Pearson Skills Map England

Economies in transition

EXPLORE

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Pearson's Skills Map England explores the impact technology will have on England's workforce, with over 2 million jobs set to transition by 2027.

Introduction

Economic success is closely tied to workforce skills. Businesses rely on appropriately skilled labour to remain productive and, in plain terms, work will only get done if the right people are available to do it. Hence, there is an imperative to strike the right balance between the supply and demand of specific skill sets in any country, region and sector at any given time. Pearson's Skills Outlook provides vital insight into the immediate needs of the modern workforce, to help employers and employees stay relevant and adaptable for the long term.

Technology is irrevocably changing the shape of our workforce; but it is also a useful tool to help predict what is coming. Pearson's analytics applies machine learning models to billions of data points in order to identify future workforce requirements. This includes where parts of the local economy will grow and where others could experience a reduction in roles as a result of emerging technologies. These predictions are vital in supporting decision makers – be they policymakers, educators or employers – as they plan for the years ahead.

Pearson's latest analysis, compiled using predictive capabilities across all of England's regions, indicates that 6.7% of jobs across England will be impacted by automation and augmentation by 2027. This means that more than two million workers, of all ages, skills levels and seniority, will need to find alternative roles in order to remain employed, as a result of technological change in their particular sector. We must not underestimate the upheaval this will cause for individuals and families across the country.

However, our modelling demonstrates that **automation does not necessarily mean fewer jobs – it means different jobs**. Despite persistent fears about automation replacing human workers, Pearson's predictions are actually optimistic that there will be more jobs available across England in five years time. Overall, we forecast that over 2.4 million new jobs will be created by 2027, a net increase of 390,000 additional roles.

This shift is driven by the ebb and flow of opportunity in different sectors. For instance, Pearson's models forecast that the ICT sector is set to grow by 26% - equal to around 365,480 additional jobs - just as the wholesale and retail sector is set to decrease by nearly 170,000 positions. Therefore, the real challenge will be in transitioning displaced individuals into new career paths as soon as possible.

Region	Number of Jobs Impacted by Technology
England	**2.02m (6.7% of population)**
East Midlands	**163.9k (6.9%)**
East of England	**215.4k (6.6%)**
London	**391.9k (6.5%)**
North East	**80.7k (6.9%)**
North West	**269.2k (7%)**
South East	**315k (6.4%)**
South West	**196.3k (6.5%)**
West Midlands	**205.3k (6.9%)**
Yorkshire & the Humber	**185.9k (6.8%)**

Our data also makes clear that local-level analysis is necessary to drive better skill strategies. Whilst every region is set to see tens of thousands of jobs affected by technology, different localities have very different economic conditions and very different employment opportunities. For some regions, programmers and software developers will be in highest demand - whereas for others, large goods vehicle drivers will be the fastest growing role.

When speaking to local leaders at regional roundtables, we found a real desire for local action, building on local strengths. For example, the Sheffield Employment and Skills Advisory Board uses localised data to pinpoint areas of the city that require targeted intervention. And in the West Midlands, leaders told us they were "lucky" to be in a region with devolved powers, as they are able to move more quickly and have greater flexibility in responding to local needs.

Fundamentally though, the job market has never been and will never be static. This data focuses on the changes that will occur by 2027; but the evolution will not end there. Regions with a flexible and adaptable workforce that can more readily anticipate and embrace new opportunities over the next five, ten, or even fifty years, are the most likely to thrive. We must take urgent steps to ensure that England's workforce can keep up with the demands of the constantly evolving modern economy, in order to maintain or enhance economic productivity.

About this data

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to Pearson's proprietary occupation ontology of 5,600 occupations and 2,6000 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

We therefore call on policymakers to:

1

Further devolve skills and employment funding to combined authorities

Different localities have different skills needs, changes and gaps, which each require a bespoke approach. Our research reiterates that local leaders are best placed to understand local labour market conditions, and to work with local employers and education providers to support the development of future skills. While there has been some movement towards devolved skills planning and funding, Pearson advocates for the need to go further on devolution when it comes to the coordination over 16-18 skills delivery, post-19 skills funding and autonomy over careers advice for adults of all ages.

2

Act now, to help the workforce adapt

England urgently needs a skills pipeline that can keep pace with technological change, ensuring that prospective employees can meet the needs of their prospective employers, and that individuals can find high-quality work. There is an immediate need to support those in roles at risk, and to consider how these people can be upskilled to meet the needs of the growing sectors of the economy. There is also the need to help those that are economically inactive to enter or re-enter the workforce, and to support those still in formal education to prepare for the world of work.

3

Use data to plan for the future

Evidence-led policy making will deliver the most effective outcomes. Policymakers should utilise private and public sector data to ensure skills policy is forward looking, and to ensure that we are planning for the jobs of the future. In all areas where greater devolution of funding is agreed, mayors and combined authorities should commit to at least annual data exercises of future workforce trends that should be commissioned and published, to aid decision making.

England

England

Economy in transition

By 2027, the English workforce will have undergone significant technological change. Pearson's localised insights reveal how the landscape will evolve – and predicts that 390k more jobs will be available for local people.

Pearson's predictive analytics

Pearson's Workforce Skills division applies machine learning models to billions of data points in order to surface insights on how dynamic forces such as new work models, economic disruption, and artificial intelligence (AI) are reshaping the world of work.

England in transition

Automation does not necessarily mean fewer jobs – it means *different* jobs. In England, the IT sector is expected to expand its workforce by the greatest number of employees, closely followed by Transportation & Storage.

