The UK Skills Revolution

Building a data-driven skills system in an era of disruption

Lightcast

Future-Ready Workforce Collection

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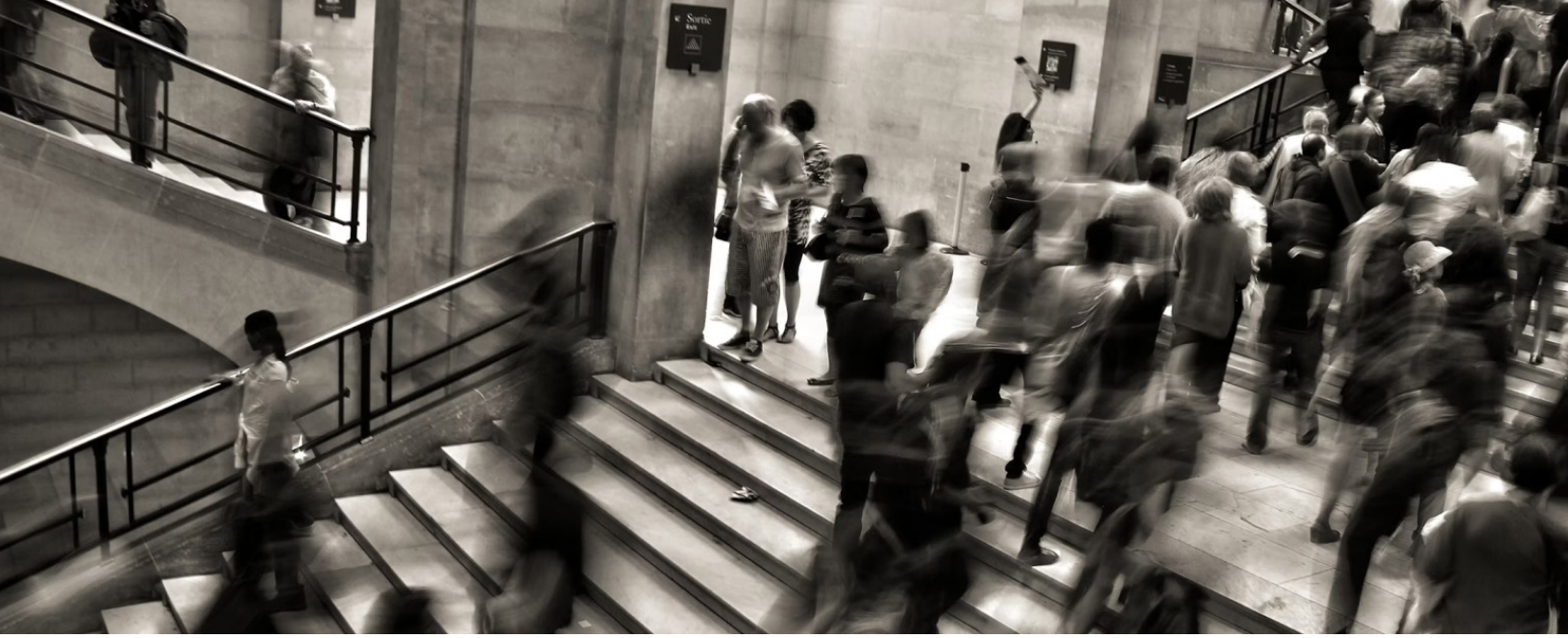


INTRODUCTION

Meeting the Challenge of Disruptive Innovation

The UK labour market is undergoing a period of profound transformation, driven by disruptive innovation.

The last few years have seen jobs themselves being transformed, as the adoption of new technologies and the introduction of new policy initiatives have ushered in vast changes in the workforce. Digital transformation, for example, has redefined the way we work, not just in tech roles, but also in non-tech roles. Workers across the labour market are now expected to be able to use digital technology. More recently, artificial intelligence (AI) has brought about further changes, and again its effects are not confined solely to tech roles, but are also impacting non-tech roles as well, which is demonstrated in The Lightcast Global AI Skills Outlook. On top of this, the transition to the "green economy" is also bringing yet more change to industries and jobs.

The impact that this disruptive innovation is having on the workforce is creating an urgent need for solutions. In education and training, there needs to be a far stronger focus on skills development, lifelong learning, and adaptability through upskilling. National and regional government needs to ensure that changes to the skills system are made on the basis of solid evidence of what skills are actually needed. For employers and employer groups, attention needs to be given to understanding the skills they need to grow, and to working with education and training providers to retrain and upskill their workforce to meet these skills needs.

This has been recognised by the government in the creation of **Skills England** – a new body dedicated to transforming the skills system. In the foreword to its first report – *Driving Growth and Widening Opportunities* – the Secretary of State for Education, Bridget Phillipson, described the current skills system as fragmented and confusing, letting down both learners who don't get taught the right skills, and employers who cannot recruit staff with the right skills. She went on to write about how the need for it to work is now more pressing than ever, given the disruption described above:

> *"All this is playing out at a time when a thriving skills system has never been more important. The need to meet our carbon emission targets, the adoption of new technologies, the risks and opportunities of AI, all these global trends demand a strong and inclusive skills system."*

The establishment of **Skills England** marks a significant step towards meeting the challenge of labour market change caused by disruptive

innovation. However, successful transformation of the skills system in these conditions of constant change must be built on solid, up-to-date evidence about current in-demand skills, and the emerging skills which are set to shape the future.

That is where this report comes in.

Lightcast job postings data can identify the skills required for every occupation in the labour market. This means we can quantify changing skills composition for any occupation, and we can apply this methodology to different sectors, including those that are seen as vital for future economic growth.

Using this approach, we've created a "Skills Disruption Index", which looks at skill change in different occupations over the past three years. This enables us to see at a glance the occupations and parts of the labour market that are changing the fastest. Armed with these insights, we can better understand where and how skills development should be prioritised.

We've also zoomed in on the key trends that are driving these changes in the four sectors that **Skills England** have identified as priorities.

