightcast vacancy data, where clean technology vacancies were identified through job title.

ONS disclaimer: This work was undertaken in the Office for National Statistics Secure Research Service using data from ONS and other owners and does not imply the endorsement of the ONS or other data owners.

Box 1: Four sectors of focus

Information and Communications

Includes occupations focused on developing, managing, and supporting digital technologies and communication systems. This spans sectors such as software publishing, telecommunications, IT services, data hosting, and computer repair.

- Total jobs (2024): 1.19 million
- Job growth (2019-2024): +9.5%

Clean technologies

Includes occupations focused on developing, manufacturing or implementing low carbon or green technology. This includes subsectors such as manufacturing and power generation.

- Total jobs (2024): 1.08 million
- Job growth (2019-2024): -2%

Creative and cultural industries

Includes occupations focused on creating, producing, and promoting cultural and creative content. This spans roles in publishing, film and TV, music, advertising, PR, architecture, design, performing arts, and other artistic activities.

- Total jobs (2024): 0.75 million
- Job growth (2019-2024): +7%

Financial and business services

Includes occupations providing financial, legal, and business expertise, such as banking, insurance, investment, accounting, consulting, research, and market analysis.

- Total jobs (2024): 3.18 million
- Job growth (2019-2024): +5.2%

[6] SIC codes are insufficiently detailed to isolate employers who work solely in clean technology. Therefore, a broad definition was used to cover employers who work in areas that include clean technology such as 'electric power generation, transmission and distribution' and 'manufacture of batteries and accumulators'. This will therefore include some employers who do not work in clean technology, but have a similar workforce and skills needs.

What is employers' skills demand?

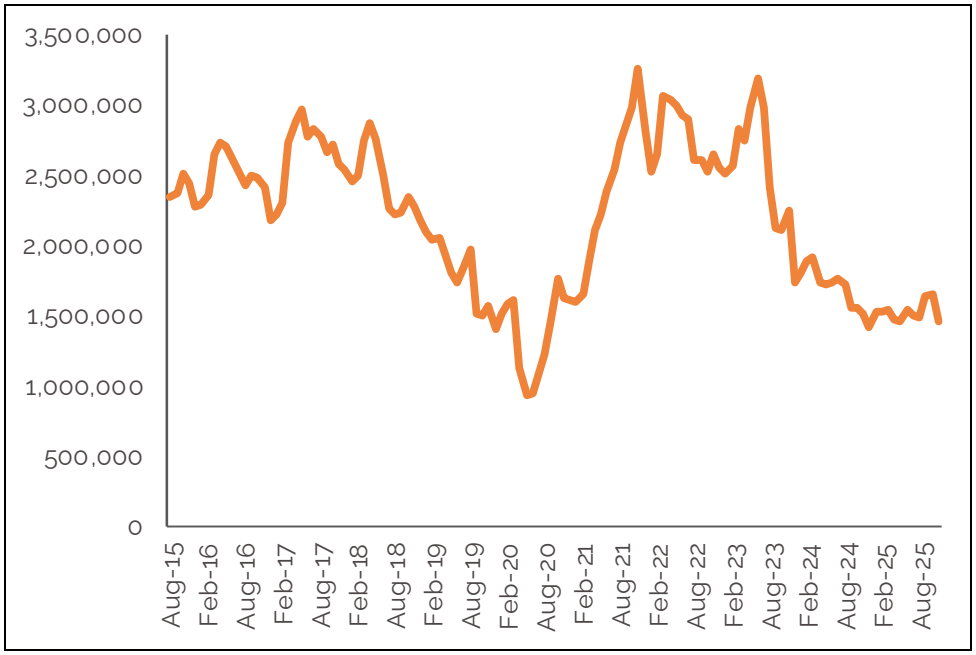
The UK labour market continues to cool, but employment has grown in key sectors

The UK labour market has cooled steadily in recent years, and this is visible across multiple labour market indicators. ONS data show that vacancies fell by 9% in the year to October-December and now sit around 10% below pre-pandemic levels.[7] Vacancy levels have remained broadly flat for the last six rolling quarters, following **39 consecutive periods of decline, with most industries recording reductions**.

These demand side signals are consistent with employment being relatively flat or falling. PAYE Real Time Information (RTI) indicated that payrolled employments in November 2025 were the lowest recorded since September 2023. The UK ILO unemployment rate stood at 5.2% in October 2025, the highest rate recorded since December 2020.

Job postings indicators corroborate this softening. Data from Lightcast highlights that **by late Autumn 2025 postings were around half the level recorded in the mid-2022 post-pandemic peak** (see Figure 1), and lower than the levels typically recorded in the five years prior to the pandemic. Overall, this data points to employers' slower replacement hiring and caution in new recruitment within a more uncertain macroeconomic climate compared to the post-pandemic peaks.

Figure 1: Monthly UK job postings, August 2015 - July 2025



Note: Analysis of Lightcast data

[7] ONS, 2026, Vacancies and jobs in the UK: January 2026.

Over the past five years the four growth sectors have collectively added an additional 0.3m jobs to the UK labour market.

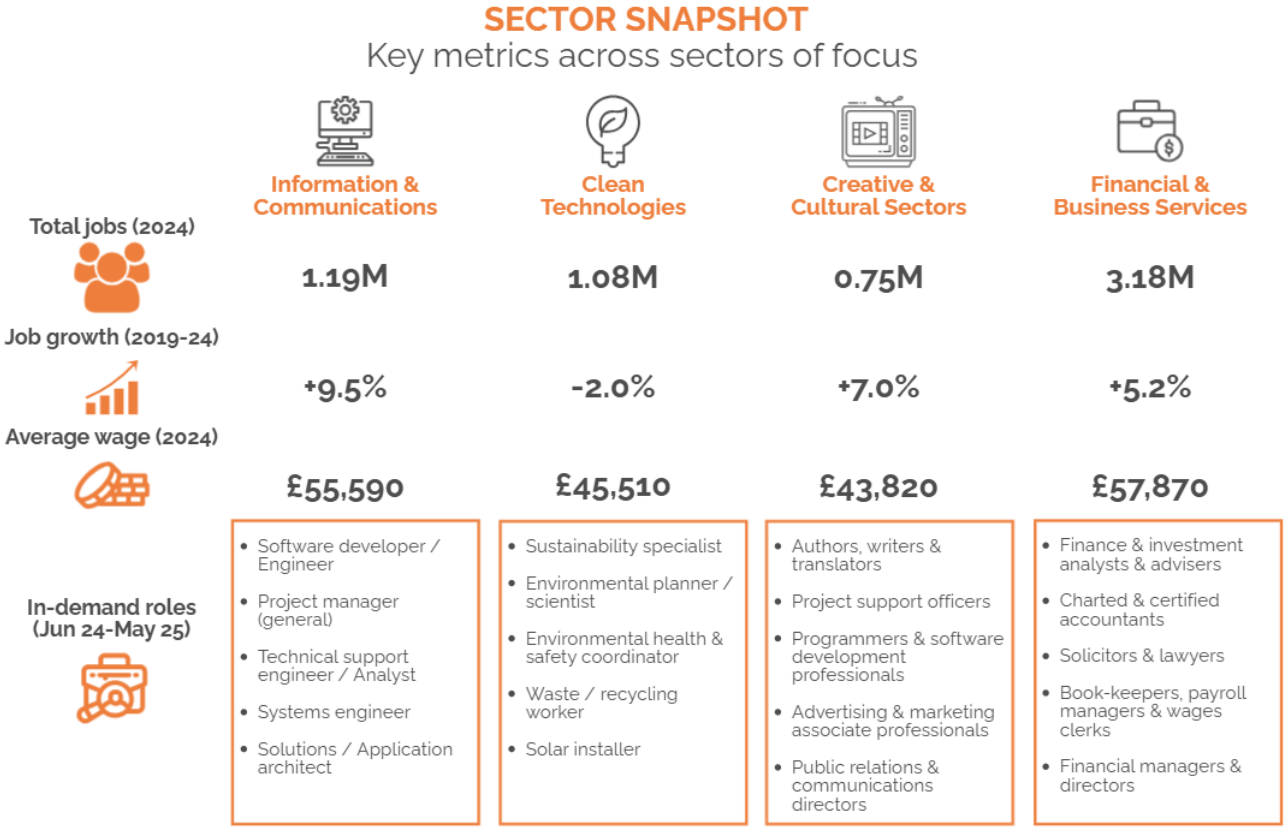
Figure 2 highlights the scale and direction of growth across our sectors of focus. Over the 2019-24 period job growth in information and communication (9.5%) and the creative and cultural (7.0%) sectors **has outpaced the wider labour market** (5.5%)**.** As the largest of the growth sectors financial and business services created the largest number of jobs in absolute terms, but its growth rate (5.2%) slightly lagged overall employment growth. Clean technologies recorded a small fall in employment (-2.0%); however, this should be treated with caution due to the broad sector definition (see methods).

This snapshot illustrates how the growth sectors are expanding and evolving. ICT continues to grow as firms seek advanced digital capabilities, with skills in cloud computing, cybersecurity, software development and data analytics shaping recruitment. Clean Technologies stand out for their link to the net zero transition, with demand reflecting the transition to renewable energy systems, and increasing need for sustainability specialists.

The Creative and Cultural industries show steady growth, with digital content creation, design, animation and social media strategy at the forefront of employer needs. Financial and Business Services remain the largest of the four, with strong requirements in financial analysis, risk management and regulatory compliance.

These sectors demonstrate how growth is being led by industries intensive in digital, green and knowledge-based activities, with demand increasingly concentrated in higher skilled, higher wage occupations.

Figure 2: Sector snapshot of the four sectors of focus



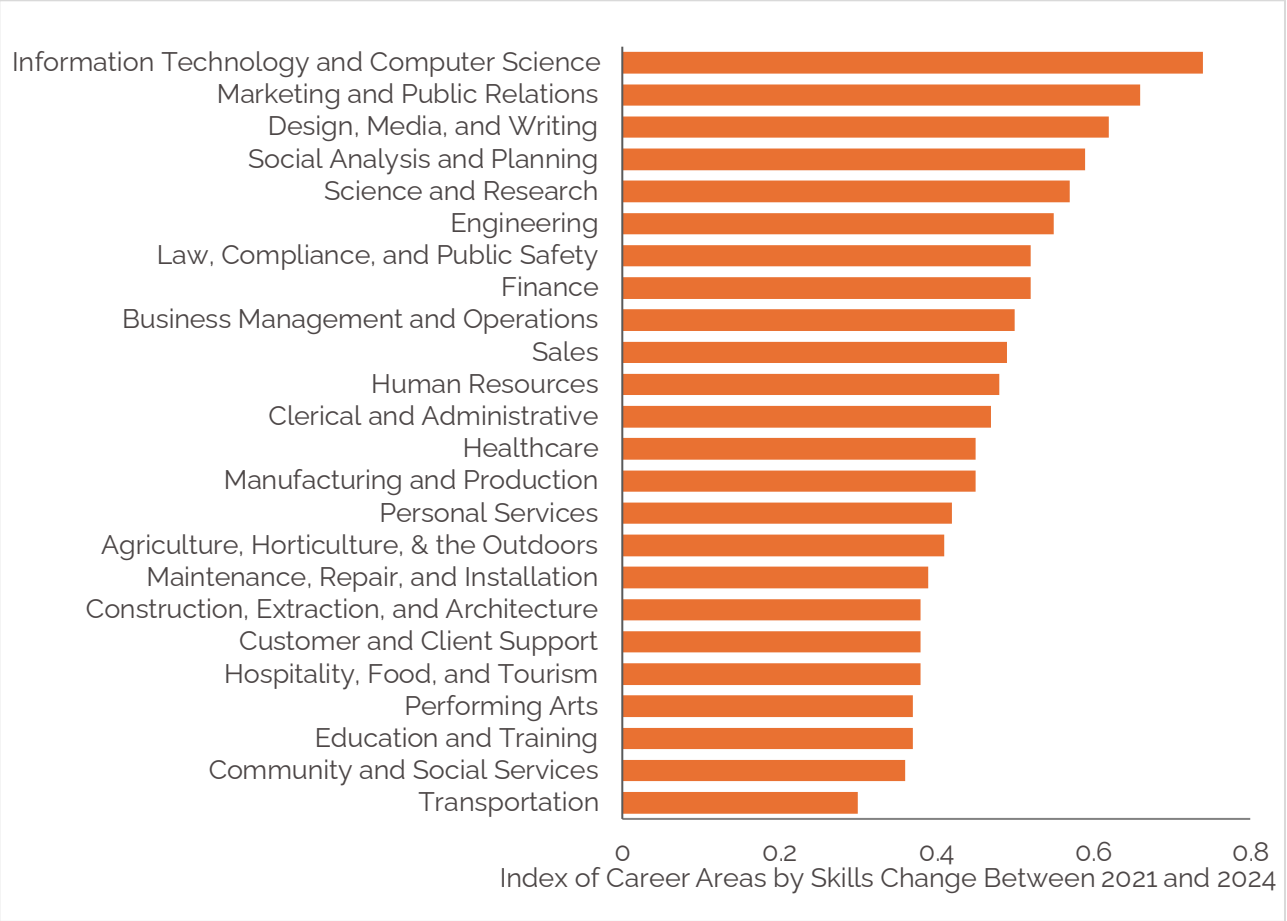
Note: Lightcast and ONS data. Findings for clean technologies should be treated only as indicative, due to the difficulty in defining this sector.

There has been a substantial shift in skills demand for some occupations

Analysis by Lightcast of job postings data shows a **substantial shift in the profile of skills demand** within many occupations across the economy between 2021 and 2024 (see Figure 3).[8] The largest shifts have been within information technology and computer science occupations. This is followed by marketing and public relations (a cross-sectoral occupation) and design, media and writing (relevant to the creative and cultural sector). Areas with the most stable profiles include transportation, community and social services, education and training and performing arts.

[8] Lightcast job posting data enables the development of a skills disruption index based on the skills requested for every occupation on the market. By comparing the skills requested in 2024 to those requested in 2021, it is possible to calculate the rate of change, showing both how the job has changed and also identifying whether a given skill has become more or less prominent over the time period. The higher the index value, the higher the level of skills change within the occupation. Lightcast, 2025. The UK Skills Revolution. Building a data-driven system in an era of disruption.