Meanwhile, the country's Wholesale & Retail Trade sector will offer nearly 170k fewer jobs by 2027. Policymakers must act now to transition individuals from at-risk roles to growing sectors in need of new talent.

Our unique methodology

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to our proprietary occupation ontology of 5,600 occupations & 26,600 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

Impact in England by 2027

	Change in headcount
Economic Growth	**+2.08m (6.8%)**
Quantifies job demand as the economy grows or declines over time. It considers industry growth, industry supply-chains and employment elasticity.	
Technology Impact	**-2.02m (6.7%)**
A measure of jobs impacted by automation and augmentation, reducing their demand. It utilises Faethm by Pearson's technology adoption and work attribution models, informed by a task-level view of the workforce.	
Jobs Added	**+0.34m (1.1%)**
The additional jobs needed to support technology implementation and maintenance.	
Overall change	**+0.39k**

England

Expanding industries

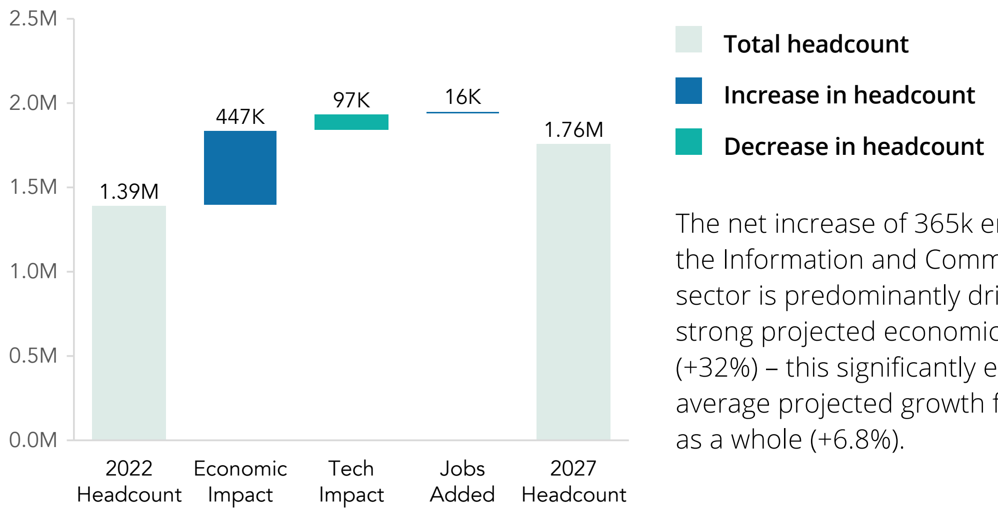
Of all high-level industries in England, our projections show that Information and Communication will experience the greatest growth in headcount by 2027 – with a 365k increase. This is because the impact of emerging technologies is projected to be relatively weak in this area, combined with strong economic growth. Of growing IT-related roles, Programmers will be needed in the greatest quantities, with England requiring 31.8k more people to fill this role by 2027.

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Information and communication	1,394,000	+446,630	-97,390	+16,230	+365,480	+26.22%
Transportation and storage	1,592,000	+319,930	-126,140	+21,020	+214,820	+13.49%
Administrative and support service activities	2,755,800	+329,820	-218,630	+36,440	+147,630	+5.36%
Professional, scientific and technical activities	2,956,400	+250,540	-215,030	+35,840	+71,350	+2.41%
Real estate activities	539,000	+45,960	-20,300	+3,380	+29,050	+5.39%

Information & Communication: Impact breakdown, projections from 2022 to 2027



The net increase of 365k employees in the Information and Communication sector is predominantly driven by strong projected economic growth (+32%) – this significantly exceeds the average projected growth for England as a whole (+6.8%).

England

Declining industries

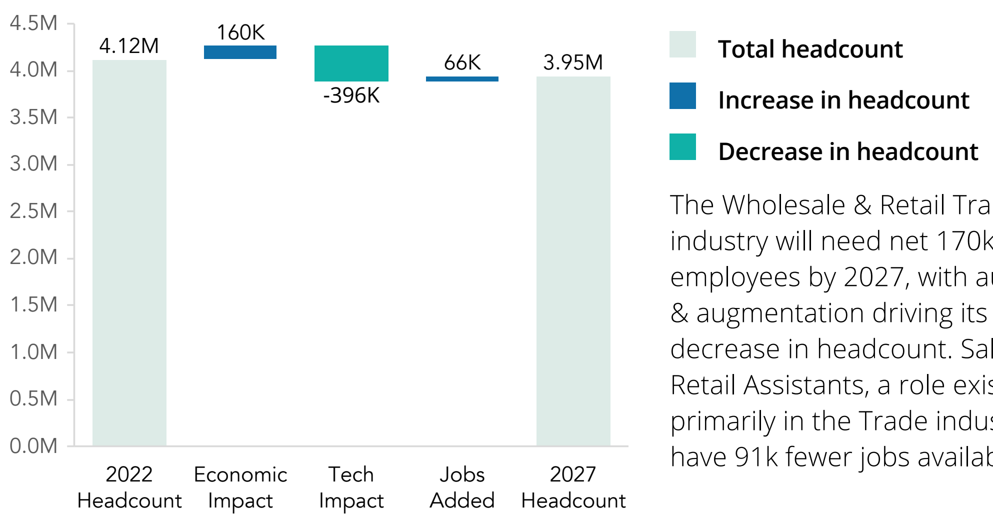
Despite the overall projected increase in headcount across England by 2027, 11 industries are expected to have lower headcounts by 2027 than in 2022. This is due to technological impact outweighing economic growth and other job addition. Of the 11 industries projected to decrease in workforce size, Wholesale & Retail Trade's drop is the greatest – with a 170k decrease in headcount. In light of this, policy action is needed to ensure individuals in highly-impacted roles have viable career transition options.