These sectors are:

- Digital Technology (including AI and Cyber Security)
- The Green Workforce
- Housebuilding and Construction
- Life Sciences

For each of these areas, we've provided some key findings from our data, and practical recommendations for navigating changes to ensure the UK workforce is future-ready. The data used in these sections showing the national picture is available at the regional and local level to users of our labour market analytics platform, Lightcast Analyst.

The overarching story of the UK labour market is one of disruptive innovation. Our section on Skills Disruption shows that many occupations have changed dramatically over just a short time. The workforce will therefore continue to change in the years to come, but these changes must first be quantified before they can be tackled with focused solutions.

Beneath this headline, the more nuanced narrative is that disruption is being felt in certain sectors, particularly those highlighted by **Skills England** as being priorities. The bulk of this report is devoted to bringing data to these priority sectors, quantifying the changes being wrought by disruptive innovation. As you'll see, this data-driven approach is essential to understanding what solutions are needed to address skills disruption in these sectors through education, training, and upskilling.

The purpose of this report is to show how our data can bring clarity to the nation's confusing and fragmented skills system. To demonstrate how our data can be used to ensure learners are taught the skills that employers need. To showcase how key stakeholders can use our data to create a genuinely evidence-based response to skills challenges caused by disruptive innovation, especially in those priority sectors identified by **Skills England**.

We are in the midst of a UK skills revolution. Disruptive innovation has created the need; now we must respond by building a genuinely data-driven skills system that can provide the solid foundation for a future-ready workforce. This report shows how this can be done.

Understanding Skill Disruption

Top 20 skills for the average job in the UK have changed 33% since 2021. Breaking this down by industry and occupation reveals deeper trends about the country's workforce needs.

Lightcast job posting data allows us to index the skills requested for every occupation on the market. By comparing the skills requested in 2024 to those requested in 2021, we can 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.

We can take the occupation of Mobile Applications Developer as an example: out of the top 20 skills most frequently mentioned in job postings in 2021, only eight were still on the list in 2024. All other skills changed. Knowledge of APIs was requested in 14% of all postings for this position in 2021, but only 4% of all postings in 2024. At the same time, the share of postings requesting business operations more than doubled, going from 4% to 9%, and the share of postings requesting business management rose from 8% to 16%.

Three Observations

This one example demonstrates three ways by which we can understand the changing UK skills environment.

1. The disruption affecting every occupation can be quantified. Mobile Applications Developer has seen the most disruption, but others with a high ranking include Chief Operating Officer, Data Engineer, and Technical Writer. Those with a low rate of disruption include the occupation of Maid / Housekeeping Staff, Tractor-Trailor Truck Driver, and Construction Worker.

2. Change affects industries, not just individuals. Within the Lightcast Occupation Taxonomy, the occupation of "Mobile Applications Developer" is within the occupation group of Software Development, and the career area of Information Technology and Computer science. We can calculate the skill disruption for each of these layers by analysing the skill change of its component parts. In the chart below, you can see all 24 career areas by how much their skills have changed. Information Technology and Computer Science leads the way, followed by Marketing and Public Relations and then Design, Media, and Writing. At the other end of the chart, areas with the least disruption include Performing Arts, Community and Social Services, and Transportation.

Tech, marketing, and media jobs are the career areas seeing the most disruption.

Index of Career Areas by Skills Change Between 2021 and 2024

Source: Lightcast

3. Several factors are driving disruption. They are digital transformation, the rise of AI, the growth of green, and a changing regulatory environment

These themes emerged from our study of which skills have seen the most change over the past three years—both in growth and decline.

The high disruption affecting Mobile Applications Developer, and tech jobs more broadly, is in keeping with overall trends in the UK labour market. Digital skills, and among those, AI skills in particular, are seeing a huge increase in demand. Very few industries have been untouched by some kind of digitalisation—and career areas with low skill disruption are among those few. Broader shifts toward sustainability are another theme within the skill changes we've seen, and new legal requirements are often reflected in the specific language of job postings. These four themes are aligned with the focus areas identified by **Skills England**.

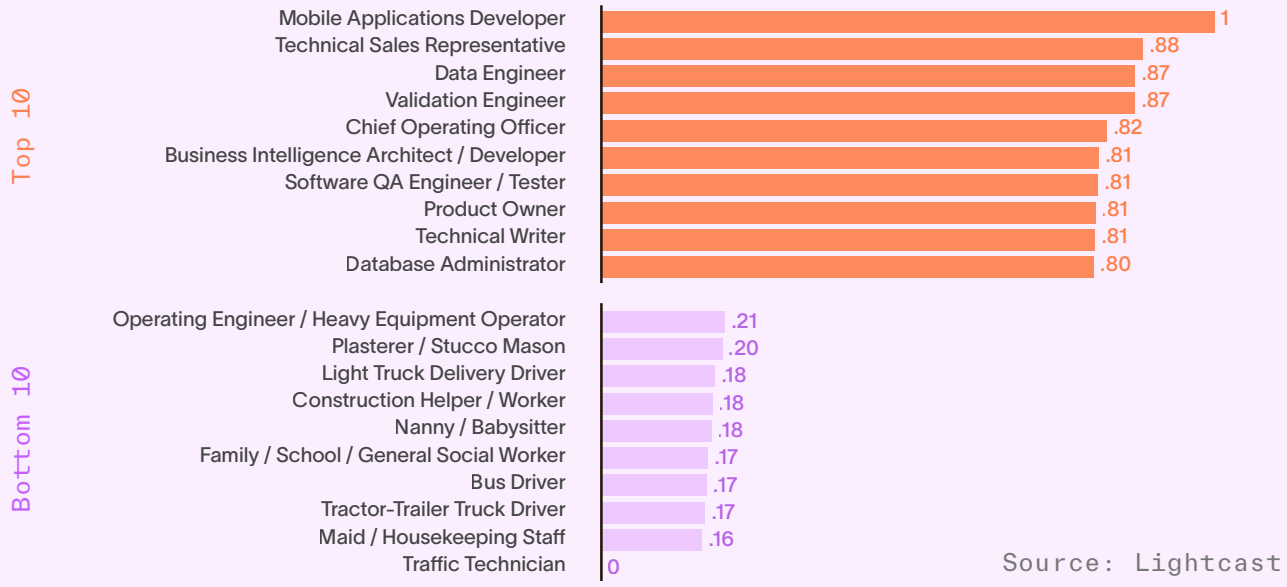
Skills such as artificial intelligence and machine learning have grown by 86% between 2021 and 2024; the safety and security skill has grown 82%, and demand for air quality and emissions is up 52%.