Figure 3: Index of Career Areas by Skills Disruption Between 2021 and 2024



Note: Chart reproduced from Lightcast report.[9]

There has been a substantial increase in the demand for Artificial Intelligence (AI) and green skills in job postings.[10]

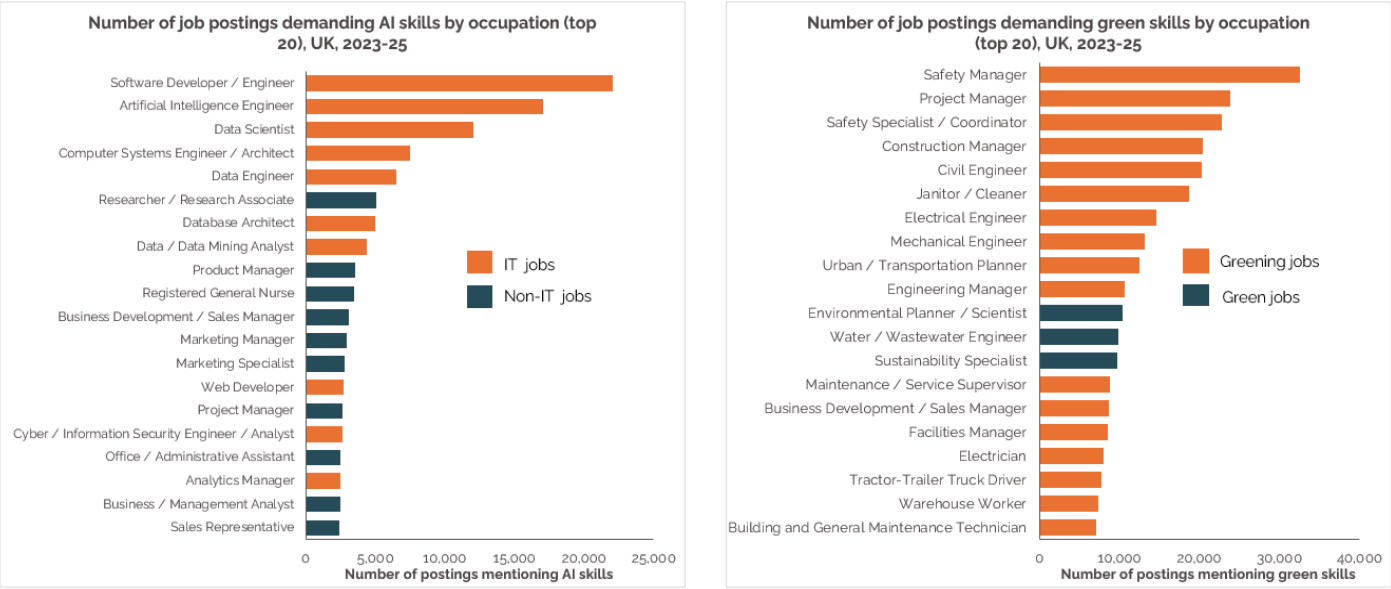
Analysis shows that use of **AI skills is no longer confined to Information Technology (IT)**. As the left-hand panel of Figure 4 shows, demand for generative-AI skills in job ads is broad-based across occupations; half of the top 20 occupations that demand AI skills are non-IT jobs. Demand for these skills has seen accelerated growth in recent years (albeit from a low UK base), although it should be noted that for many of these occupations AI skills will represent only a small proportion of job requirements.

Similarly, the right-hand panel highlights that **net-zero and sustainability requirements are to a large extent "greening" existing roles** (e.g., safety roles, project management, construction and engineering etc.), rather than generating new roles; only three of the top 20 occupations demanding green skills are specifically 'green jobs'.

[9] Lightcast, 2025. The UK Skills Revolution. Building a data-driven system in an era of disruption.
[10] AI and Green Skills definitions are based on Lightcast's skills taxonomy. The 'Green Skills' definition is based on a group of 112 specific green skills and "AI Skills are based on a collection of 350 AI related Skills.

At the same time, there is **an increasing demand across the economy for essential employment skills[11] such as communication, management and problem-solving**, which are becoming increasingly important as evolving job tasks require greater adaptability and integration across disciplines.

Figure 4: Top 20 occupations for AI and green skills demand, UK, 2023-2025



Note: Analysis of Lightcast data to update chart from Lightcast report.[12] Data refers to September 2023 to August 2025.

Across the four growth sectors, job postings highlight the need for essential employment skills alongside technical skills

For each sector (and for the economy as a whole), essential employment skills feature in a greater proportion of job postings than any single technical competency (see Figure 5). Unlike technical tasks, some of which can be more easily automated, these human-centric capabilities remain integral to how organisations coordinate, innovate and deliver.

Employers require a blend of both technical and essential employment skills, with workers who combine technical depth alongside strong interpersonal skills being increasingly in-demand. This combination is shaped by the reality of modern work, where technologies shift rapidly but the ability to collaborate, lead projects and solve problems remain in-demand across every sector of the economy.

[11] We have defined essential employment skills as the core transferable skills required for employment, such as team work, time management and communication

[12] Lightcast, 2025. The UK Skills Revolution. Building a data-driven system in an era of disruption.

Figure 5: Top skills mentioned in online job postings by sector (common, specialised, software)

Note: Lightcast data

Taken as a whole, job postings data paints a portrait of the labour market where a core set of essential employment skills are demanded across most roles. However, entry into higher-paid roles depends on sector specific technical and software proficiencies that track the UK's broader economic transitions such as digitisation, AI and automation, net-zero, the integration of creativity and technology and advancements in data analytics.

Sectoral projections suggest a continuing shift in skills demand across the four growth sectors over the next decade

Table 1 outlines the projected shift in demand over the coming decade, based on Skills England Sector Skills Assessments published in 2025.[13] Demand for each of the four sectors is increasingly concentrated in higher-skilled, technical, and "fusion" roles that blend traditional expertise with emerging technologies.

Table 1: Projections of jobs and skills expected to be in high demand by 2035 for each sector

Sector	Key jobs and skills
Information and Communication	▪ **High-Growth Roles:** AI graduates, machine learning specialists, user experience (UX) designers, data architects, and quantum-focused engineers/technicians. ▪ **Technical Specialisms:** Deep expertise in cloud platforms (Azure, AWS), advanced programming (Python, SQL), and cybersecurity governing. ▪ **Emerging Demand:** Leadership roles responsible for the ethical governance of emerging technologies and "lifelong" AI readiness. ▪ **Core Projections:** An estimated increase of 10% over the coming decade to 2035.
Clean Technologies	▪ **Technical Professions:** Civil, mechanical, electrical, chemical, and environmental engineers (typically Level 6+). ▪ **Skilled Trades:** High demand for welders, mechanical trades, and electrical fitters (Levels 2-4). ▪ **Specialist Roles:** Retrofit coordinators, heat pump installers, and planning workers to accelerate clean power decisions. ▪ **Transition Skills:** Reskilling oil and gas workers in subsea engineering and project management for renewables. ▪ **Net Zero Impact:** the Climate Change Committee estimated that the transition to net zero could create between 135,000-725,000 net new jobs in low carbon industries by 2030
Creative and Cultural	▪ **"Createch" Fusion Skills:** Roles requiring the integration of AI literacy and data analytics with creative thinking and complex problem-solving. ▪ **Digital Production:** Virtual production specialists, real-time engine coders for film/TV, and visual effects (VFX) artists. ▪ **Game Development:** Specialist shortages in art, programming, and game design. ▪ **Transferable Strengths:** High-level skills in creative storytelling, social media strategy, and multimedia production

[13] DfE & Skills England, 2025. Skills England: skills for growth and opportunity

Financial and Business Services	▪ **Tech-Financial Hybrid Roles:** Cloud developers, DevOps engineers, and data scientists who combine machine learning with regulatory/contextual understanding. ▪ **Professional Services:** Solicitors, chartered accountants, and management consultants with advanced digital literacy. ▪ **Future Resilience Skills:** Strategic leadership for navigating automation-driven disruption and high-level interpersonal skills for client-facing roles.

Note: Adapted from Skills England Sector Skills Assessments (July 2025).[14]

In the wider economy, one in 25 employees are not considered to be fully proficient for their roles by their employer

Analysis of the 2024 ESS show that 4% of UK employees are judged by their employer to have skills gaps.[15] This is a drop of 1.7 percentage points since 2022, following a rise from a low of 4% in 2019.

Detailed analysis using the 2022 ESS data shows that the **four growth sectors had broadly similar skills gaps to the wider economy, with around one in 20 employees deemed to not be fully proficient**.

Out of the four sectors, the highest density of skills gaps in 2022 is in financial and business services (6.2%), followed by clean technologies (6%) and creative and cultural (5%) (see

[14] DfE & Skills England, 2025. Skills England: skills for growth and opportunity
[15] UK Government, 2024, Employer Skills Survey.

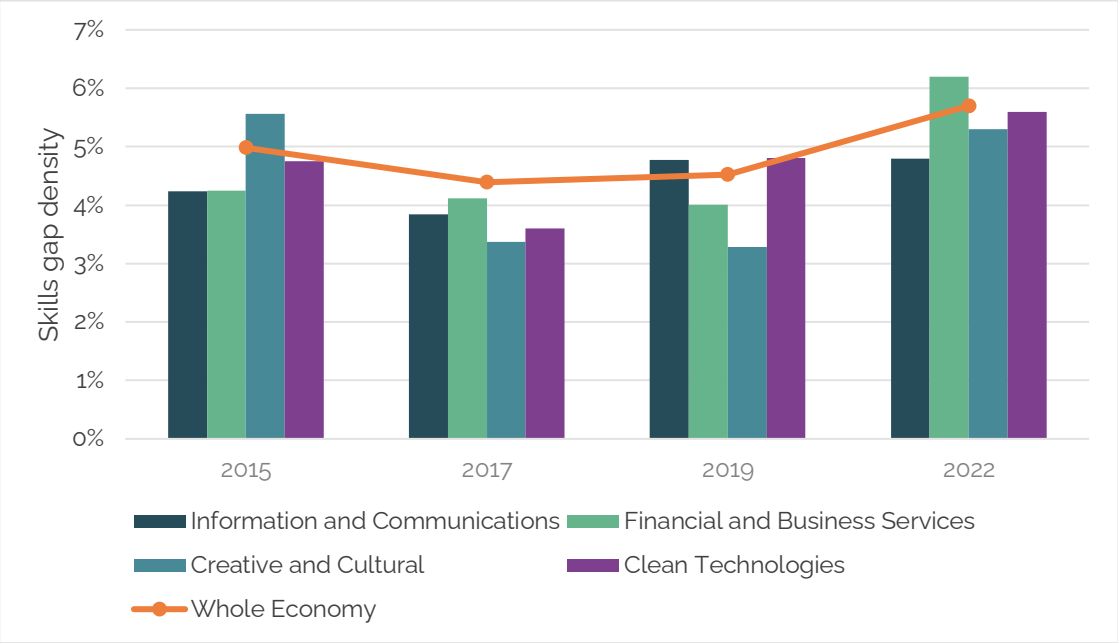
Figure 6). Information and Communications has the lowest proportion of skills gaps, at 5%.[16]

There was a slight increase in skills gaps for each sector since 2019, with the exception of Information and Communications.

The biggest rise in skills gaps since 2015 has been for the financial and business services sector, which increased by 55% between 2019 to 2022 (from 4% to 6%), after a slight dip between 2015 and 2019. In contrast, the creative and cultural industries experienced a decline between 2015 to 2019 (6% to 3%) followed by strong rebound to 5% in 2022. The information and communications and the clean tech sectors have both seen moderate increases since 2015, with growth in skills gap density occurring between 2015 to 2019 and 2019 to 2022 respectively.

[16] Skills gap density is defined as the proportion of employees judged not fully proficient for their roles

Figure 6 Skill gap density (the proportion of employees judged not fully proficient) from 2015 to 2022



Note: Analysis of Employer Skills Survey (2015-2022). Base: all UK employers; 2019 does not include employers in Scotland. Findings for clean technologies should be treated only as indicative, due to the difficulty in defining this sector.

Larger employers reported a higher proportion of skills gaps, with some variation by sector

Analysis of the 2022 ESS data shows that **skill gap density is highest in businesses with 50 or more employees** (7%), compared to 6% among businesses with 25 to 49 employees, 5% for businesses with 5 to 24 employees, and 3% for businesses with 2 to 4 employees. This may reflect different approaches to flexibility around job roles and skill requirements between employers of different sizes.

This pattern is broadly present in three of the sectors of focus, with the biggest skill gap density among large employers shown in the creative and cultural sector at 8%. The exception is clean technology where businesses with 25 to 49 employees have a slightly higher skill gap density (6% compared to 7% of businesses with 50+ employees). In addition, in information and communications smaller employers (5 to 24 employees) have the highest skill gap density (6% compared to 5% in businesses with 50+ employees).

There is substantial geographical variation in skill gap density

There are notable clusters of skills gaps in some geographical areas. For example: analysis of the 2022 ESS shows the UK-average skill gap density in the creative and cultural sector is 5%, but this sector in Yorkshire and the Humber experiences a particularly acute skills gap with 27% of employees not fully proficient. This compares to only 2% of employees in this sector in London. This suggests that **there are**

particular geographical hotspots within specific sectors where employers struggle to ensure an adequately skilled workforce.

Other sectors experience a more general variation in proficiency. For example, the clean technology sector has a UK skill gap density of 6%. However, the North West experiences particular challenges with over one in 10 (11%) of employees not fully proficient. This compares to much smaller challenges in the East Midlands, with a figure of 3%. Figures for Northern Ireland (6%) and Wales (6%) are slightly higher than the UK average, whereas in Scotland it is slightly lower (5%), and also 5% in the South East of England. There are similar findings for financial and business services sector, which has the highest density in Northern Ireland (8%) and the lowest in the South East of England (5%).

The biggest cause of skills gaps is employees being new to their role

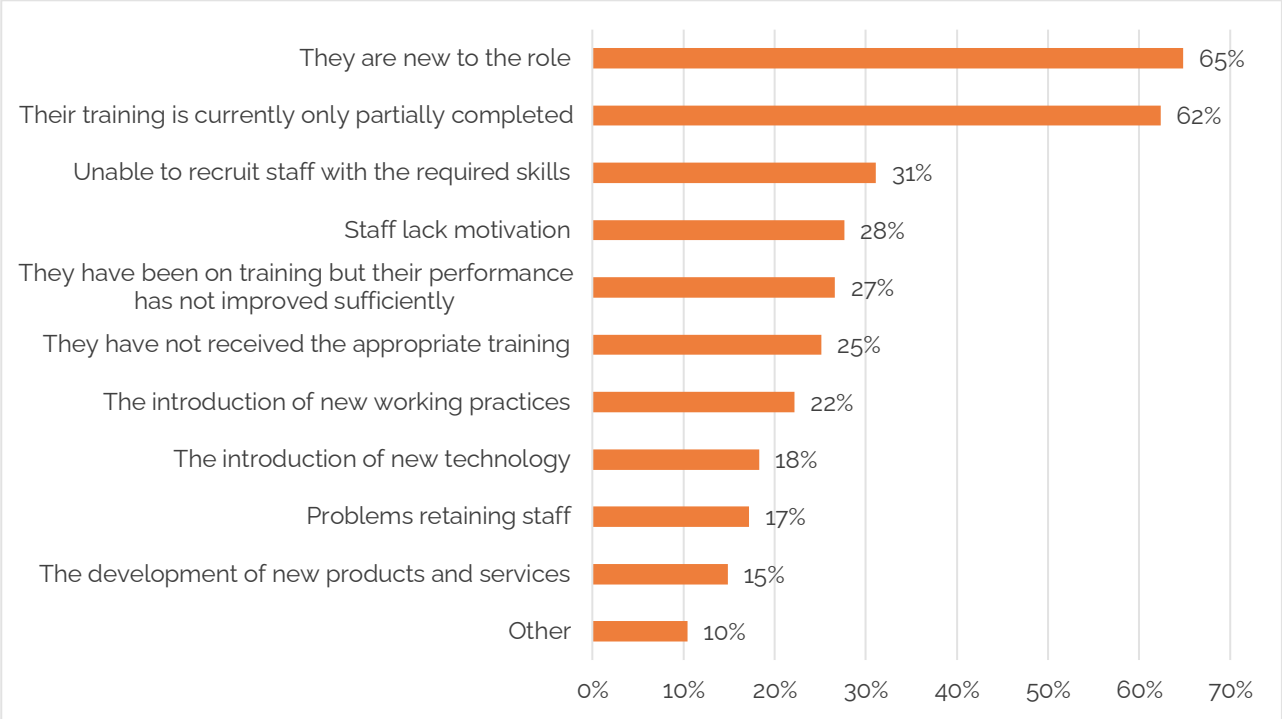
Analysis of the 2022 ESS data shows that almost **two-thirds (65%) of employers (with at least one skills gap) mentioned employees being new to their role as a cause of the gap** (see Figure 7). This suggests a potential relationship between labour turnover and skills gaps, which will be explored in the final stage of the project.