Top 5 industries by decrease in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Wholesale and retail trade; repair of motor vehicles and motorcycles	4,115,600	+159,980	-395,520	+65,920	-169,610	-4.12%
Manufacturing	2,165,000	+87,480	-203,140	+33,860	-81,800	-3.78%
Education	2,600,200	+29,970	-114,390	+19,070	-65,360	-2.51%
Financial and insurance activities	947,000	+25,050	-93,790	+15,630	-53,120	-5.61%
Accommodation and Food service activities	2,093,400	+86,420	-141,300	+23,550	-31,330	-1.50%

Wholesale & Retail Trade: Impact breakdown, from 2022 to 2027



The Wholesale & Retail Trade industry will need net 170k fewer employees by 2027, with automation & augmentation driving its overall decrease in headcount. Sales and Retail Assistants, a role existing primarily in the Trade industry, will have 91k fewer jobs available by 2027.

England

Job impact

The impact at an industry level is driven by shifts in the roles needed in five years' time. In England, Programmers top the list of additional jobs needed, while the region will need 91k fewer Sales Assistants.

Jobs growing are those with the greatest projected increase in demand to 2027, while jobs going will see the greatest decrease.

Jobs growing

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Programmers and Software Development Professio..	179,050	210,869	+31,820	+17.77%
Cleaners and Domestics	858,320	889,196	+30,880	+3.60%
IT Specialist Managers	169,640	196,433	+26,790	+15.79%
IT and Telecommunications Professionals	160,170	186,044	+25,870	+16.15%
Care Workers and Home Carers	784,280	810,116	+25,840	+3.29%
Managers and Proprietors in Other Services	362,470	383,922	+21,450	+5.92%
Large Goods Vehicle Drivers	266,280	285,046	+18,760	+7.05%
Arts Officers, Producers and Directors	86,260	103,224	+16,970	+19.67%
IT and Telecommunications Directors	70,710	87,445	+16,730	+23.66%
Security Guards and Related Occupations	271,250	287,754	+16,510	+6.09%

Jobs going

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Sales and Retail Assistants	1,269,250	1,177,927	-91,320	-7.19%
Other Administrative Occupations Nec	683,980	652,008	-31,980	-4.68%
Bookkeepers Payroll Managers and Wages Clerks	366,130	335,456	-30,670	-8.38%
Kitchen and Catering Assistants	448,170	417,968	-30,200	-6.74%
Receptionists	292,680	270,420	-22,260	-7.61%
Personal Assistants and Other Secretaries	334,460	316,519	-17,940	-5.36%
Retail Cashiers and Checkout Operators	145,460	129,416	-16,040	-11.03%
Bank and Post Office Clerks	146,910	132,549	-14,360	-9.77%
Bar Staff	235,640	221,314	-14,320	-6.08%
Metal Working Production and Maintenance Fitters	206,560	192,684	-13,880	-6.72%

England

All industries table

Full data table showing the total impact in the region in the five years from 2022, subdivided into economic impact, tech impact and jobs added.

England impact breakdown 5 years from 2022, by industry

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Grand Total	**30,399,600**	**+2,079,870**	**-2,023,540**	**+337,260**	**+393,560**	**+1.29%**
Information and communication	1,394,000	+446,630	-97,390	+16,230	+365,480	+26.22%
Transportation and storage	1,592,000	+319,930	-126,140	+21,020	+214,820	+13.49%
Administrative and support service activities	2,755,800	+329,820	-218,630	+36,440	+147,630	+5.36%
Professional, scientific and technical activities	2,956,400	+250,540	-215,030	+35,840	+71,350	+2.41%
Real estate activities	539,000	+45,960	-20,300	+3,380	+29,050	+5.39%
Human health and social work activities	3,806,100	+152,130	-163,080	+27,180	+16,230	+0.43%
Agriculture, forestry and fishing	233,100	+19,150	-6,740	+1,120	+13,530	+5.81%
Activities of households as employers; undifferentiated goods and services producing activities of households for own use	50,000	+3,360	-1,340	+220	+2,250	+4.50%
Activities of extraterritorial organizations and bodies	18,700	+2,590	-640	+110	+2,060	+11.01%
Electricity, gas, steam and air conditioning supply	110,200	+4,780	-4,180	+700	+1,290	+1.17%
Public administration and defence; compulsory social security	1,305,300	+67,380	-81,580	+13,600	-600	-0.05%
Other service activities	740,000	+22,290	-32,560	+5,430	-4,840	-0.65%
Mining and quarrying	22,900	-4,320	-1,200	+200	-5,320	-23.27%
Water supply; sewerage, waste management and remediation activities	192,100	-4,050	-6,870	+1,140	-9,780	-5.09%
Arts, entertainment and recreation	834,900	+11,050	-41,650	+6,940	-23,660	-2.83%
Construction	1,928,000	+23,690	-58,080	+9,680	-24,710	-1.28%
Accommodation and Food service activities	2,093,400	+86,420	-141,300	+23,550	-31,330	-1.50%
Financial and insurance activities	947,000	+25,050	-93,790	+15,630	-53,120	-5.61%
Education	2,600,200	+29,970	-114,390	+19,070	-65,360	-2.51%
Manufacturing	2,165,000	+87,480	-203,140	+33,860	-81,800	-3.78%
Wholesale and retail trade; repair of motor vehicles and motorcycles	4,115,600	+159,980	-395,520	+65,920	-169,610	-4.12%

East of England

East of England

Economy in transition

By 2027, the East of England workforce will have undergone significant technological change. Pearson's localised insights reveal how the landscape will evolve – and predicts that 38.3k more jobs will be available for local people.