One overarching pattern demonstrated in the data, which is reflected in all three of the points above, is that higher skilled, professional occupations with higher education requirements are seeing more disruption than more hands-on, labour-intensive sectors like construction and hospitality.

This contrast has far-reaching implications for the UK's overall workforce strategy, and as the nation develops a data-driven skills system in an era of disruption, it will be insights like these that ensure it understands our current situation accurately to plan for the future effectively.

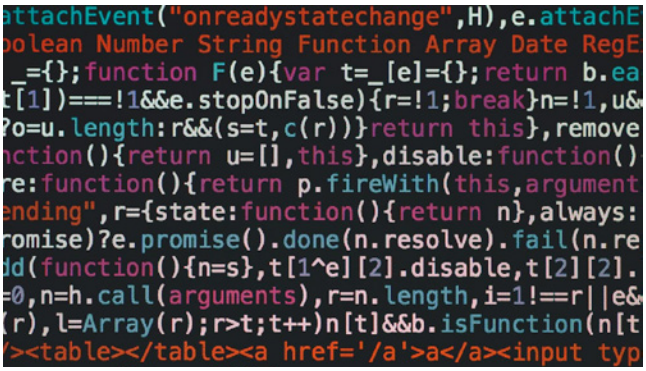
Tech roles are seeing high skill turnover, while those in hands-on occupations are seeing less skill disruption.

The 10 Most Disrupted Occupations, and 10 Least Disrupted Occupations



Source: Lightcast

SECTORS EXPERIENCING ROBUST SKILL DISRUPTION



Digital Technology

Key finding: The explosive growth in generative AI is actually being seen in more non-tech jobs than it is in tech jobs.

The Green Workforce

Key finding: The rise in the green economy is being seen more in the “greening” of existing roles than in the creation of new green jobs.

Housebuilding and Construction

Key finding: Meeting the government’s housebuilding target will require a data-driven solution for reskilling or retraining from other jobs.

Life Sciences

Key finding: Life Science companies tend to cluster together geographically, so any attempts at meeting their skills needs must take this into account.

Digital Technologies

Key finding: The explosive growth in generative AI is actually being seen in more non-tech jobs than it is in tech jobs.

The digital revolution of the last few decades has transformed the world of work. This transformation is in no way confined to specialised IT jobs, where niche technological innovations are constantly bringing about change, but it is also true of non-tech jobs right across the labour market. There are now very few jobs which don't require at least some degree of digital literacy.

In recent years, this transformation has become even more apparent with the rise of AI. Again, although many of the initial changes were felt in tech jobs, it is now frequently being used to augment tasks within non-tech roles as well, as we demonstrated in our Global AI Skills Outlook.

Skills England has identified Digital Technologies (including AI, automation, and cybersecurity) as one of four priority sectors that are key to economic prosperity. As its first report points out:

> *"Across all skill levels, around three-quarters of job adverts require baseline digital skills, and more than half (56%) require specific digital skills. In addition, a small number of occupations are likely to need more advanced digital skills, such as those utilising emerging advanced digital techniques like AI and automation."*

But how exactly is digitisation, in particular recent changes through AI innovations, changing the UK labour market?

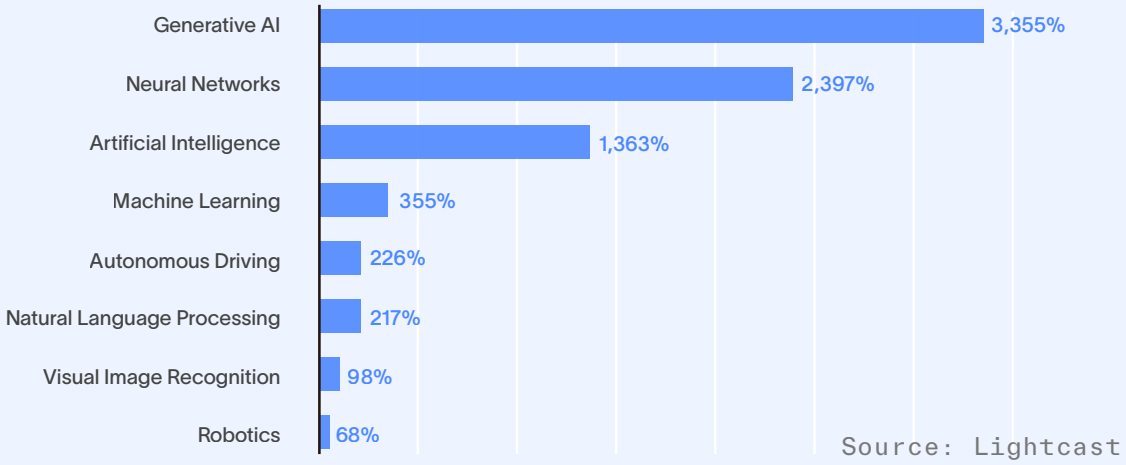
Growth in demand for digital and AI

AI might seem to have only entered the workplace with the launch of ChatGPT and the like, but in fact it has been around for decades in various forms. In 2014, there were almost 29,000 employer job postings in the UK requesting some type of AI as a skill. Since then, our data shows that demand for AI-related skills has grown exponentially, with more than 177,000 job postings requesting these skills in 2024.

The top two requested skills are artificial intelligence, which grew from around 4,200 job postings in 2014 to almost 62,000 job postings in 2024, and machine learning, which grew from 14,800 to 67,000 in the same period. The truly explosive growth, however, has been in generative AI – a subset of AI, which uses algorithms to create new content. Again, although it might seem that it burst onto the scene in November 2022 with the launch of

AI skills of many kinds have seen enormous growth over the past decade.