Similarly, almost one third (31%) of employers highlight that they are unable to recruit staff with the required skills. Both have increased slightly since 2015 (with equivalent figures of 61% and 24% respectively), suggesting that recruiting fully proficient staff is a consistent and increasing challenge for employers.

Roughly one quarter of employers (27%) highlight that a cause of their skills gap is that training has not sufficiently improved performance, and 25% that staff have not received appropriate training. This underlines the difficulty for some employers in identifying and providing appropriate and effective training.

'Positive' reasons for skills gaps are less common, with around one fifth of employers highlighting new working practices (22%) or the introduction of new technology (18%). Only 15% of employers highlighted that the development of new products and services were a cause of skills gaps. These have remained broadly consistent since 2015.

Figure 7: Main causes of skills gaps cited by employers, ESS 2022



Note: Analysis of Employer Skills Survey (2022). Base: all employers with at least one skills gap.

Employers in information and communication are substantially more likely to identify the introduction of new technology or the development of new products and services as causes of skills gaps.

Analysis of the 2022 ESS data shows that these were cited by 28% and 23% of information and communication employers, compared to 18% and 15% of the whole economy. The other three sectors of focus had similar levels to the wider economy. This highlights the rapid change in the information and communication sector.

Employers seem to see training to be more effective at addressing skills gaps in the four growth sectors than the wider economy, with a lower proportion of employers reporting that skills gaps are due to performance not improving after training; respective figures are 18% for clean technologies, 19% for information and communications, 22% for financial and business services and creative and cultural, compared to 27% for the whole economy.

In the wider economy, one in 17 employers say they have a skills shortage vacancy, defined as struggling to fill a vacancy due to a lack of skills, qualifications or experience among applicants.

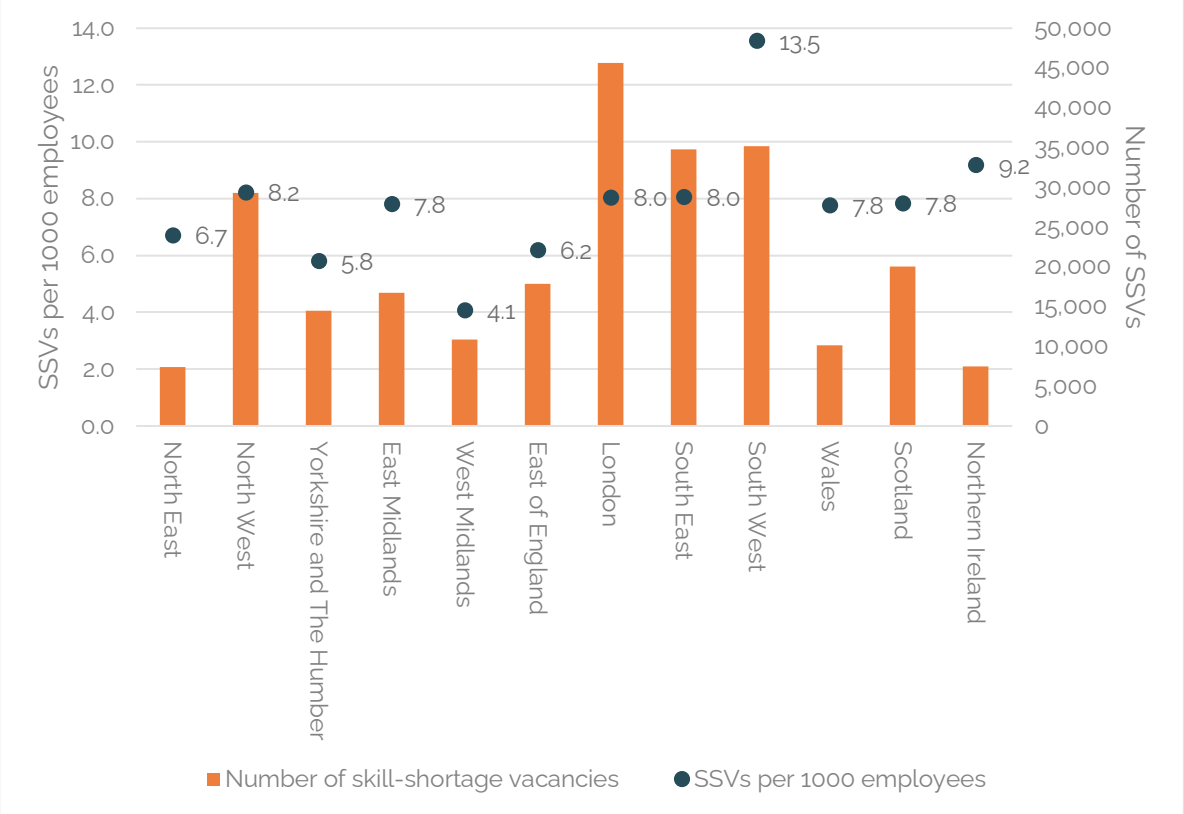
Findings from the 2024 ESS show that 6% of UK employees say they have a skills shortage vacancy (SSV).[17] This is a reversion back to levels broadly seen between 2015 and 2019, before a sharp rise to 10% in 2022. It represents 250,500 vacancies overall.

[17] UK Government, 2024, Employer Skills Survey.

Due to population size, the area with the largest number of SSVs in absolute terms is London, which has over 45,000, followed by the South West and the South East (approximately 35,000 each).

However, a closer look at the pattern across regions and nations shows some variation (see Figure 8). In terms of the proportion of SSVs per employee, the South West is notably higher than other areas, with 13.55 SSVs per 1000 employees. This is followed by Northern Ireland, which has only 7500 SSVs in total, but 9.18 per 1000 employees. Most other areas have been between 7.7 and 8.2 SSVs per 1000 employees, although the West Midlands (4.06), Yorkshire and the Humber (5.81) and the East of England (6.19) have particularly low levels.

Figure 8 SSVs by region - total number and number per 1000 employees



Note: Analysis of Employer Skills Survey (2024), and Business Register and Employment Survey (BRES) 2023, Table 3.[18]

Analysis of the 2022 ESS data shows that **three of the focus sectors have broadly similar levels of SSVs to the economy** at that time. Information and Communications has the highest number of employers with an SSV (11%), followed by financial and business services (10%) and clean technologies (10%). However, fewer employers in creative and cultural have an SSV with an equivalent figure of 7%.

[18] 2023 BRES data have been used as this is the most recent finalised data. The 2024 data is provisional at the time of writing.

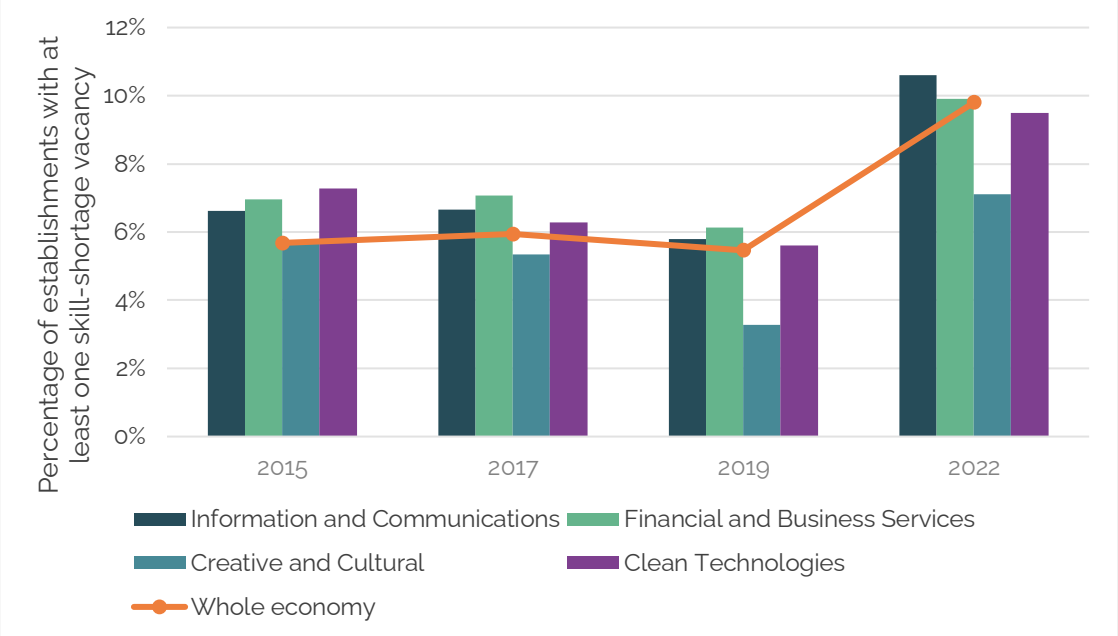
All four sectors saw a sharp rise in the percentage of establishments with at least one skill-shortage vacancy between 2019 and 2022, following a stable decline from 2015 to 2019 (see

Figure 9) and mirroring the wider economy during the pandemic and post-pandemic period.

The information and communications sector has seen the largest rise between 2019 and 2022, with a five percentage points increase, that is slightly higher than the wider economy (four percentage points). Clean technologies is broadly similar to the wider economy, with a four percentage point increase over the same time period. The creative and cultural sector saw a similar increase between 2019 and 2022 (four percentage points). However, this was preceded by a sizeable decline between 2015 and 2019, meaning the SSV rate in his sector increased by only one percentage point between 2015 and 2022.

The information and communications sectors and the financial and business services sector have consistently recorded rates higher than that of the wider economy since 2015. Given the size of the sector, the financial and business services sector has the highest overall number of SSVs in absolute terms, with over 49,000 estimated SSVs.

Figure 9: Time series of percentage of establishments with at least one skill-shortage vacancy (2015 to 2022)



Note: Analysis of Employer Skills Survey (2015-2022). Base: all UK employers; 2019 does not include employers in Scotland. Findings for clean technologies should be treated only as indicative, due to the difficulty in defining this sector.

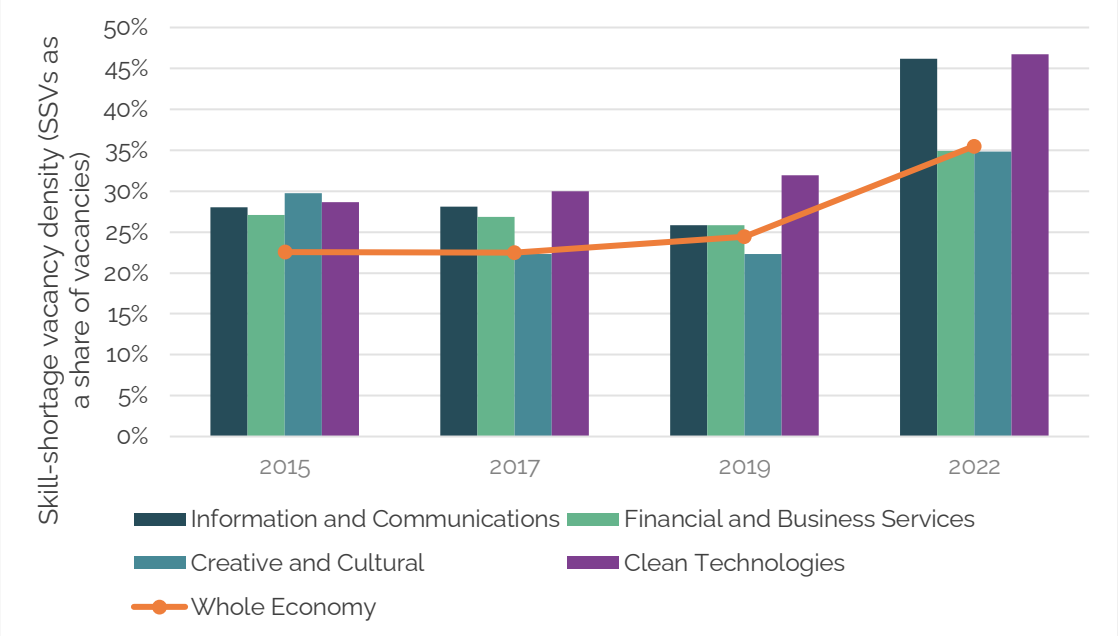
Almost half of vacancies in Clean Technologies (47%) and Information and Communications (46%) are skills shortage vacancies.

An analysis of SSV density measured in the 2022 ESS shows that figures for both sectors are substantially higher than for the whole economy (36%), and **highlight the difficulties faced by employers in these sectors in finding sufficiently skilled applicants** – which may impact their longer-term growth potential. In contrast, financial and business services and creative and cultural sectors are slightly below the UK average (34.9% and 34.8% respectively).

As with the proportion of employers with SSVs, there was a sharp increase in the proportion of vacancies that are SSVs between 2019 and 2022 for all four sectors and the wider economy (see Figure 10Figure 10). The largest increases were for information and communications (20.4 percentage points), clean technologies (15 percentage points, from a high base) and creative and cultural (12 percentage points). These three sectors had higher growth in SSV density over this period than the wider economy (11 percentage points), **suggesting an underlying systemic issue that was being felt more acutely in some sectors**. In contrast, financial and business services had a smaller growth in SSV density than the wider economy (nine percentage points).

The 2024 ESS data shows that at a wider economy level, this has since dropped back down to closer to the 2017 level, with an SSV density of 27% in 2024 compared to 36% in 2022.

Figure 10: Skill-shortage vacancy density (SSVs as a share of vacancies) from 2015 to 2022



Note: Analysis of Employer Skills Survey (2015-2022). Base: all UK employers; 2019 does not include employers in Scotland. Findings for clean technologies should be treated only as indicative, due to the difficulty in defining this sector.