Pearson's predictive analytics

Pearson's Workforce Skills division applies machine learning models to billions of data points in order to surface insights on how dynamic forces such as new work models, economic disruption, and artificial intelligence (AI) are reshaping the world of work.

East of England in transition

Automation does not necessarily mean fewer jobs – it means *different* jobs. In the East of England, the Information & Communication Technology (ICT) sector is projected to exhibit the highest growth in both the number of additional employees required and the percentage increase, surpassing other industries.

Our unique methodology

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to our proprietary occupation ontology of 5,600 occupations & 26,600 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

Impact in the East of England by 2027

	Change in headcount
Economic Growth	**+217.7k (6.7%)**

Quantifies job demand as the economy grows or declines over time. It considers industry growth, industry supply-chains and employment elasticity.

Technology Impact	**-215.4k (6.6%)**

A measure of jobs impacted by automation and augmentation, reducing their demand. It utilises Faethm by Pearson's technology adoption and work attribution models, informed by a task-level view of the workforce.

Jobs Added	**+35.9k (1.1%)**

The additional jobs needed to support technology implementation and maintenance.

Overall change	**+38.3k**

East of England

Expanding industries

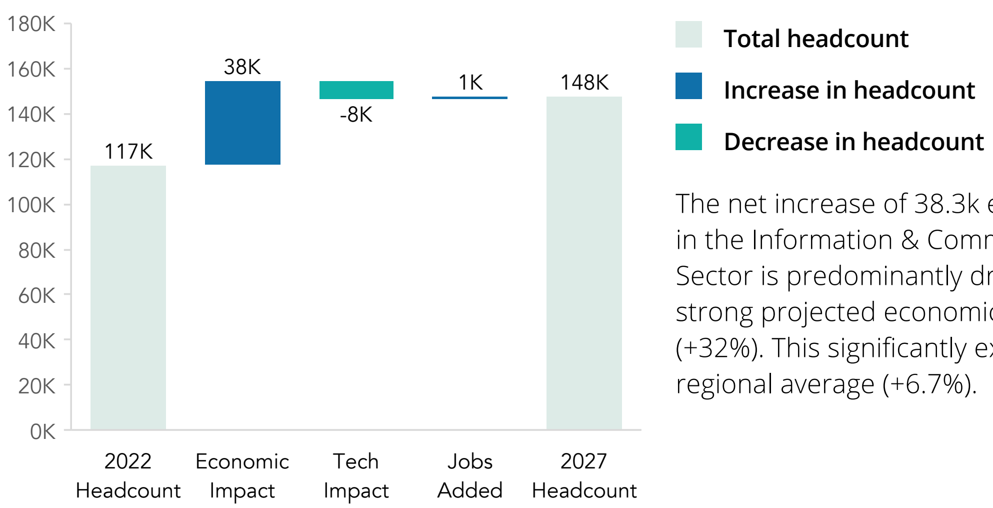
Of all high-level industries in the East of England, our projections show that Information & Communication will experience the greatest growth in headcount by 2027 – with a 30.6k increase. This is because increasing demand for digital services is expected to outweigh the potential impact of automation on the sector's workforce. Of growing roles, Information Technology & Telecommunications Directors will be the fastest growing ICT-related role, with the region requiring 1.7k more people to fill this role by 2027.

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Information and communication	117,100	+37,500	-8,260	+1,380	+30,610	+26.15%
Transportation and storage	184,000	+36,980	-14,510	+2,420	+24,890	+13.53%
Administrative and support service activities	326,800	+39,130	-25,860	+4,310	+17,580	+5.38%
Professional, scientific and technical activities	314,800	+26,660	-23,450	+3,910	+7,120	+2.26%
Real estate activities	42,100	+3,590	-1,590	+270	+2,270	+5.39%

Information & Communication: Impact breakdown, projection from 2022 to 2027



The net increase of 38.3k employees in the Information & Communication Sector is predominantly driven by its strong projected economic growth (+32%). This significantly exceeds the regional average (+6.7%).