Growth in Number of Postings, 2014–2024



ChatGPT, there were actually 500 job postings mentioning it in 2014, growing to around 17,000 by 2024 – an astounding increase of 3,355%.

AI is not just affecting tech roles

One of the most striking trends in this explosion of generative AI is its growing application in roles outside the IT sector. When we look at the top 20 occupations requesting generative AI skills, we can see that it includes tech roles such as Software Developer/Engineer, Data Scientist, and Computer Systems Engineer/Architect. But it also includes non-IT occupations such as Researcher/Research Associate, Compliance Manager, and Marketing Manager. In fact, of the top 20 occupations where generative AI skills are requested, 13 are in non-tech roles.

This might seem counterintuitive, but one explanation might be that some of the newest AI and generative AI tools have applications that are able to augment existing tasks in non-tech roles. For instance:

Research: AI is being leveraged to analyse huge datasets and generate insights, particularly in R&D-intensive industries.

Sales: generative AI is being used to optimise customer interactions, generate leads, and create personalised content.

Writing and Translation: AI-powered language models are transforming content creation, helping workers to produce more in less time.

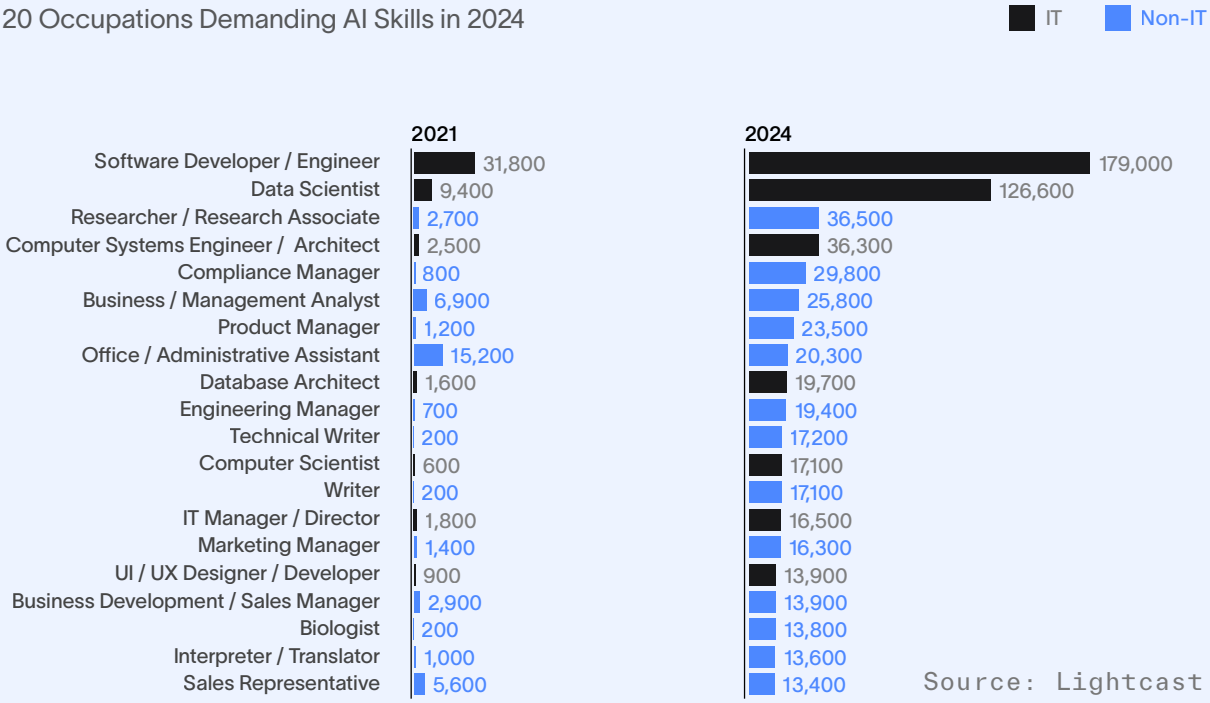
How can data help solve the challenges?

Digital technologies are impacting jobs across the labour market. And whilst the impact of AI is still relatively low, with less than 1% of job postings in the UK mentioning an AI-related skill, the fact that demand for these skills is growing exponentially, changing quickly, and impacting both tech and non-tech jobs, signals a pressing need to incorporate them into skills development programmes.

A transformed skills system must be able to keep up with the rapid pace of change in emerging digital and AI skills. Our skills data, which is based on a Skills Library of over 32,000 skills terms extracted from billions of real-world job postings, can do this. Through this data, key stakeholders can identify the growth and emerging digital and AI skills, whether on a UK-wide level or in their area. These skills can then be incorporated into training and upskilling programmes, so that learners and current employees gain the "skills agility" they need to succeed, whilst employers get the skills they need to grow their businesses.

While the occupations requesting the most AI skills tend to be focused in tech, several other occupations—including administrative assistant, writer, and translator—are also seeing AI demand in job postings.

Top 20 Occupations Demanding AI Skills in 2024



The Green Workforce

Key finding: The rise in the green economy is being seen more in the "greening" of existing roles than in the creation of new green jobs.

The UK's transition to a "green economy" is not just changing the way people live but also reshaping the nation's workforce. In part, these changes can be seen in the creation of new jobs, such as Sustainability Specialist. According to Skills England, these sorts of jobs have been growing significantly over the past few years:

"In 2022, the ONS estimated that there were around 640k full-time equivalents (FTE) directly employed in green jobs, 8.4% higher than the estimated 590k in 2021, and 19.9% higher than 535k estimated in 2020. Overall, growth in green jobs was nearly four times the rate of overall UK employment growth between 2020 and 2022."

However, just as digital and AI skills are not just affecting tech occupations, our data shows that green skills are not just affecting "green jobs", but also roles that we wouldn't necessarily think are related to the environment. What we are seeing is not so much the rise of green jobs, but instead a "greening" of existing roles.