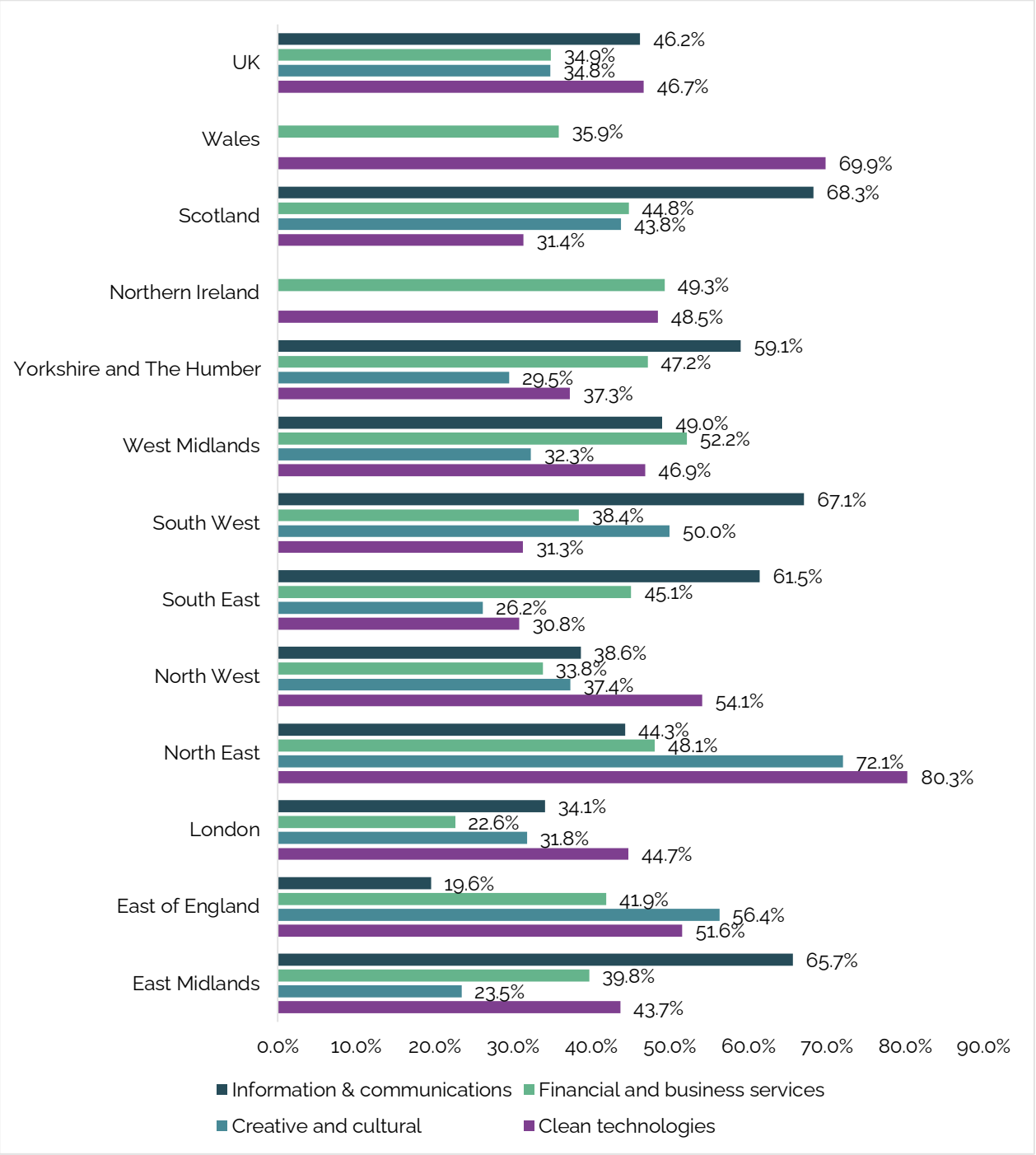
Geographical variation in the sectors reveals local clusters of skills shortage vacancies.

Analysis of the 2022 ESS data shows that three of the sectors of focus have particularly high SSV densities in specific regions and nations (see Figure 11Figure 11). For example, analysis of the 2022 ESS shows that 80% of clean tech vacancies and 72% of creative and cultural vacancies in the North East are SSVs, as are 68% of information and communications vacancies in Scotland.

The variation in SSV density between regions and nations is greater for each sector than the wider economy. Across the wider economy, there is an 11 percentage point gap between the area with the SSV density (North West – 42%) and the lowest (Scotland – 31%). In contrast, there is a close to 50 percentage point difference for clean technologies (80% North East vs 31% South East, information and communications (68% Scotland vs 20% East of England) and creative and cultural (72% North East vs 24% East Midlands). Finance and business services has a lower but still substantial gap of almost 30 percentage points (52% West Midlands vs 23% London).

There are no specific patterns by location; for example, Scotland has the highest SSV density in information and communications and the second lowest in creative and cultural. However, **these findings highlight the substantial difficulty that employers in certain sectors have in recruiting sufficiently skilled employees in specific areas**, and the need to consider the different geographical needs of different sectors.

Figure 11 Proportion of skills shortage vacancies by sector and region and nation



Note: Note: Analysis of ESS 2022. Base: All UK employers. Where data is missing in the chart, this is due to data suppression in the Employer Skills Survey output due to the risk of disclosure. Findings for clean technologies should be treated only as indicative, due to the difficulty in defining this sector.

How much training do employers provide?

Employer investment in training has substantially declined over the last decade

According to the 2024 Employer Skills Survey, **employer investment in training per employee in the whole economy has declined by 13% in real terms since 2022, and 29% since 2011.** Previous analysis by L&W (based on 2015 data) found that employers in the UK invested only half the EU average in training.[19]

Despite this drop in investment, **the proportion of employees who received training (in the previous 12 months) has remained fairly stable since 2013 (63% in 2024 vs 62% in 2013), and has actually increased since 2011 (55%)**. However, **the number of days spent training per trainee has declined steadily declined by 27% over this period**.

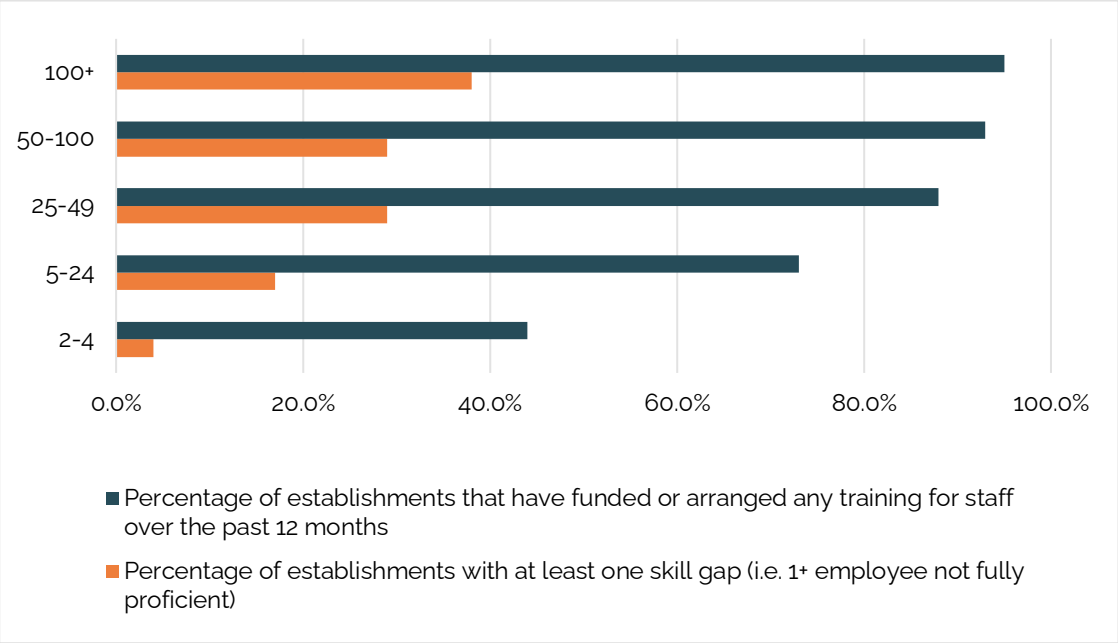
Taken together, these findings demonstrate that reduced employer investment in training is associated with a lower cost of and days spent training per employee, rather than fewer employees getting training.

Employers with 25 or more employees are much more likely to have funded or arranged training than smaller employers

The 2024 ESS survey shows that across the UK economy, **just under three-fifths (59%) of establishments have funded or arranged training in the past 12 months**. There is minimal variation by region or nation, but **the likelihood that a business arranged training appears to relate to the size of the business** (see Figure 12Figure 12). Businesses with 2-4 employees are the least likely category to have funded or arranged any training in the past 12 months, with less than half (44%) of businesses in this category having done so. This increases in each other business size category, with 93% percent of businesses with 50 or more employees and 95% of those with 100 or more having funded or arranged training in the past 12 months. This appears to be correlated to the proportion of establishments experiencing a skills gap, which is a larger proportion among larger businesses; although it should be noted that our regression analysis did not find an association between skills gaps and training once other factors (such as business size) are controlled for (see p.32).

[19] Clayton, N. & Evans, S., 2021. Learning at work: employer investment in skills, Learning and Work Institute.

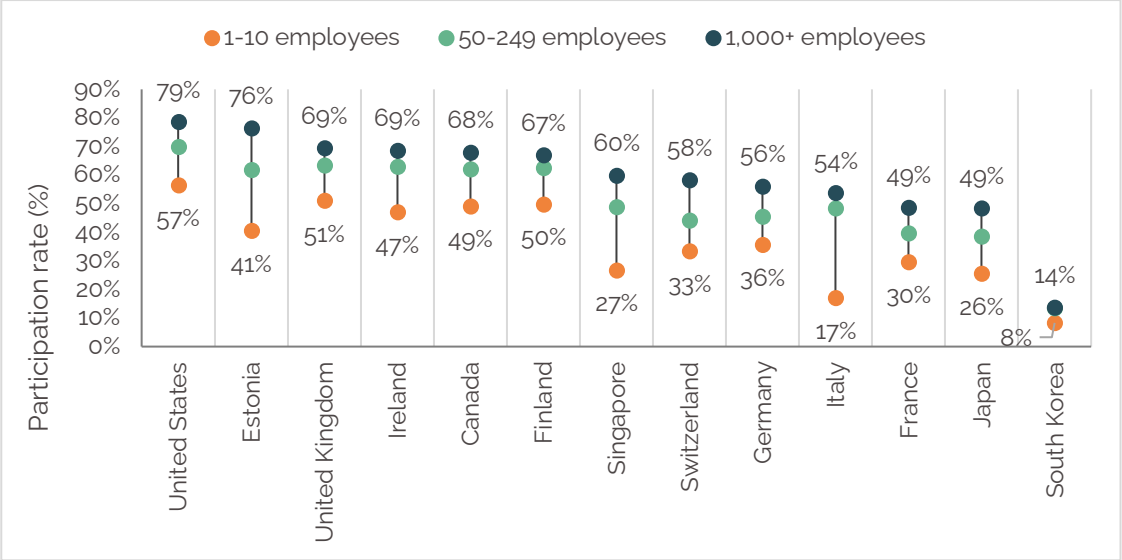
Figure 12 Percentage of establishments funding or arranging training for staff, by business size



Note: Analysis of Employer Skills Survey (2022). Base: All UK employers.

This is supported by OECD's 2023 Survey of Adult Skills (PIAAC), which shows that almost three-quarters of staff in UK firms with 1,000 or more workers participated in job-related training, compared with around 57% of those in the smallest workplaces (1–10 employees). **This pattern is consistent when benchmarked against international comparators** (see Figure 13Figure 13). The UK is ranked amongst the top performers for training participation amongst large organisations; although as discussed on pp.38-39, average number of days training is lower in the UK than most comparator countries.

Figure 13: Employee participation in job-related training during the last 12 months by firm size, aged 16-65, international comparison, 2023



Source: OECD, 2023 Survey of Adult Skills (PIAAC)

Larger employers typically benefit from dedicated learning and development (L&D) or HR teams, established provider relationships and economies of scale in workforce investment. Smaller firms face greater cost and capacity constraints, resulting in lower training rates. However, it is noteworthy that a wider analysis of 2023 Survey of Adult Skills data across a larger sample of comparison countries highlighted that while training participation within small firms is low when compared to large firms within the domestic economy, the UK's small firms compare favourably when benchmarked against small firms in other economies. Although again, this should be placed in the context of the lower average intensity of training in the UK (see pp.39-42).

There are limited geographical differences in the likelihood of employers providing training at a whole-economy level

The 2024 ESS survey shows that the areas with the highest proportion of employers who have provided training are Scotland (63%) and South East England (62%). In contrast, only 55% of employees in the West Midlands and 56% in Northern Ireland provided training: a difference of eight percentage points between the highest and lowest regions and nations.

However, sectoral differences and geographical variation within sectors are much larger

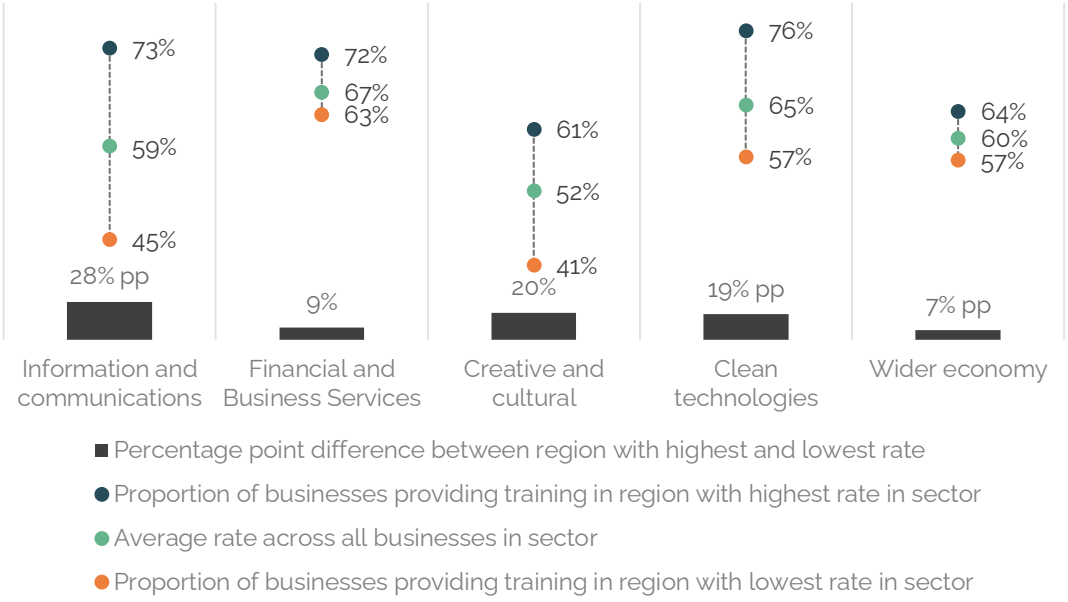
Analysis of 2022 ESS data shows that, out of the four growth sectors, **finance and business services has the highest proportion of employers who provided training (67%), closely followed by clean technologies (65%)**; both sectors are above the 2022 economy average (60%). In contrast, information and communications is just below this average (59%). **Creative and cultural has the lowest proportion of employers providing training, at 52%**.