East of England

Declining industries

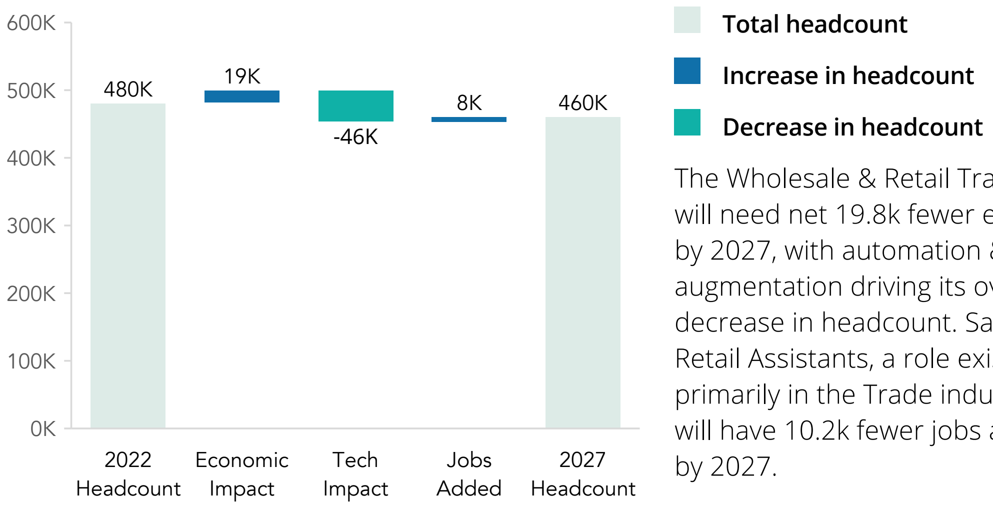
Despite the overall projected increase in headcount across the East of England by 2027, 10 industries are expected to have lower headcounts by 2027 than in 2022. This is due to technological impact outweighing economic growth and other job addition. Of the industries projected to decrease in workforce size, Wholesale & Retail Trade's drop is the greatest – with a 19.8k decrease in headcount. In light of this, local policy action is needed to ensure individuals in highly-impacted roles have viable career transition options

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Wholesale and retail trade; repair of motor vehicles and motorcycles	480,100	+18,660	-46,180	+7,700	-19,820	-4.13%
Manufacturing	218,900	+8,850	-20,060	+3,340	-7,870	-3.60%
Education	260,900	+3,010	-11,590	+1,930	-6,650	-2.55%
Financial and insurance activities	59,000	+1,560	-6,180	+1,030	-3,590	-6.09%
Accommodation and Food service activities	219,100	+9,050	-14,700	+2,450	-3,210	-1.47%

Wholesale & Retail Trade: Impact breakdown, from 2022 to 2027



The Wholesale & Retail Trade industry will need net 19.8k fewer employees by 2027, with automation & augmentation driving its overall decrease in headcount. Sales and Retail Assistants, a role existing primarily in the Trade industry, will have 10.2k fewer jobs available by 2027.

East of England

Job impact

The impact at an industry level is driven by shifts in the roles needed in five years' time. In the East of England, Carers and Cleaners top the list of additional jobs needed, while the region will need 10.2k fewer Sales & Retail Assistants.

Jobs growing are those with the greatest projected increase in demand to 2027, while jobs going will see the greatest decrease.

Jobs growing

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Cleaners and Domestics	99,120	102,904	+3,780	+3.81%
Care Workers and Home Carers	93,190	96,313	+3,130	+3.36%
Programmers & Software Development Professionals	17,660	20,760	+3,100	+17.55%
Large Goods Vehicle Drivers	36,200	38,836	+2,640	+7.29%
IT Specialist Managers	16,240	18,781	+2,540	+15.64%
Managers and Proprietors in Other Services	39,390	41,689	+2,300	+5.84%
IT and Telecommunications Professionals	14,500	16,790	+2,290	+15.79%
Taxi and Cab Drivers and Chauffeurs	23,290	25,072	+1,790	+7.69%
IT and Telecommunications Directors	7,190	8,880	+1,690	+23.52%
Security Guards and Related Occupations	25,630	27,257	+1,620	+6.32%

Jobs going

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Sales and Retail Assistants	139,520	129,359	-10,160	-7.28%
Bookkeepers Payroll Managers and Wages Clerks	45,390	41,635	-3,760	-8.28%
Other Administrative Occupations Nec	77,740	74,082	-3,660	-4.71%
Kitchen and Catering Assistants	48,490	45,220	-3,270	-6.74%
Receptionists	32,320	29,833	-2,490	-7.70%
Personal Assistants and Other Secretaries	37,120	35,107	-2,010	-5.41%
Retail Cashiers and Checkout Operators	16,550	14,711	-1,830	-11.06%
Metal Working Production and Maintenance Fitters	22,900	21,448	-1,450	-6.33%
Customer Service Occupations Nec	23,540	22,149	-1,390	-5.90%
Bar Staff	21,800	20,480	-1,320	-6.05%

East of England

All industries table

Full data table showing the total impact in the region in the five years from 2022, subdivided into economic impact, tech impact and jobs added.

East of England impact breakdown 5 years from 2022, by industry

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Grand Total	**3,276,200**	**+217,730**	**-215,350**	**+35,890**	**+38,260**	**+1.17%**
Information and communication	117,100	+37,500	-8,260	+1,380	+30,610	+26.15%
Transportation and storage	184,000	+36,980	-14,510	+2,420	+24,890	+13.53%
Administrative and support service activities	326,800	+39,130	-25,860	+4,310	+17,580	+5.38%
Professional, scientific and technical activities	314,800	+26,660	-23,450	+3,910	+7,120	+2.26%
Real estate activities	42,100	+3,590	-1,590	+270	+2,270	+5.39%
Human health and social work activities	422,000	+16,870	-17,980	+3,000	+1,890	+0.45%
Agriculture, forestry and fishing	32,900	+2,700	-1,000	+170	+1,870	+5.68%
Activities of extraterritorial organizations and bodies	6,200	+860	-150	+30	+730	+11.83%
Activities of households as employers; undifferentiated goods and services producing activities of households for own use	6,000	+410	-160	+30	+270	+4.49%
Public administration and defence; compulsory social security	110,100	+5,690	-6,540	+1,090	+240	+0.22%
Electricity, gas, steam and air conditioning supply	6,000	+260	-210	+40	+90	+1.49%
Other service activities	88,900	+2,680	-3,820	+640	-500	-0.56%
Mining and quarrying	3,000	-570	-160	+30	-700	-23.24%
Water supply; sewerage, waste management and remediation activities	26,100	-550	-920	+150	-1,320	-5.06%
Arts, entertainment and recreation	67,900	+900	-3,420	+570	-1,950	-2.87%
Accommodation and Food service activities	219,100	+9,050	-14,700	+2,450	-3,210	-1.47%
Financial and insurance activities	59,000	+1,560	-6,180	+1,030	-3,590	-6.09%
Construction	284,200	+3,490	-8,610	+1,430	-3,680	-1.29%
Education	260,900	+3,010	-11,590	+1,930	-6,650	-2.55%
Manufacturing	218,900	+8,850	-20,060	+3,340	-7,870	-3.60%
Wholesale and retail trade; repair of motor vehicles and motorcycles	480,100	+18,660	-46,180	+7,700	-19,820	-4.13%