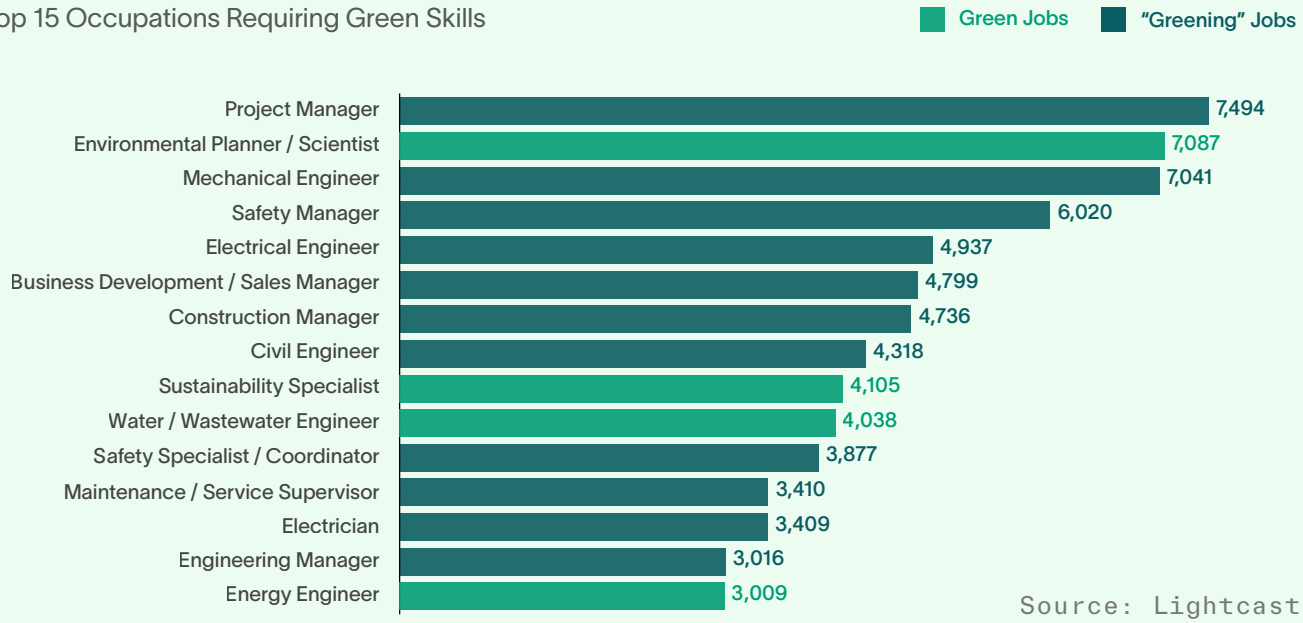
The greening of the labour market

This chart shows the top 15 occupations in which employers are requiring green skills – a list that includes over 400 skills we have identified in the labour market that are linked to clusters related to the environment. Some examples would be green architecture, conservation, renewable energy and electric vehicles.

The "greening" of existing roles has been more significant than the rise of jobs already considered green. Many of these jobs, such as Environmental Planner/Scientist, and Energy Engineer, clearly fall into the category of green jobs. However, there are plenty of jobs that do not. For instance, out of a total of 89,000 job postings for Project Managers, around 7,500 of these have green skills, such as environmental law and policy, waste management, and renewable energy as a requirement. Other non-green jobs, like Mechanical Engineer and Safety Manager, also have significant numbers of job postings containing green skills (around 7,000 and 6,000 respectively).

The jobs requesting the most green skills are often not those we would traditionally think of as green.

Top 15 Occupations Requiring Green Skills



Source: Lightcast

What this suggests is that while the green transition is creating some new green jobs, the transition is far more about the inclusion of green skills within existing industries and occupations.

The greening of specific jobs

The effects of this greening of jobs are being felt throughout the workforce, with those applying for many non-green occupations finding they need to add green skills to the skills traditionally needed to carry out the role.

For instance, job postings for occupations in the construction industry, such as Quantity Surveyor, are increasingly requesting skills such as green building and environmental policies. In the manufacturing sector, skills like renewable energy are being requested on a frequent basis by employers hiring for roles such as Manufacturing Process Engineer. Across multiple sectors, green skills are becoming critical as businesses strive to meet environmental standards and as the economy as a whole goes green.

How can data help solve the challenges?

The greening of existing jobs means skills development should be far less about training people from scratch and far more about upskilling existing workers to give them these new skills. Take a role like Project Manager, which, as we've seen, is increasingly seeing employers requesting green skills. Since the green skills are additional to the role, rather than foundational to it, upskilling existing Project Managers within the organisation to include these skills is the most efficient and cost-effective way of meeting the need.

Where actual green jobs are being created, upskilling can be the answer. Employers can look to build a talent pipeline from adjacent roles – roles that are similar in skills composition – and then look to upskill in areas where there are skills gaps.

An example of this concept of "skills adjacency" can be seen when looking at the role of Solar Engineer. By identifying the skills employers look for when hiring for this job, we can then identify potential "feeder jobs" – jobs that are closest to this role in terms of their skills composition.

One of the closest in terms of skills composition is Electrical Engineer. By putting these jobs side by side, we can establish what transitional skills are needed to upskill from an Electrical Engineer to a Solar Engineer.

Our data shows the top transitional skills include Solar Engineering, Solar Design, PVsyst, and Energy Production. By using this concept, employers who are struggling to hire Solar Engineers could instead look to upskill Electrical Engineers with these transitional skills, or hire Electrical Engineers with the intention of retraining them.

As we think about a skills system geared towards answering the challenge of the green economy, the concept of skills adjacency and the identification of transitional skills should be front and centre. Data is again crucial to solving this puzzle, with key stakeholders working with the insights data provides, to ensure that the retraining and upskilling of workers is focused on providing the skills that can truly make a difference.

Housebuilding & Construction

Key finding: Meeting the government's housebuilding target will require a data-driven solution for reskilling or retraining from other jobs.