Within sectors, there is a large variation between regions and nations in the percentage of employers who provide training (see Figure 14

Figure 14). **The widest variation is for information and communications**, where in 2022 only 45% of businesses in the East Midlands had funded or provided training, compared to the North East (73%), a difference of 28 percentage points. There is a smaller but still sizable gap of 20 percentage points for creative and cultural (West Midlands – 41% vs Scotland 61%), and a similar gap of 19 percentage points for clean technologies (London 57% vs South West 76%). In contrast, the gap for financial and business services is only 9.0 percentage points (East Midlands – 63% vs Wales – 72%), which is close to the gap for the wider economy at this time (7 percentage points).

Available data does not allow us to explore the reasons for these differences, but they may be due to variations between sub-sectors or types of employers in different areas.

Figure 14 Gap between regions and nations with the largest and smallest proportion of businesses funding or providing training the past 12 months, by sector



Note: Analysis of Employer Skills Survey (2022). Base: All UK employers. Findings for clean technologies should be treated only as indicative, due to the difficulty in defining this sector.

Finance and business services has the highest proportion of employees who have received training, but the shortest duration of training per trainee.

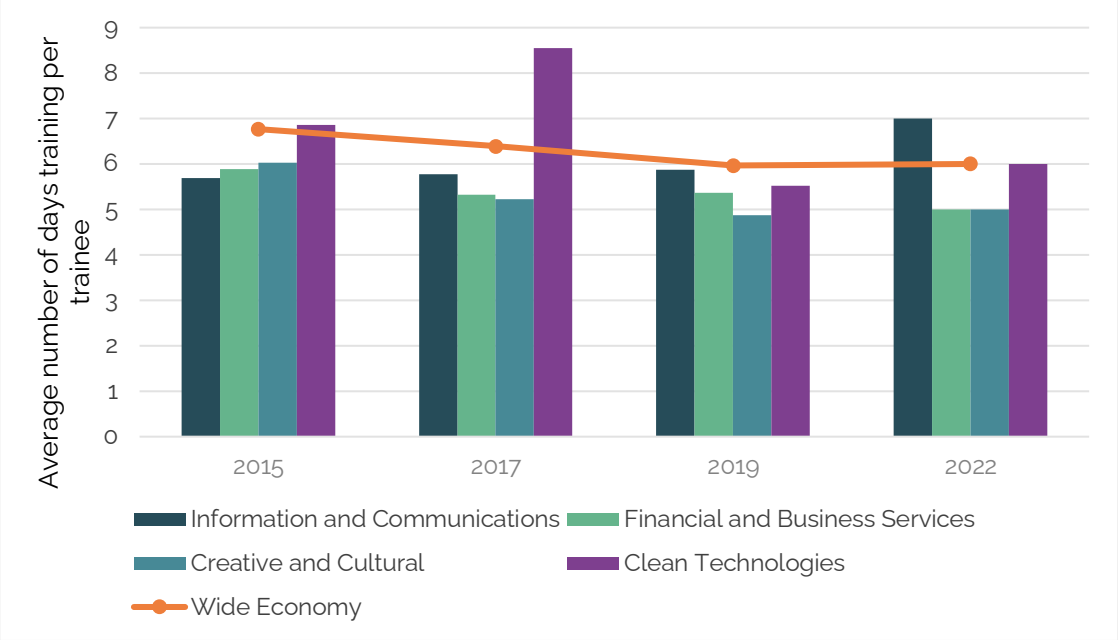
Analysis of the 2022 ESS data show that over three fifths (65%) of Financial and Business Services employees received training in the previous year – higher than the wider economy (60%) and the other three sectors (55% in creative and cultural, 52% in information and communications and 51% in clean technologies). However, each trainee received an average of five days of training, which is lower than the average for the wider economy (six days) and the clean technology (six days) and information and communications sectors (seven days). **This suggests that although training is more widespread in financial and business services, it is not to the same depth as other sectors**. Information and communications and clean technologies have a narrower but more intensive pattern of training. This may reflect the different training requirements in each sector, with finance and business service employers providing wider but shallower training opportunities, meaning relatively few days of training per employee.

The Creative and Cultural sector also averages five days of training per trainee. However, its lower proportion of employees who receive training (55%) means that it has the lowest average training days **per employee** of the four sectors.

Most of these sectors experienced a drop between 2015 and 2022 mirroring the wider economy, although the number of training days for employee in the Information and Communications sector increased by 23% over this period (see Figure 15Figure 15). This

may reflect the need for more intensive training in information and communications to adapt to technological change or other regulatory or practice changes. The largest drop was for the creative and cultural sector, where the number of days spent training declined by 17% between 2015 and 2022 – compared to 11% in the wider economy over this period. Financial and Business Services (15%) and Clean Technologies (13%) also saw larger overall drops than the economy average.

Figure 15: Average number of days training per trainee (2015 to 2022)



Note: Analysis of Employer Skills Survey (2015-2022). Base: all UK employers; 2019 does not include employers in Scotland. Findings for clean technologies should be treated only as indicative, due to the difficulty in defining this sector.

Although small employers are less likely to provide training, they have the longest duration of training per trainee.

The 2024 ESS data shows that, across the wider economy, **trainees at businesses with 2-4 employees are undertaking an average of 8.2 days training per year, compared to 4.5 days at companies with 100 or more employees** -with a general decline between these two points. This pattern is repeated across most broad sectors in the economy, suggesting it's a common feature. This may indicate a lower level of company-wide mandatory training among smaller employers, and that where training does occur it is at a higher depth.

Looking at employers of all sizes, there is some geographical variation in the number of days training per trainee, with the highest figure for the East of England (7.2) and the lowest in Yorkshire and the Humber (4.8). However, most nations and regions are broadly similar, suggesting relative consistency in the length of training undertaken.

Analysis of the 2022 ESS data shows some geographical variation within sectors - for example, Financial and Business Service employees in the North East have a

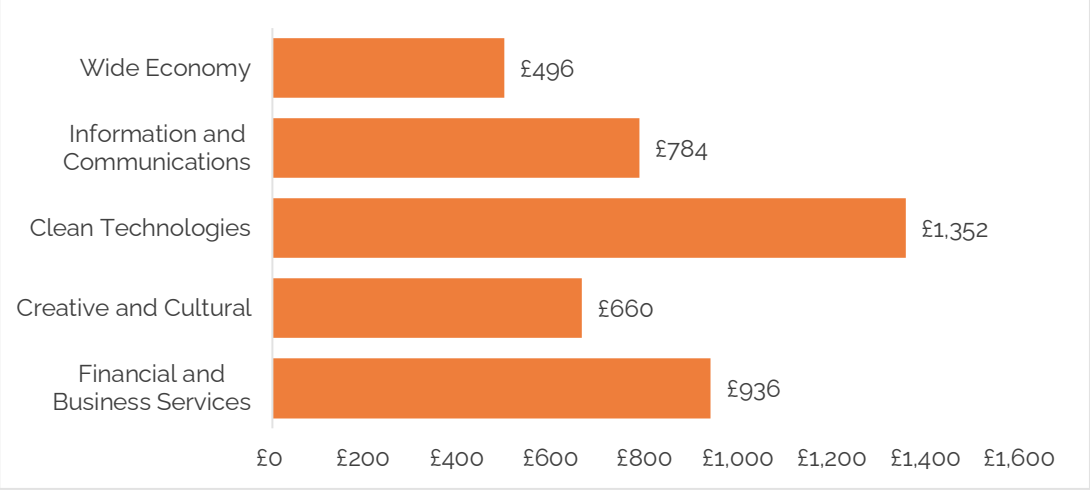
substantially higher number of days (15) and Information and Communications employees in Northern Ireland a low number (2 days). However, there are no clear patterns in these differences, which suggests that these are outliers rather than trends.

Training costs are substantially higher in growth sectors compared to the wider economy.

Analysis of 2022 ESS data shows that the average expenditure per training day in the wider UK economy is £496, but is higher in each of the four sectors of focus. **The highest cost is in clean technologies (£1,352), which is over two and a half times the whole economy average.** This is followed by financial and business services (£936), at almost twice the average of the economy. This means that **all four sectors spend more per employee on training than the economy average**, even though all but information and communications have fewer training days per employee.

Excluding creative and cultural, **there appears to be an inverse relationship between the cost of training in a sector and the average number of days training per employee**. Out of the remaining three sectors, the sector with the lowest cost (information and communications) has the highest number of training days per employee, and the sector with the highest cost (clean technologies) has the least. The exception to this pattern is Creative and Cultural, which has comparatively lower costs but has the lowest training days per employee.

Figure 16 Total cost per total number of training days for employees



Note: Analysis of Employer Skills Survey (2022). Base: All UK employers.

There's little evidence employers respond to skills gaps and skills shortage vacancies with higher investment in training within the four sectors of focus

Regression analyses were conducted with the 2022 ESS data, to identify predictors of investment in training once wider employer characteristics (e.g. size and location) were taken into account. The analysis was not conclusive, which indicates that employer decisions on training are based on a more complex mix of factors than just the level of skills gaps in their workforce and recruitment challenges.

Who gets training?

Qualification and occupation type are key factors in likelihood of accessing training

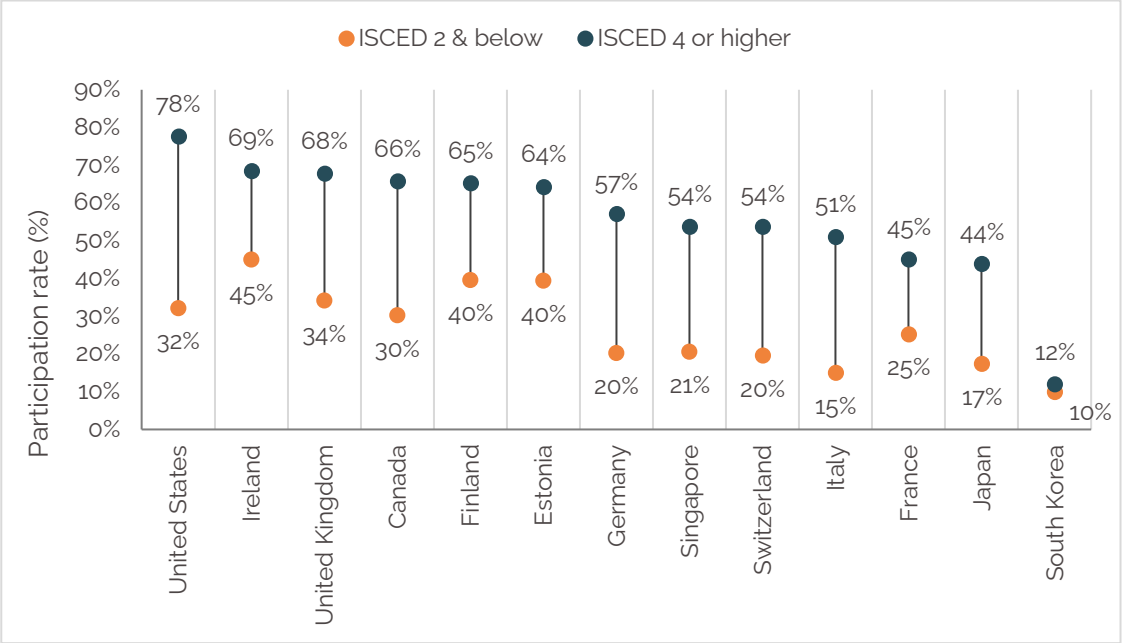
Employees with higher qualification levels are substantially more likely to access job related training.

Analysis of OECD's 2023 Survey of Adult Skills (PIAAC) shows that 68% of employees qualified to ISCED 4 or above (equivalent to a certificate of higher education or higher) report receiving job-related training in the past year, compared with 34% among those with lower levels of educational attainment (ISCED 2 or below), which is equivalent to GCSE grades A*-C/9-4.[20] Analysis of LFS shows a similar pattern, with employees qualified to level 4+ substantially more like to report receiving training in the previous three months than those qualified to level 2 or below (31% vs 18%). This reinforces existing divides whereby those who already start with higher prior attainment continue to build skills, while those with lower qualification levels are least likely to get training.

This overarching pattern of unequal access to training holds true across international benchmark economies (see Figure 17). The UK's highest skilled workers record among the highest training participation rates, with only the USA significantly outperforming the UK among the benchmark countries. In the UK, and the other English-speaking nations taking part in the study, employees with the lowest levels of educational attainment recorded higher levels of training participation when compared to mainland European (Germany, Switzerland, Italy and France) and Asian (Japan and South Korea) nations.

[20] ISCED refers to the International Standard Classification of Education, developed by UNESCO to allow consistent reporting and comparison of education levels across countries. ISCED 4 and above corresponds broadly to post-secondary nontertiary education and higher (including higher education qualifications), while ISCED 0–2 refers to primary and lower-secondary education. For full UK equivalents, see: DWP, 2023, Annex 10: Provider Management Information, ISCED levels.

Figure 17: Employee participation in job-related training during the last 12 months by highest level of qualification, aged 16+, international comparison, 2023



Note: OECD, 2023 Survey of Adult Skills (PIAAC).

Professional and associate professional occupations and sales, caring and other service staff are the most likely to have received training

Analysis of the 2022 ESS shows that two-thirds (66%) of employees in professional and associate professional occupations received training in 2022, along with 61% of those in sales, caring and other service occupations where mandatory qualifications are common (see Figure 18).