East Midlands

East Midlands

Economy in transition

By 2027, the East Midlands workforce will have undergone significant technological change. Pearson's localised insights reveal how the landscape will evolve – and predicts that 17.7k more jobs will be available for local people.

Pearson's predictive analytics

Pearson's Workforce Skills division applies machine learning models to billions of data points in order to surface insights on how dynamic forces such as new work models, economic disruption, and artificial intelligence (AI) are reshaping the world of work.

East Midlands in transition

Automation does not necessarily mean fewer jobs – it means *different* jobs. In the East Midlands, the number of additional employees needed in Transportation & Storage is set to marginally exceed ICT. However, by percentage increase ICT will experience the greatest growth.

Our unique methodology

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to our proprietary occupation ontology of 5,600 occupations & 26,600 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

Impact in the East Midlands by 2027

	Change in headcount
Economic Growth	**+154.3k (6.5%)**

Quantifies job demand as the economy grows or declines over time. It considers industry growth, industry supply-chains and employment elasticity.

Technology Impact	**-163.9k (6.9%)**

A measure of jobs impacted by automation and augmentation, reducing their demand. It utilises Faethm by Pearson's technology adoption and work attribution models, informed by a task-level view of the workforce.

Jobs Added	**+27.3k (1.2%)**

The additional jobs needed to support technology implementation and maintenance.

Overall change	**+17.7k**

East Midlands

Expanding industries

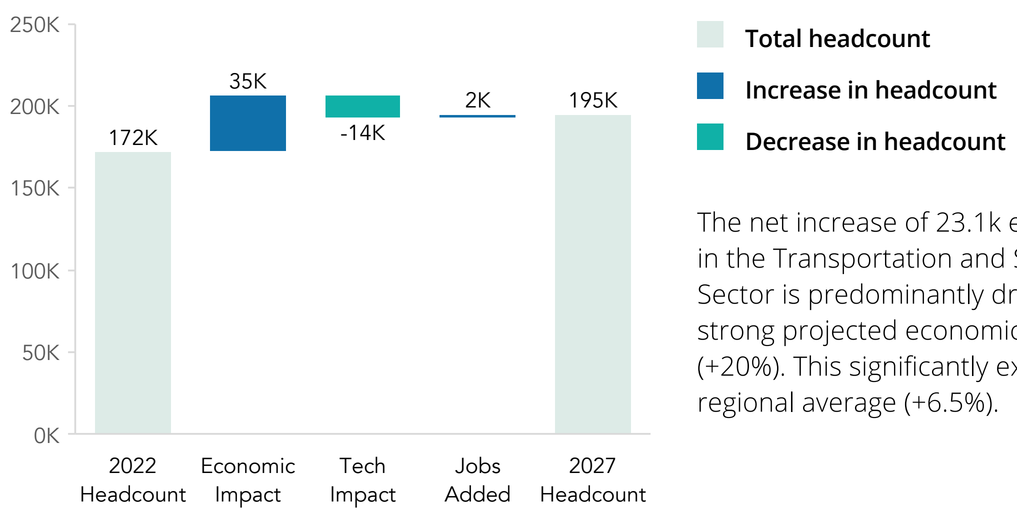
Of all high-level industries in the East Midlands, our projections show that Transportation and Storage will experience the greatest growth in headcount by 2027 – with a 23.1k increase. This is because the projected surge in macroeconomic demand is strong enough to outweigh the impact of automation on the sector. Of growing roles, Large Goods Vehicle Drivers will be the fastest growing transport-related role, with the region requiring 3.1k more people to fill this role by 2027.

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Transportation and storage	171,900	+34,550	-13,690	+2,280	+23,140	+13.46%
Information and communication	68,000	+21,750	-5,070	+840	+17,520	+25.77%
Administrative and support service activities	183,100	+21,890	-15,090	+2,510	+9,320	+5.09%
Professional, scientific and technical activities	183,000	+15,490	-14,080	+2,350	+3,760	+2.05%
Real estate activities	49,000	+4,180	-1,850	+310	+2,640	+5.39%

Transportation & Storage: Impact breakdown, projection from 2022 to 2027



The net increase of 23.1k employees in the Transportation and Storage Sector is predominantly driven by its strong projected economic growth (+20%). This significantly exceeds the regional average (+6.5%).