The housebuilding and construction sector is at the heart of the government's mission, particularly in view of its commitment to building 1.5 million new homes over the next five years. However, the challenges involved in making good on this commitment are huge, with current employment levels in the sector far below estimates for what will be needed to achieve it. As the **Skills England** report notes:

> *"Despite an average of 38k vacancies advertised per month, almost a third (31%) of construction employers report that finding suitably skilled staff was their key challenge. Before taking account of the skills needed to deliver government commitments to build 1.5m homes, improve the quality and energy efficiency of housing, and wider infrastructure commitments, the Construction Industry Training Board (CITB) forecast that the construction sector will need 252k extra workers over the period 2024-28 to meet UK construction output."*

This pressing need for more construction workers is compounded by growing economic inactivity amongst young people. The shortage will therefore need to be made up by upskilling from within the sector, and retraining workers from other sectors. A further factor that needs consideration is the increase in demand for green skills in some construction roles, driven by environmental and energy targets.

Rising demand for construction workers

Our data reveals that demand for construction workers is high across a broad range of roles within the sector. The most sought-after occupations are Quantity Surveyors, Labourers, and Ground Workers, with a number of supporting roles, such as Support Workers and Project Managers also seeing significant demand.

In terms of growth since 2021, demand for Scaffolders has increased by 169%. Other roles to have seen significant growth in demand during this time include manual jobs such as Groundworkers (34%) and Labourers (25%), and also administrative roles such as Office Administrators (96%) and Support Workers (64%).

Demand is high for roles across the Construction sector.

The Top 10 Construction Roles by Number of Postings, 2024

Source: Lightcast

Rising demand for green skills in the sector

Alongside this growth in demand for construction workers, our data also shows change to the skills composition of some jobs, particularly with the addition of green skills. As the construction industry adapts to environmental concerns, including compliance with new regulations relating to the environment, this is being reflected in the data, which shows that the number of postings requiring green skills is growing in occupations across the sector.

For example, construction firms employing traditional roles like Quantity Surveyor are now adding green building and environmental policies to the list of skills they are looking for. Project Managers now often need to have knowledge of environmental laws and waste management, as well as the traditional skills needed for the role.

How can data help solve the challenges?

Meeting the rising demand for construction workers at a time when fewer people are entering the labour market will require innovative solutions. One possible solution uses a concept mentioned in the section on the Green Workforce: skills adjacency. This is the idea that by understanding the skills component of two jobs, we can identify the transitional skills needed for a person to upskill or retrain from one to the other.

This concept can be applied to the shortage of construction workers in two ways. Firstly, where demand for certain occupations within the industry is higher than others, identifying transitional skills can be helpful to understand how to upskill people from one role to another. The concept can also be applied to occupations outside the construction sector. Again, by establishing the skills gaps between two roles, we can understand better how to retrain people to move into the construction sector.

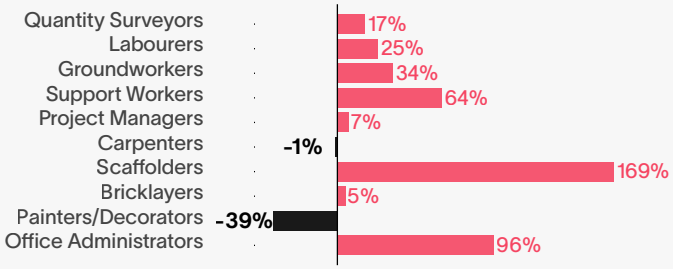
Using our data to identify the transitional skills needed to move from one career to another is one way of helping to move people to more in-demand roles. For example, imagine a scenario where a construction firm has been struggling to hire Construction Site Managers, but where they already employ many people in the less well-paid role of Construction Foreman. Comparing the skills needed to perform both jobs shows us that the top three transitional skills needed to move from Construction Foreman to Construction Site Manager are as follows: construction management; risk analysis; and subcontracting. With this understanding, the employer can look to upskill their current Construction Foremen, or perhaps hire and reskill. This data can also be used to encourage young people to enter the construction sector, by showing them the career pathways ahead of them.

Data like this can be used to encourage people to progress within the construction sector, or to enter the industry, by showing them the possible career pathways ahead of them. Construction firms can use it to work with education providers to upskill their existing workforce, or to look for new talent from other sectors.

As for the challenge of incorporating green skills into certain roles within the sector, again data is highly useful in identifying what employers in the sector now need. As these skills become more prevalent, and as new skills emerge with new technologies and new policies, key stakeholders can use data to forearm themselves with knowledge of these changes. These can then be incorporated into modular training programmes and continuous learning opportunities, ensuring that workers have the tools they need to remain adaptable and agile to the new requirements for green skills.

As demand for construction workers rises overall, many roles have seen especially high increases.

Change Over 3 Years for the Most Recruited Roles in the Construction Sector



Source: Lightcast

Life Sciences

Key finding: Life Science companies tend to cluster together geographically, so any attempts at meeting their skills needs must take this into account.

The Life Sciences sector is a key driver of innovation and economic growth in the UK. According to Skills England, turnover from organisations in this industry was £108.1bn in 2022, and it is now the most productive sector by gross value added per worker.

However, the government's ambitions to grow the sector faces significant challenges, with skills shortages being identified in a number of key areas:

> *"The Science Industry Partnership Futures Group projected that the sector would need at least 133k roles to meet forecasted skills growth demands. It is expected there may be skills shortages in the following sectors if the sector is unable to meet its growing needs to support innovation: specialist science and research occupations; digital and data roles, including AI; medicines manufacturing talent; translation and commercialisation talent."*

As this sector thrives in geographically concentrated clusters, enabling companies to leverage shared resources, talent pools, and collaborative networks is essential.

The geographic concentration of Life Sciences jobs

Although the Life Science sector is a vital part of the UK economy, unlike Digital Technologies, the Green Workforce, and Housebuilding and Construction, it is not a sector that spans the whole country. Rather, companies in this sector tend to cluster together in a relatively small number of places.

The map on page 15 shows the top 10 hotspots for the Life Sciences sector in terms of employment concentration (this is a metric which measures the concentration of jobs in a sector, relative to the total jobs in that area, which is then compared to the national benchmark of one. Any area with an employment concentration over 1.2 can therefore be said to have a comparative advantage in that sector). The data shows that the highest concentrations of employment in the Life Sciences industry are in Oxfordshire, which has an employment concentration of 6.6, and Cambridgeshire (6.56). This is not surprising, since both areas have world-class universities and world-class science parks.