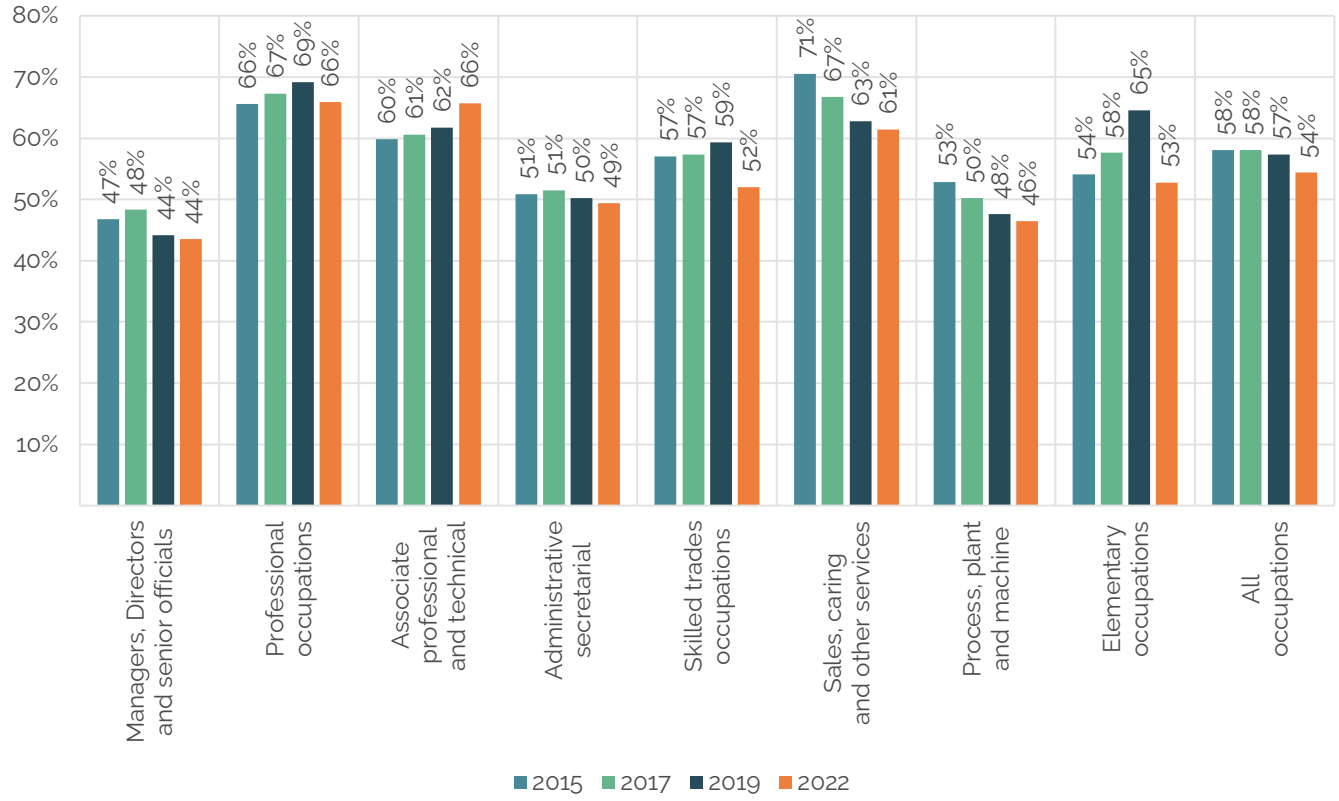
At the other end of the distribution, employees in process and machine operative roles (46%), administrative roles (49%), skilled trades occupations (52%) and elementary occupations (53%) are less likely to have received training.

Although there is some year-on-year variation, this general pattern remains and underlines the uneven distribution of training activity in the UK. **Workers in industries associated with low pay and routine occupations are the least likely to get training at work**. Comparing findings from the UK and EU Labour Force Surveys shows that this is consistent internationally; across most comparable European countries training participation is lowest in wholesale & retail, transport & food storage, accommodation & food services and manufacturing.

The exception to this is managers and directors, who are consistently the least likely to receive training (44% in 2022). This might reflect lower turnover rates in these roles but may also relate to leadership training being less common than training in areas such as health and safety or computer skills (see section 4) and the lower investment in management training in the UK compared to countries such as the USA and

Germany.[21] Given a high proportion of managers and directors are reported to have skills gaps (68% in 2022), this low level of training has implications for successful leadership and growth in businesses across the economy. There is evidence to suggest that management quality in UK firms is below that of some international comparators. In a ranking of management practice across 17 nations, the UK ranks ninth, behind Australia, Italy, France, Canada, Japan, Germany, Sweden, and the USA.[22] Additionally, research by the CMI and YouGov found that 82% of people entering management positions have not received any formal management and leadership training.[23]

Figure 18: Percentage of employees who have received training per occupation, 2015-2022



Note: Employer Skills Survey 2022 (ESS). Base: all UK employers.

The proportion of associate professionals in finance and business services getting training has substantially increased

In 2022, 91% of associate professionals working in finance and business services had received training compared to 67% in 2015, which could relate to regulatory requirements and new online ways to deliver training, as well as new ways of working.

[21] CMI, 2024. Management and UK 2030.
[22] Nicholas Bloom and John Van Reenen, 2010, Why do management practices differ across firms and countries?, Journal of Economic Perspectives. Volume 24, Number 1, pp.203-224.
[23] CMI, 2023, Taking Responsibility: Why UK PLC needs better managers.

Alongside this, there has been a drop in training for sales and service staff (71% in 2015 to 32% in 2022). Although these numbers should be treated with caution due to sample sizes, they may reflect increasing automation of roles and the need to upskill staff in relation to new technology. Similarly, there has been a decline in training rates for administrative occupations in Information and Communications (from 42% in 2015 to 25% in 2022).

There are inequalities in access to training by workforce characteristics

In addition to qualification level and occupation, LFS analysis of reported training within the previous three months shows inequalities by other workforce characteristics (

Figure 19).

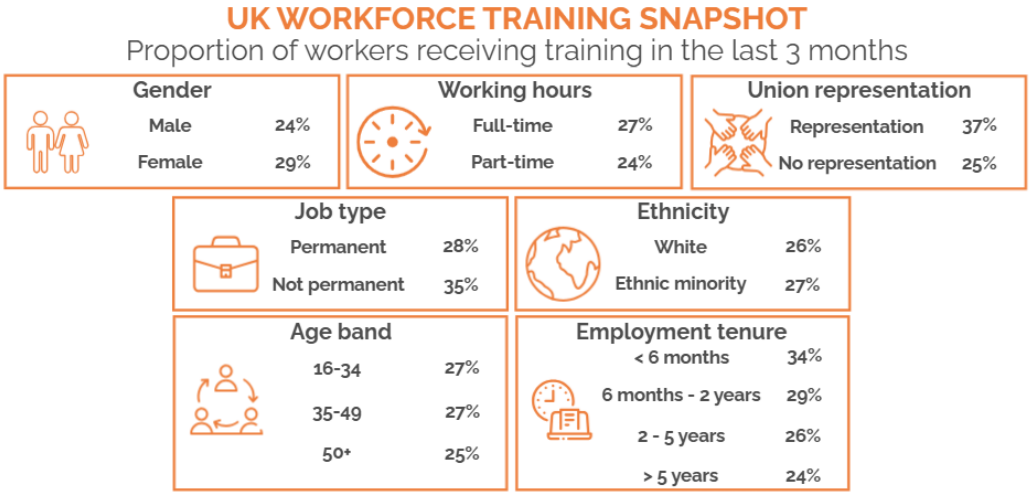
Women are more likely than men to report recent training, and participation is slightly higher among ethnic minority employees compared with white workers.

Non-permanent staff are more likely to report training than those on permanent contracts, but this is likely to be driven by mandatory induction or compliance activity rather than developmental opportunities. Workers covered by collective agreements are more likely to access training, which could reflect those agreements or other characteristics of those sectors (such as mandatory training requirements or licenses to practice).

Patterns by tenure show a sharp peak among those new to a job, reflecting the prominence of induction training**. Beyond the first months of employment, training participation declines**: 34% of people employed for under six months receive training, compared to 29% of those employed for six months to two years and 24% of those employed for more than five years. This suggests that many workers lack access to ongoing development once they have settled into their role.

The overarching picture is of a training system where access varies systematically across the workforce. Those with higher qualifications and employed in large organisations are most likely to participate, while opportunities are less common in smaller firms, among the lower qualified, and in parts of the workforce with less stable employment. These patterns are broadly consistent across each of the four sectors examined, with similar variations for each characteristic.

Figure 19: Participated in job-related training within the past three months, UK, 2024



Note: Labour Force Survey.

What training is provided?

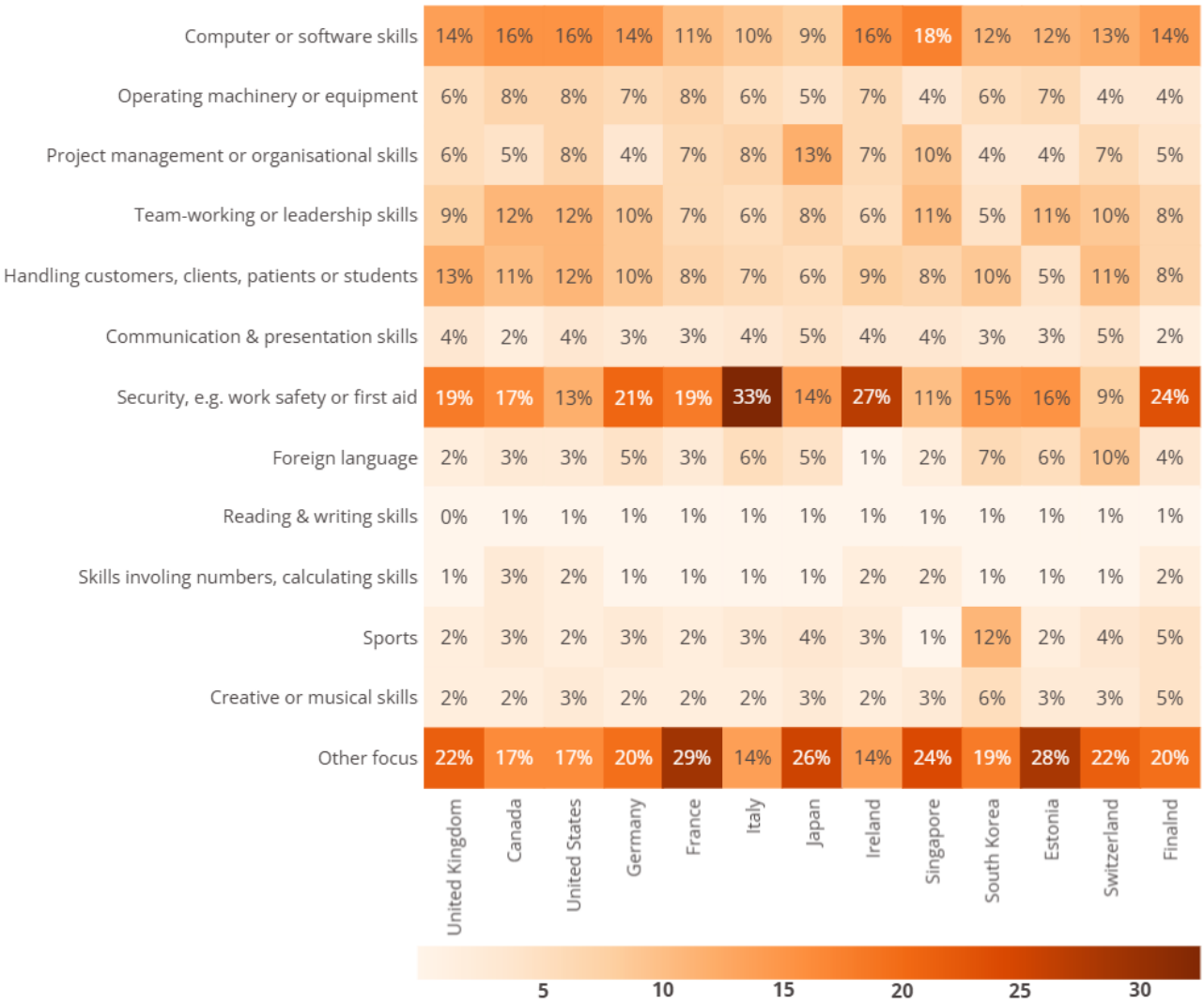
Understanding not just how many employees participate in training, but also the nature and intensity of that training, is critical for understanding whether it is equipping workers with appropriate skills within a changing economy.

Security and health and safety are the most common types of training in the UK

Analysis of OECD's 2023 Survey of Adult Skills (PIAAC) data shows that **the largest single category of training in the UK is security and health and safety**, with nearly one in five employees (19%) reporting this as the primary focus of their learning (see Figure 20**Figure 20**). This is mid-level compared to international comparators: higher than countries such as Switzerland (9%), Singapore (11%) and the USA (13%), but lower than others such as Italy (33%) and Ireland (27%). Training in computer and software skills (14%) and in handling customers and clients (13%) also feature prominently. Teamwork or leadership is reported by just under one in 10 employees (9%), which is middle-of-the-road in international terms.

The concentration of short, compliance driven training may be necessary to teach people ways of working in an organisation and support health and safety, but less emphasis is placed on developmental learning that builds transferable skills for future progression. Investment in areas such as advanced digital skills or project management remains smaller in scale than in many comparator countries, underlining the challenge of shifting the balance of provision from meeting immediate requirements towards building capabilities that support future productivity growth.

Figure 20: Main focus of employee training, aged 16+, international comparison, 2023



Note: OECD, 2023 Survey of Adult Skills (PIAAC). Refers only to participants who have received ANY training at any point in life. United Kingdom refers to England only. 'Training' includes any organised training undertaken in the past 12 months, where an instructor or provider is involved. It excludes self-directed learning, formal education, and training delivered by the respondent.

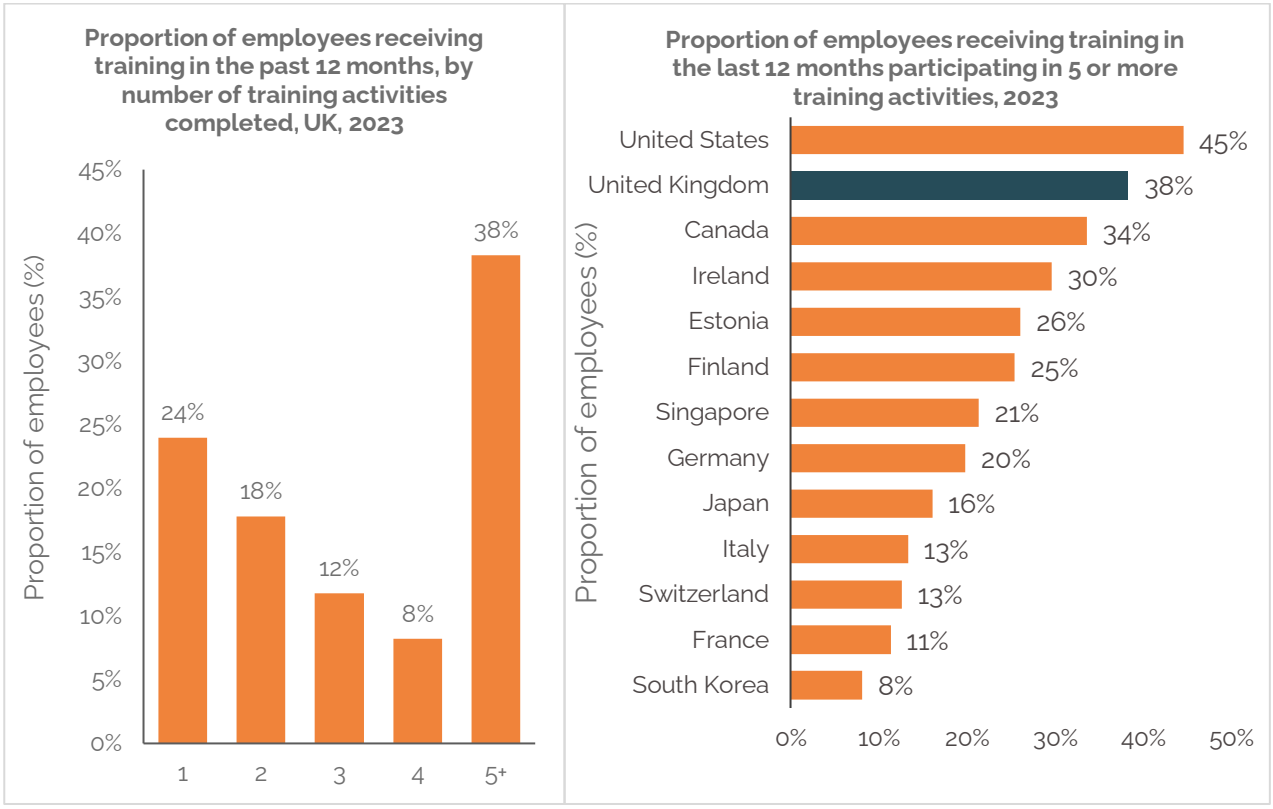
Compared to other countries, the UK has a high volume of short duration training

The intensity of training in the UK is highly uneven. Data from OECD's 2023 Survey of Adult Skills (PIAAC) on the number of training episodes undertaken on an annual basis finds that **many employees participate only once or twice a year, while a sizeable minority report taking part in multiple activities** (see Figure 21Figure 21). Of the employees who participated in training, almost two in five (38%) employees reported that they engaged in five or more separate training activities over the year, but around one quarter (24%) participated only once. This polarisation indicates that while some groups receive frequent training, perhaps driven by regular compliance requirements,

many others experience training only sporadically, limiting opportunities for skill development.