East Midlands

Declining industries

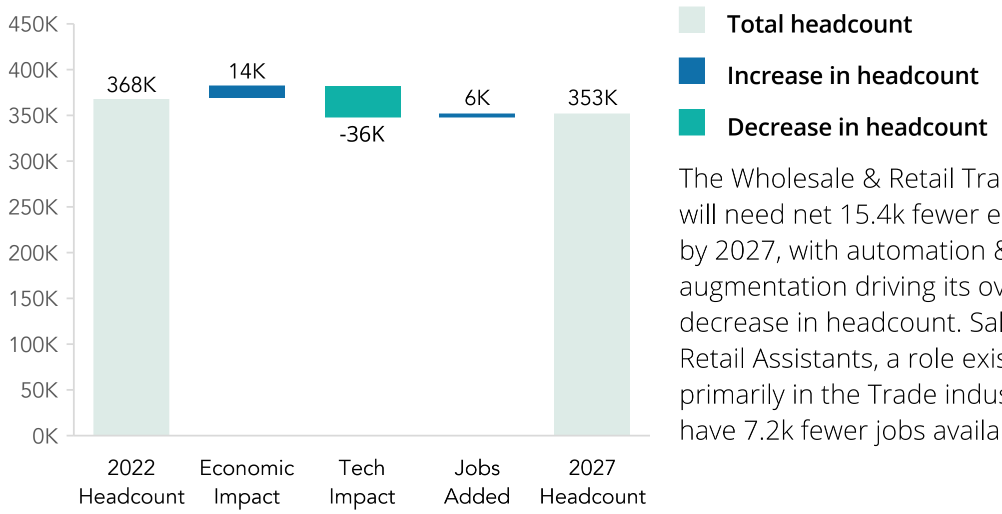
Despite the overall projected increase in headcount across the East Midlands by 2027, 11 industries are expected to have lower headcounts by 2027 than in 2022. This is due to technological impact outweighing economic growth and other job addition. Of the 11 industries projected to decrease in workforce size, Wholesale & Retail Trade's drop is the greatest – with a 15.4k decrease in headcount. In light of this, local policy action is needed to ensure individuals in highly-impacted roles have viable career transition options.

Top 5 industries by decrease in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Wholesale and retail trade; repair of motor vehicles and motorcycles	368,000	+14,300	-35,690	+5,950	-15,440	-4.20%
Manufacturing	254,300	+10,260	-24,980	+4,160	-10,550	-4.15%
Education	217,100	+2,500	-9,640	+1,610	-5,530	-2.55%
Financial and insurance activities	39,100	+1,030	-4,180	+700	-2,450	-6.27%
Accommodation and Food service activities	134,900	+5,570	-9,290	+1,550	-2,170	-1.61%

Wholesale & Retail Trade: Impact breakdown, from 2022 to 2027



The Wholesale & Retail Trade industry will need net 15.4k fewer employees by 2027, with automation & augmentation driving its overall decrease in headcount. Sales and Retail Assistants, a role existing primarily in the Trade industry, will have 7.2k fewer jobs available by 2027.

East Midlands

Job impact

The impact at an industry level is driven by shifts in the roles needed in five years' time. In the East Midlands, Large Goods Vehicle Drivers top the list of additional jobs needed, while the region will need 7.2k fewer Sales & Retail Assistants.

Jobs growing are those with the greatest projected increase in demand to 2027, while jobs going will see the greatest decrease.

Jobs growing

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Large Goods Vehicle Drivers	36,740	39,859	+3,120	+8.49%
Care Workers and Home Carers	70,810	73,127	+2,320	+3.28%
Cleaners and Domestics	64,940	66,933	+1,990	+3.06%
Programmers & Software Development Professionals	10,010	11,781	+1,770	+17.69%
IT Specialist Managers	9,780	11,224	+1,450	+14.83%
Bus and Coach Drivers	13,780	15,198	+1,420	+10.30%
Managers and Proprietors in Other Services	24,780	26,060	+1,280	+5.17%
IT and Telecommunications Professionals	7,550	8,822	+1,270	+16.82%
Taxi and Cab Drivers and Chauffeurs	15,050	16,291	+1,250	+8.31%
Managers & Directors in Transport and Distribution	8,790	9,989	+1,200	+13.65%

Jobs going

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Sales and Retail Assistants	99,010	91,791	-7,220	-7.29%
Other Administrative Occupations Nec	56,930	54,212	-2,720	-4.78%
Bookkeepers Payroll Managers and Wages Clerks	27,920	25,497	-2,420	-8.67%
Kitchen and Catering Assistants	33,490	31,197	-2,290	-6.84%
Food Drink and Tobacco Process Operatives	27,220	24,996	-2,220	-8.16%
Receptionists	21,760	20,082	-1,680	-7.72%
Metal Working Production and Maintenance Fitters	21,280	19,738	-1,540	-7.24%
Retail Cashiers and Checkout Operators	11,700	10,401	-1,300	-11.11%
Personal Assistants and Other Secretaries	21,420	20,181	-1,240	-5.79%
Elementary Process Plant Occupations Nec	15,750	14,572	-1,180	-7.49%

East Midlands

All industries table

Full data table showing the total impact in the region in the five years from 2022, subdivided into economic impact, tech impact and jobs added.