Other areas with high concentrations of Life Science companies include Swindon, home to a number of big pharmaceutical companies such as Vygon (UK) Ltd, Catalent Pharma Solutions, and Thermo Fisher Scientific; East Lothian, Midlothian and West Lothian, which has a number of biotech companies such as Roslin Technologies Ltd and Biobest Laboratories Ltd; and Wiltshire, home of the 10 hectare Health, Life Sciences and R&D campus, Porton Science Park.

The need to strengthen geographic clusters

Emphasising the importance of Life Sciences in the context of national economic growth does not mean dispersing its employment away from the areas where it is currently concentrated. This would be a mistake. As noted above, these clusters of Life Science companies have concentrated together for a reason. Often, it is because there is a world-class university close by, and so those companies benefit from knowledge sharing and the talent pool emerging from those institutions. In places like Wiltshire, it is largely due to the presence of the United Kingdom Health Security Agency (UKHSA) and Defence Science and Technology Laboratory (DSTL) at the Porton Down Science Campus.

This geographic concentration is a strength, not a weakness, and it should be preserved. Attempts to spread the Life Sciences sector more evenly across the country would risk undermining both the reason and the benefits of the current clustering, which include knowledge sharing, supply chain efficiencies, and attracting specialised talent. The focus should instead be on bolstering those areas, helping companies to find the skills they need, and enabling the education providers that supply them with talent to better understand which skills are needed.

How can data help solve the challenges?

The concentrated nature of Life Sciences jobs presents both opportunities and challenges.

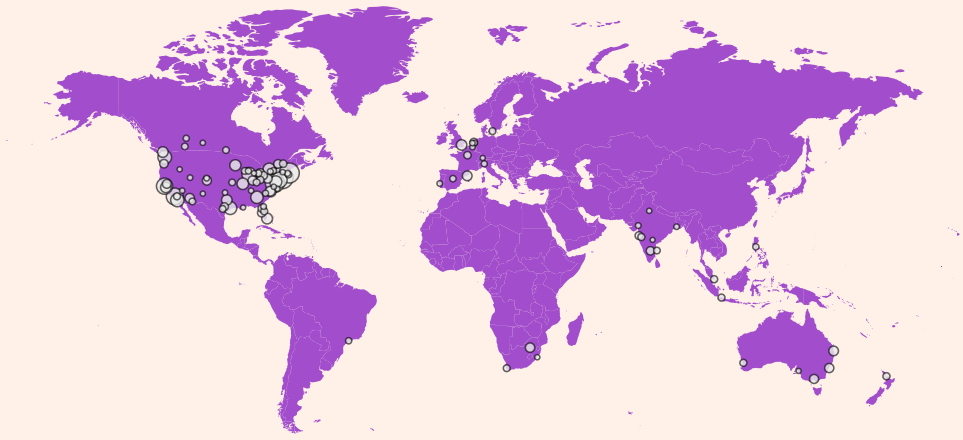
On the one hand, the clustering of companies creates a robust ecosystem that attracts top talent to an area. On the other, these companies often find themselves competing for the same skilled workers, leading to talent shortages in critical roles.

To address these shortages, Life Sciences companies may have to look further afield, even internationally. Here is where our data can help. In the map below, we've used our Profiles Data to identify global hotspots for research technicians, lab technicians, and biology researchers, measured by the percentage of all profiles that mention these roles. The United States is clearly dominant. However, other regions also have significant numbers of profiles mentioning these jobs. For example, the top three hotspots in the EU for these roles are Barcelona, Amsterdam and Paris; whilst in India the top three are Bangalore, Mumbai, and Pune.

Filling skills shortages in this sector should begin with homegrown talent, and again using data to evidence which skills are needed to retrain and upskill people is crucial. However, where companies are just not getting the talent they need, using data to understand where the talent pools with the right skills are, could be a critical part of strengthening and growing the sector to thrive and drive innovation and growth.

Life Sciences jobs are highly concentrated in specific regions of the country.

Global hotspots for Life Sciences are dominated by the US, but Europe, India and the Far East are also home to major talent pools.



Conclusion

The failings of the skills system in the UK have been well known for some time. Yet despite the promises of different governments over the years, these failings have persisted. With the pace of innovation bringing yet more skills disruption, existing problems are only going to be exacerbated. Without radical solutions, the UK's skills system will fall further behind in the next few years. **While 33% of the top skills for the average job have changed over the past three years, that pace may well accelerate in the years to come.**

The need to rethink, reimagine, and rebuild a skills system fit for the 21st century is now a matter of urgency. The current government has recognised this by creating **Skills England**, which promises to "transform the skills system to make it truly world leading". However, making good on this commitment will require a foundation to build on—a foundation of robust evidence about the skills employers need, particularly in priority sectors that are key to economic growth, and where change is being felt most acutely.

What might this data-driven approach mean in practice? Here are some vital points for some of the key stakeholders involved in the transformation of the skills system:

Education and Training Providers

As we've stated throughout this report, disruptive innovation needs to be met with a skills system that can respond with agility to the rapid pace of change. This is not about abandoning traditional qualifications. Rather, it's about adding new skills into existing courses. It's about developing new programmes where those out-of-work can retrain to become more employable. It's about partnering with employers to provide courses to upskill their existing workforce with the skills of the future. With leading labour market data, you can leverage skills insights to help you understand. Contact us to find out how you can leverage skills data to help you understand which skills you need to be teaching, giving you the key for unlocking continuous skills development for learners, the unemployed, and existing workers.

Employers

Although employers often complain of not getting the skilled talent they need to grow their business, many find it hard to define specifically what skills they need, and what skills they currently have in their organisation. But imagine the potential that would be opened up if you could map out the skills of your existing workforce, the skills you need to grow, and identify the skills gap between the two. This might sound a bit pie in the sky, but we're already working with organisations across the globe on similar projects. Get in touch to find out how we can help you understand the skills gaps between your current and future workforce, so that you can look to partner with local education providers to upskill your existing workforce with the transitional skills you need.