When compared internationally, only the United States recorded a larger proportion of employees participating in more frequent training activity. Amongst comparable countries the highest number of training episodes are concentrated amongst the English-speaking economies (US, UK, Canada and Ireland)Figure 21). This suggests similarities in their approach to training, with the system being weighted towards a higher number of shorter training activities.

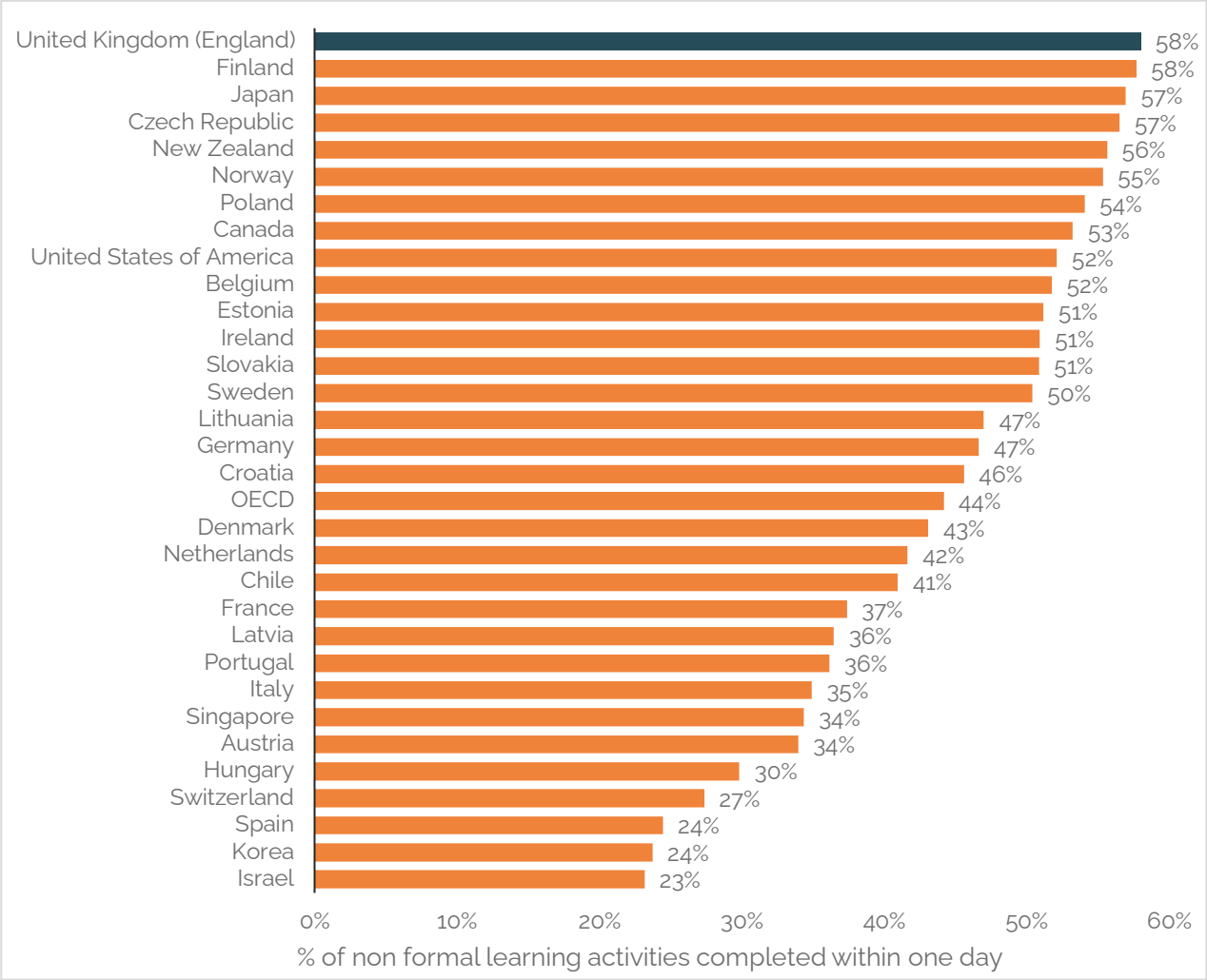
Figure 21: Proportion of employees receiving training in the past 12 months by number of training activities, aged 16+, UK & international comparison, 2022-2023



Note: OECD, 2023 Survey of Adult Skills (PIAAC).

An analysis of the duration of non-formal job related training activities reinforces this picture. **More than half of UK training episodes (58%) last a single day or less**. This is the highest share in the OECD (see Figure 22), and compares to an OECD average of 44%. It points to a model characterised by breadth but low intensity. Many employees engage in training over the year, but the vast majority of activity is delivered through short, job specific and compliance focused episodes, which limits the potential for deeper retraining and upskilling, career mobility, and long-term adaptability.

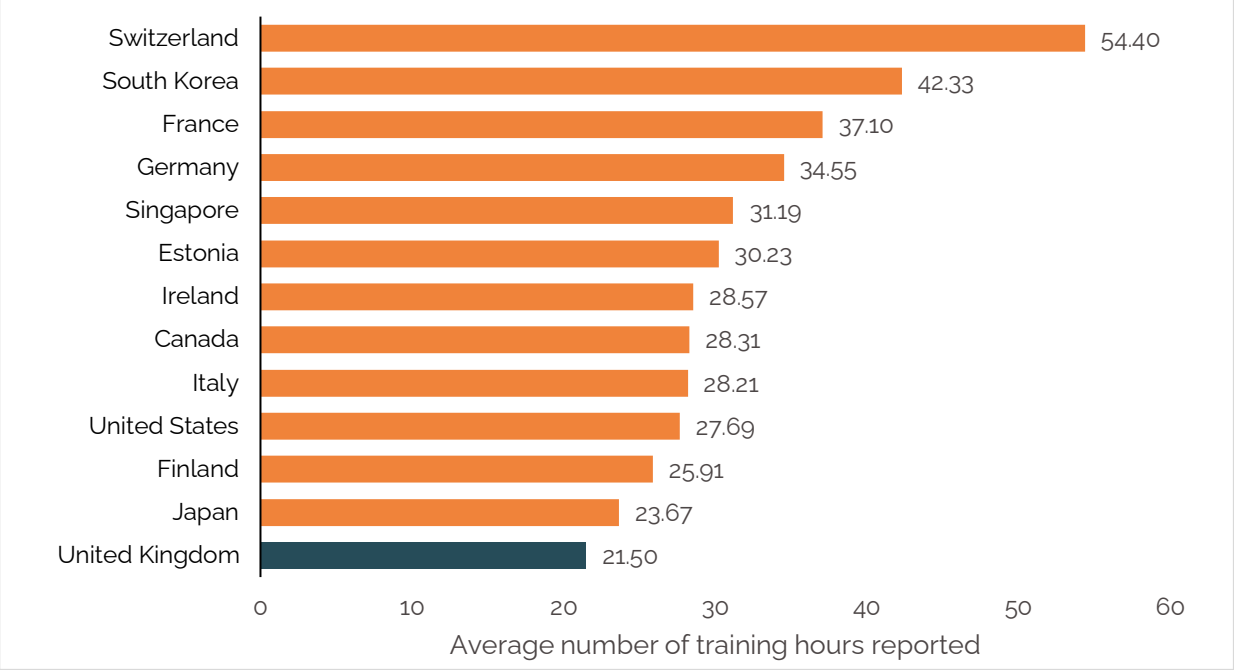
Figure 22: Percentage of non-formal job-related training activities completed within one day, aged 25-64, 2023



Note: OECD, 2023 Survey of Adult Skills (PIAAC)

UK employees self-report having received 21.5 training hours over the past 12 months (see Figure 23Figure 23). This is the lowest among our comparison group of countries from the 2023 Survey of Adult Skills, complementing other data points suggesting the UK in-work training system is weighted towards a high volume of short training episodes spread thinly across a large number of employees.

Figure 23: Self-reported number of training hours received per annum, employees aged 16+, international comparison, 2023



Note: OECD, 2023 Survey of Adult Skills (PIAAC).

Training in the UK is more likely to be organised and paid for by employers than comparator countries

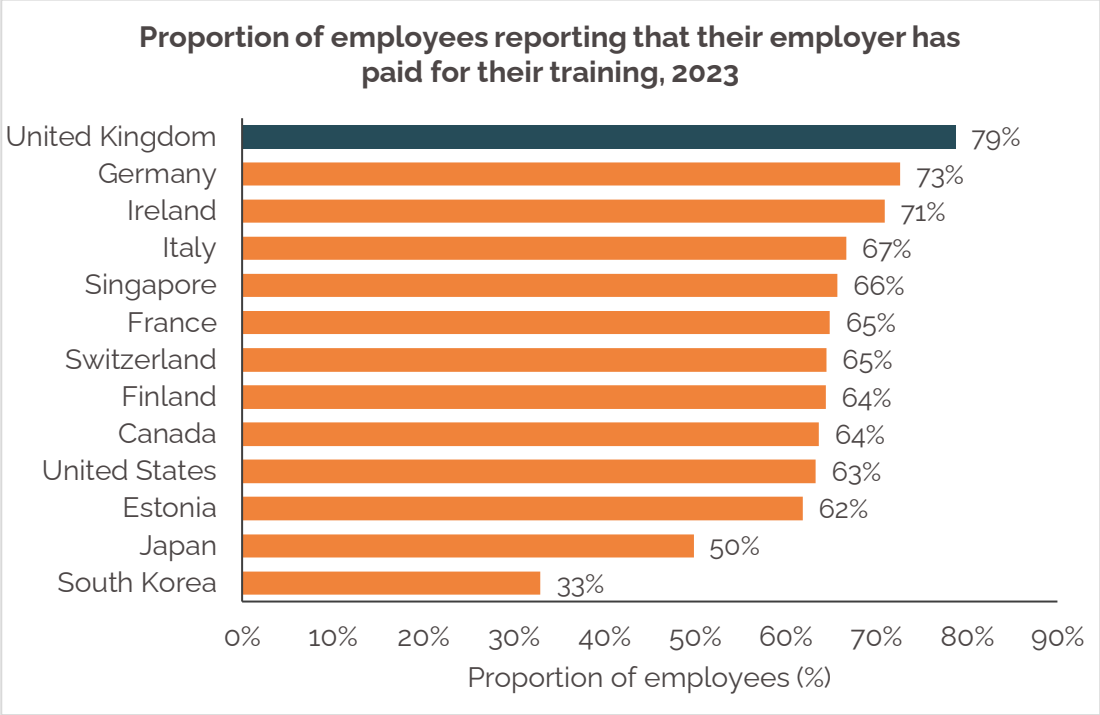
Training in the UK is delivered through a mix of face-to-face and online methods. OECD's 2023 Survey of Adult Skills (PIAAC) demonstrates that 39% of employees receiving training reported that their training was organised entirely in person. Nearly half (46%) undertook training online, and a further 15% participated in blended formats. Online learning is common across all types of training, with the exception of operating machinery or equipment where only 19.5% of employees received online-only training. This indicates that **digital delivery has become a mainstream feature of the UK training system**, though instructor-led provision remains significant.

Most job-related training is scheduled during working hours, with 76% of UK employees reporting that their training took place in their normal work environment. A similar share (75%) say it was delivered during paid time. Analysis of 2023 Survey of Adult Skills data highlights that both these figures are among the highest in OECD countries, indicating that training in the UK is particularly embedded within working routines.

More than four-fifths of UK employees in the 2023 Survey of Adult Skills survey who had received training report that their last training was paid for by their employer, one of the highest rates among OECD countries (see Figure 24Figure 24). Data from the European Working Conditions Survey (ECWS) reinforce this finding, showing the UK at

the top of the EU27 distribution for the share of employees whose training was financed or provided by their employer.

Figure 24: Who pays for training, employees, aged 16+, international comparison, 2023 & 2021



Note:
OECD. 2023 Survey of Adult Skills (PIAAC). Refers only to participants who participated in training in the last 12 months, and to their 'last' training episode.

Note: EWCS 2021

Overall, this paints a picture of UK training being most often organised by individual employers, delivered at work and during working time, and largely paid for by firms themselves. This model makes training accessible to employees, but it also reinforces a system where provision may be shaped by immediate organisational needs. While this sustains high levels of participation, it raises questions about whether training is sufficiently developmental or portable to support workers' longer term career mobility and the broader adaptability of the labour market.

UK employees are more likely than their international peers to say that they the reason they did training was because it was compulsory

In the UK, **being obliged or required to participate in training is the most common reason employees cite for undertaking it**, reported by around one quarter of workers (see Figure 25). By contrast, employees in the United States and Japan are far more likely to cite career advancement, and those in France and Germany emphasise training on subjects of interest. This points to a UK system oriented more towards employer priorities or requirements than career development.

Figure 25: Main reason for participating in training, employee, aged 16+, international comparison, 2023

Main reason for participating in training	To improve my job or career opportunities	To improve my knowledge or skills on a subject that interests me	To better carry out my regular work tasks	To better deal with new or changing work tasks	To obtain or to renew a certificate	I was obliged to participate	Other reason
United Kingdom	19%	17%	21%	9%	9%	24%	2%
Canada	21%	18%	18%	11%	11%	19%	2%
United States	28%	17%	13%	8%	9%	22%	3%
Germany	15%	22%	17%	15%	10%	19%	2%
France	14%	23%	22%	12%	7%	20%	2%
Italy	10%	21%	28%	12%	15%	12%	2%
Japan	33%	10%	10%	5%	12%	29%	1%
Ireland	26%	18%	16%	8%	5%	27%	1%
Singapore	23%	23%	19%	10%	6%	17%	1%
South Korea	25%	17%	19%	3%	6%	29%	1%
Estonia	11%	29%	30%	12%	8%	9%	2%
Switzerland	19%	29%	18%	14%	6%	13%	2%
Finland	12%	20%	20%	18%	9%	19%	2%

Note: OECD, 2023 Survey of Adult Skills (PIAAC). Refers only to participants who have received job-related training.

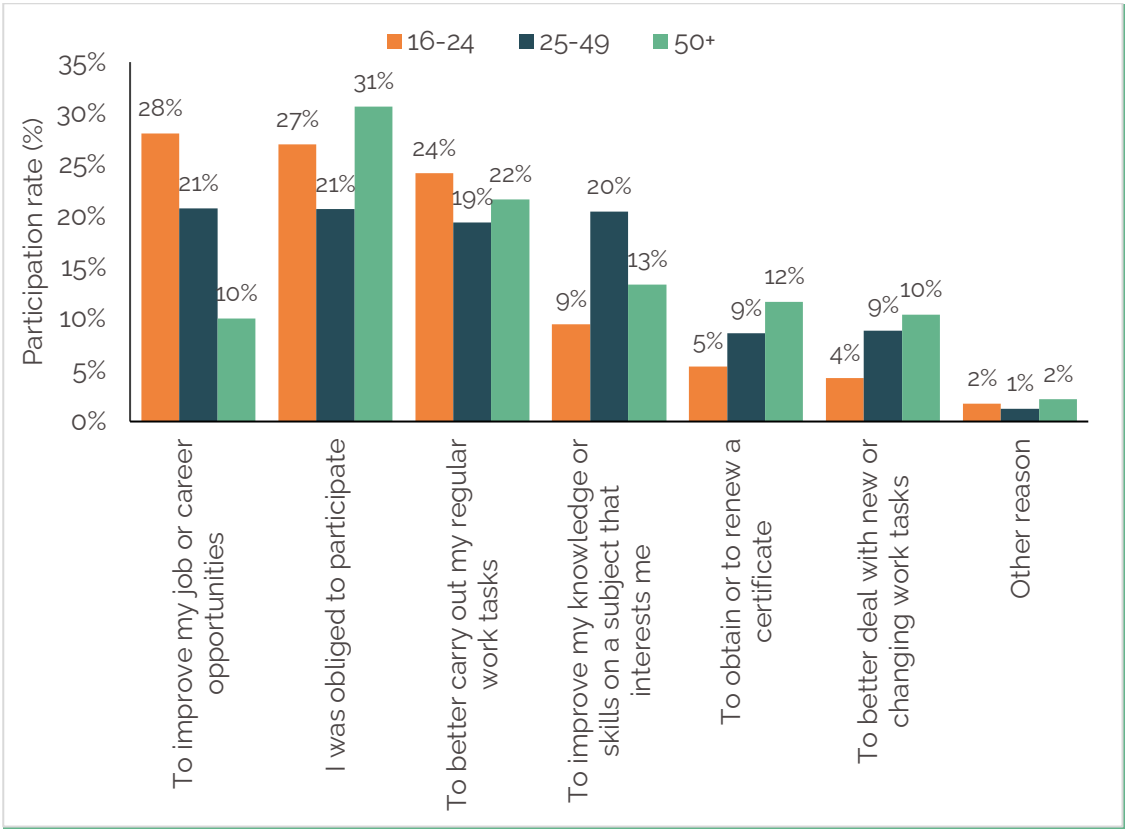
However, there is substantial variation in motivations by career stage

While overall patterns are clear, motivations for training can vary across different types of people. Notably, priorities shift throughout the life course, with **individuals at different stages of their careers emphasising distinct reasons for engaging in training** (see

Figure **26**). In particular:

- **Younger workers (16–24)** are most likely to describe training as a way to improve their job or career opportunities, underlining its importance in supporting early career progression.
- **Prime age workers (25–49)** are more likely than other groups to take training to develop knowledge and skills in a subject that interests them, indicating that mid-career participation is often linked to both professional development and intrinsic motivation.
- Among **older workers (50+)**, training is more frequently obligation driven, linked to compliance requirements or the renewal of certificates rather than voluntary career development. This suggests a lower appetite for discretionary training later in working life.

Figure 26: Main reason for participating in job-related training during the last 12 months by age band, employees, UK, 2023

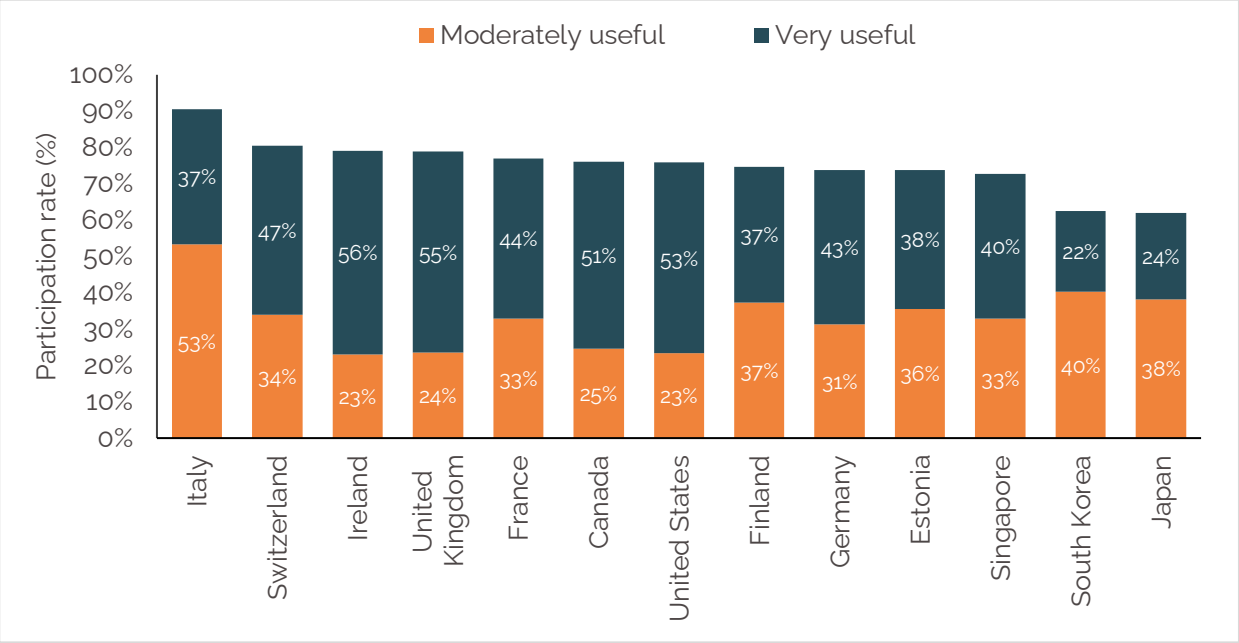


Note: OECD, 2023 Survey of Adult Skills (PIAAC).

Most employees consider training to be useful for their job

OECD's 2023 Survey of Adult Skills (PIAAC) provides insight into how employees perceive the value of the training they receive. **In the UK, 79% of participants report that training was useful for their job**, with over one half (55%) describing it as very useful (see Figure 27Figure 27). Only a small minority considered their training to be of little or no relevance to their work.

Figure 27: Usefulness of job-related training to job, employees, aged 16+, international comparison, 2023



Note: OECD, 2023 Survey of Adult Skills (PIAAC). Refers only to participants who have received job-related training.

This pattern is broadly consistent with international comparators, where perceived usefulness tends to be high regardless of the type of training undertaken. However, the UK profile highlights the tension between relevance and depth. Training is often well aligned with immediate workplace tasks, which explains the high ratings of usefulness, but much of it is short, compliance-driven and non-certified. Therefore, it appears that while training is effective at meeting employer requirements in the short term, it is less frequently structured to build portable, long-term capabilities that support progression and resilience as job requirements evolve.

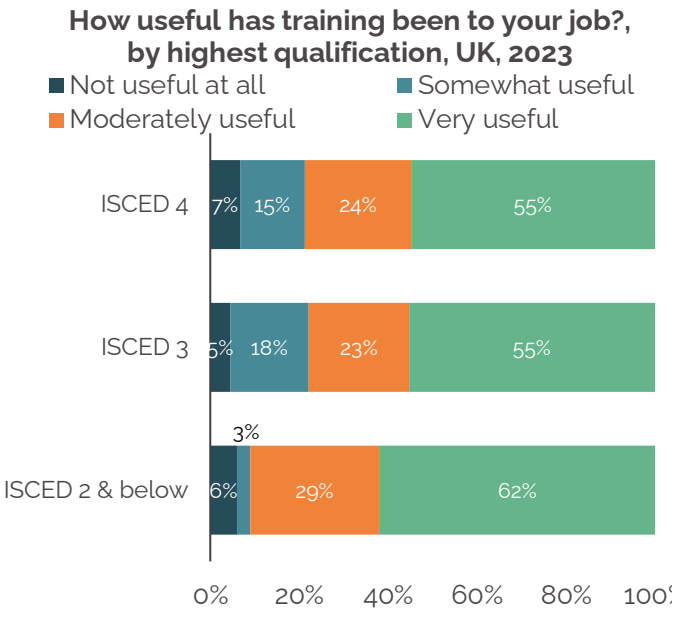
Younger employees and those with lower qualification levels are most likely to find training to be useful

Although most employees perceive the training they receive as useful, there are important differences by qualification and age (see Figure 28Figure 28). **Employees with lower-level qualifications are the most likely to rate training as very useful**. This is likely to be a function of the fact that short courses, such as mandatory inductions or basic skills refreshers, can have an immediate and tangible impact on

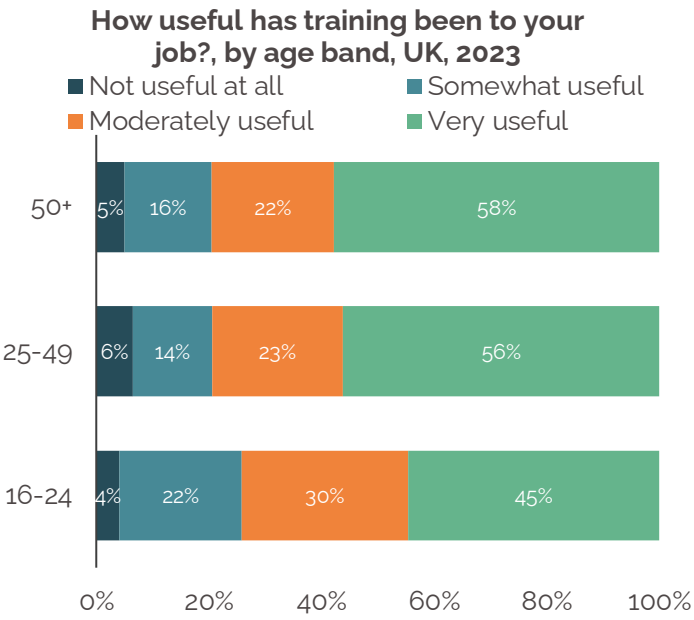
their ability to carry out work tasks. By contrast, employees with higher qualifications are more likely to describe training as moderately useful, perhaps as they are most likely to access learning that consolidates or extends existing expertise rather than transforms job performance.

Younger workers (16–24) are less likely to describe training as very useful compared with mid-career and older employees. For younger participants, training may be seen as reinforcing knowledge already acquired through recent education or early job induction. In contrast, older employees are more likely to find training highly valuable, reflecting its role in updating skills, supporting regulatory compliance, or helping them adapt to new technologies and workplace practices.

Figure 28: Usefulness of job-related training by qualification level and age band, employees, aged 16+, UK, 2023



Source: OECD, 2023 Survey of Adult Skills (PIAAC)
Note: Refers only to participants who have received JOB-RELATED training
Note: ISCED 1 & below – primary education & below, ISCED 2 – lower secondary education, ISCED 3 – upper secondary education, ISCED 4 or higher – post-secondary non-tertiary education & above.



Source: OECD, 2023 Survey of Adult Skills (PIAAC)

Note: Refers only to participants who have received **job-related** training

The overall evidence highlights a system where training is broadly perceived as relevant and helpful, but the intensity of perceived value differs across groups. Those with fewer qualifications and older employees are most likely to see training as very useful, while higher qualified and younger employees are more likely to rate it as moderately useful. This points to a challenge: ensuring training provision supports both immediate relevance and longer-term development, so it adds value across all parts of the workforce.

Summary

Across the four sectors examined, a consistent picture emerges: the fastest growing parts of the UK labour market are defined by digitalisation, decarbonisation, cultural production and financial services. Each is marked by demand for higher level qualifications, technical depth and sector specific expertise.

At the same time, essential employment skills remain broadly required, providing the adaptability and resilience needed as technologies and business models evolve. Workers who combine technical depth alongside strong interpersonal skills are increasingly in-demand. Ensuring the UK workforce is equipped to meet these demands will require a dual approach: strengthening broad based capabilities across the labour market through job anchored training, while investing in the specialist technical skills that underpin the UK's growth sectors.

Although the four growth sectors have broadly similar levels of skills gaps to the wider economy, there are some notable geographical clusters of skills gaps and skills shortage vacancies within them. This demonstrates the difficulty that employers in some sectors have in recruiting sufficiently skilled employees in specific areas.

Of course, not all skills gaps are bad. They may be generated by business growth or the development of new products. However, the findings show that only one fifth of employers highlight a 'positive' reason for skills gaps, a level that has remained broadly consistent since 2015. This suggests that efforts need to be made to tackle wider skills gaps first, in order to give employers the confidence to expand their skills requirements.

Although employer investment in training continues to decline, the findings show that this is associated with a lower quantity of training per person, rather than reduced access to it. In fact, the UK holds up well against international competitors when it comes to the proportion of employees who receive training. Where this differs is in the preponderance of short intensity training. Although a 'little and often' approach for training may be good for employee productivity, training in the UK has a large focus on mandatory and compliance training. The concentration of short, compliance-driven training may be necessary to teach people ways of working in an organisation and support health and safety, but less emphasis is placed on developmental learning that builds transferable skills for future progression. It is notable that the cost per day of training is substantially higher in the four growth sectors than the wider economy, but that within these sectors higher costs are generally associated with reduced training days.

Where it does occur, employees generally find training to be useful for their role, although motivations often reflect obligation rather than career advancement. Younger employees and those with lower-level qualifications are the most likely to find training

to be useful; older age groups also generally find it useful, but for different reasons. However, the findings show a high level of inequality in access to training, which is concentrated among higher qualified employees, those in larger firms and workers in regulated professions. In addition, the data shows that beyond the first months of employment, training participation declines, suggesting that many workers lack access to ongoing development once they have settled into their role. Without a stronger framework for continuous upskilling, there is a risk that the current pattern of training activity will reinforce existing labour market inequalities.