Central, Regional and Local Government

Whichever layer of government you are in, if you are involved in the transformation of the skills system, you need to have a data-driven understanding of the changing skills demand. You need to understand what skills are needed in your area, and you need to be able to assess how these needs are being met by your local or regional education and training providers. Although the data we've produced in this report has largely focused on skills throughout the nation, it is available right down to the local authority level. This kind of data will be critical to building a flexible and agile skills infrastructure that will help people in your area train, retrain, and upskill in the skills employers desperately need in their businesses.

APPENDIX

Methodology

The Skills Disruption Index measures how occupations across the United Kingdom have changed in terms of employer skills requirements. To calculate this, we analysed the change in skill share for every Lightcast occupation between 2021 and 2024, and indexed them from 0-100 according to skills change. The higher the ranking, the higher the level of skills change.

Lightcast scans millions of job postings every day and analyses them using artificial intelligence technologies. These job postings are gathered by scraping thousands of employers' sites, job boards and online newspapers on a daily basis. They are cleaned and deduplicated to ensure only one posting is counted for each opening - regardless of how many places it is advertised in. Job postings are then classified by location, industry, occupation, skills required and any other type of relevant information that can be extracted from the advertisement, using a combination of official and proprietary taxonomies.

Drawing on data sourced from more than 43 million online job postings from 2021 - 2024, we examined skill requests as well as their evolution over time. In each year, we looked at the proportion of each job that requires a skill and then tracked that skill to see how the proportion changed over time. To build this version of the Skill Disruption Index, we calculated the absolute value of the difference in proportions from 2021 through to the end of 2024. We then adjusted these differences based on the salary premium for each skill and a measure of the number of occupations the skill affected. These adjustments increase the weight on skills that command a high premium and that are in demand across a wide range of occupations. Next, we summed the changes for each occupation and normalised them to result in an index between 0 and 100.

Data throughout this report was sourced from our online labour market research platform, Analyst. You can use Analyst to understand skills demand in all four **Skills England** priority sectors for your region. Find out more by clicking through, or get in touch to find out how your organisation can get a subscription to this powerful tool.

Our analysis includes 425 out of the over 700 occupations from Lightcast's proprietary taxonomy of occupations. It also includes more than 32,000 skills developed by Lightcast and tagged in job-posting data.

APPENDIX

Skills Disruption Index

Top 50 Most Disrupted Occupations in the UK

	Career Area	Occupation	Skill Disruption Index
1.	Information Technology and Computer Science	Mobile Applications Developer	1.00
2.	Sales	Technical Sales Representative	0.88
3.	Information Technology and Computer Science	Data Engineer	0.87
4.	Engineering	Validation Engineer	0.87
5.	Business Management and Operations	Chief Operating Officer	0.82
6.	Information Technology and Computer Science	Business Intelligence Architect / Developer	0.81
7.	Information Technology and Computer Science	Software QA Engineer / Tester	0.81
8.	Information Technology and Computer Science	Product Owner	0.81
9.	Design, Media, and Writing	Technical Writer	0.81
10.	Information Technology and Computer Science	Database Administrator	0.80
11.	Information Technology and Computer Science	Web Developer	0.80
12.	Information Technology and Computer Science	Computer Systems Engineer / Architect	0.80
13.	Information Technology and Computer Science	Software Developer / Engineer	0.79
14.	Engineering	Materials Engineer	0.79

15.	Information Technology and Computer Science	UI / UX Designer / Developer	0.78
16.	Information Technology and Computer Science	Data Scientist	0.78
17.	Information Technology and Computer Science	Network / Systems Administrator	0.77
18.	Information Technology and Computer Science	Computer Programmer	0.75
19.	Sales	Energy Broker	0.75
20.	Marketing and Public Relations	Digital Content Producer / Manager	0.75
21.	Social Analysis and Planning	Security / Defense Intelligence Analyst	0.75
22.	Information Technology and Computer Science	Database Architect	0.74
23.	Business Management and Operations	Order Processor / Order Entry Clerk	0.74
24.	Marketing and Public Relations	Social Media Strategist / Specialist	0.74
25.	Science and Research	Biologist	0.74
26.	Clerical and Administrative	Interviewer	0.73
27.	Marketing and Public Relations	Search Engine Optimization Specialist	0.73
28.	Design, Media, and Writing	Industrial Designer	0.72
29.	Marketing and Public Relations	Chief Marketing Officer	0.72
30.	Marketing and Public Relations	E-Commerce Analyst	0.72
31.	Healthcare	Medical Office / Practice Manager	0.72
32.	Information Technology and Computer Science	Data Warehousing Specialist	0.71

33.	Marketing and Public Relations	Product Manager	0.71
34.	Law, Compliance, and Public Safety	Probation Officer / Correctional Treatment Specialist	0.71
35.	Law, Compliance, and Public Safety	Regulatory Affairs Manager	0.71
36.	Law, Compliance, and Public Safety	Security Manager	0.71
37.	Information Technology and Computer Science	Systems Analyst	0.71
38.	Information Technology and Computer Science	Network Engineer / Architect	0.70
39.	Design, Media, and Writing	Media / Talent Director	0.70
40.	Finance	Pricing Analyst	0.70
41.	Healthcare	Registrar / Patient Service Representative	0.69
42.	Engineering	Health and Safety Engineer	0.69
43.	Information Technology and Computer Science	Data / Data Mining Analyst	0.69
44.	Finance	Chief Financial Officer	0.69
45.	Information Technology and Computer Science	IT Project Manager	0.69
46.	Marketing and Public Relations	Advertising / Promotions Manager	0.68
47.	Business Management and Operations	Logistics / Supply Chain Analyst	0.68
48.	Information Technology and Computer Science	Multimedia Designer / Animator	0.68
49.	Engineering	Aerospace Engineer	0.68
50.	Design, Media, and Writing	Copywriter	0.67

For more information on our Skills Disruption Index, please reach out to uk-info@lightcast.io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