East Midlands impact breakdown 5 years from 2022, by industry

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Grand Total	**2,373,000**	**+154,270**	**-163,850**	**+27,310**	**+17,730**	**+0.75%**
Transportation and storage	171,900	+34,550	-13,690	+2,280	+23,140	+13.46%
Information and communication	68,000	+21,750	-5,070	+840	+17,520	+25.77%
Administrative and support service activities	183,100	+21,890	-15,090	+2,510	+9,320	+5.09%
Professional, scientific and technical activities	183,000	+15,490	-14,080	+2,350	+3,760	+2.05%
Real estate activities	49,000	+4,180	-1,850	+310	+2,640	+5.39%
Human health and social work activities	314,100	+12,560	-13,320	+2,220	+1,460	+0.46%
Agriculture, forestry and fishing	19,000	+1,560	-570	+90	+1,090	+5.73%
Activities of households as employers; undifferentiated goods and services producing activities of households for own use	4,000	+270	-110	+20	+180	+4.50%
Electricity, gas, steam and air conditioning supply	12,000	+520	-500	+80	+100	+0.83%
Activities of extraterritorial organizations and bodies	800	+120	-20	+00	+100	+12.02%
Public administration and defence; compulsory social security	92,900	+4,800	-5,810	+970	-50	-0.05%
Other service activities	49,000	+1,480	-2,120	+350	-290	-0.59%
Water supply; sewerage, waste management and remediation activities	12,000	-250	-430	+70	-620	-5.15%
Mining and quarrying	4,000	-760	-220	+40	-940	-23.44%
Arts, entertainment and recreation	55,000	+730	-2,870	+480	-1,670	-3.04%
Construction	141,900	+1,740	-4,320	+720	-1,860	-1.31%
Accommodation and Food service activities	134,900	+5,570	-9,290	+1,550	-2,170	-1.61%
Financial and insurance activities	39,100	+1,030	-4,180	+700	-2,450	-6.27%
Education	217,100	+2,500	-9,640	+1,610	-5,530	-2.55%
Manufacturing	254,300	+10,260	-24,980	+4,160	-10,550	-4.15%
Wholesale and retail trade; repair of motor vehicles and motorcycles	368,000	+14,300	-35,690	+5,950	-15,440	-4.20%

London

London

Economy in transition

By 2027, the London workforce will have undergone significant technological change. Pearson's localised insights reveal how the landscape will evolve – and predicts that 164.4k more jobs will be available for local people.

Pearson's predictive analytics

Pearson's Workforce Skills division applies machine learning models to billions of data points in order to surface insights on how dynamic forces such as new work models, economic disruption, and artificial intelligence (AI) are reshaping the world of work.

London in transition

Automation does not necessarily mean fewer jobs – it means *different* jobs. In London, the Information & Communication Technology (ICT) sector is projected to exhibit the highest growth in both the number of additional employees required and the percentage increase, surpassing other industries.

Our unique methodology

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to our proprietary occupation ontology of 5,600 occupations & 26,600 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

Impact in London by 2027

	Change in headcount
Economic Growth	**+490.9k (8.1%)**
Quantifies job demand as the economy grows or declines over time. It considers industry growth, industry supply-chains and employment elasticity.	
Technology Impact	**-391.9k (6.5%)**
A measure of jobs impacted by automation and augmentation, reducing their demand. It utilises Faethm by Pearson's technology adoption and work attribution models, informed by a task-level view of the workforce.	
Jobs Added	**+65.3k (1.1%)**
The additional jobs needed to support technology implementation and maintenance.	
Overall change	**+164.4k**

London

Expanding industries

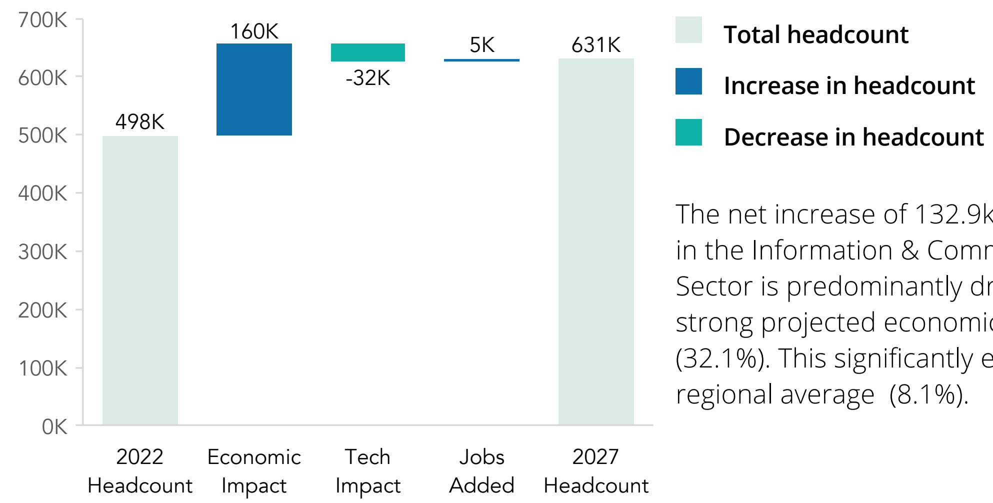
Of all high-level industries in London, our projections show that Information & Communication will experience the greatest growth in headcount by 2027 – with a 132.9k increase. This is because of increasing demand for digital services, and the adoption of information-driven solutions, which are expected to outweigh the potential impact of automation on the sector's workforce. Of growing roles, Programmers & Software Development Professionals will be the fastest growing ICT-related role, with the region requiring 9.2k more people to fill this role by 2027.

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Information and communication	498,000	+159,860	-32,360	+5,390	+132,890	+26.69%
Transportation and storage	304,900	+61,290	-23,810	+3,970	+41,450	+13.59%
Administrative and support service activities	551,000	+66,010	-41,740	+6,960	+31,220	+5.67%
Professional, scientific and technical activities	873,100	+74,160	-58,030	+9,670	+25,800	+2.95%
Real estate activities	147,000	+12,530	-5,550	+920	+7,910	+5.38%

Information & Communication: Impact breakdown, projection from 2022 to 2027



The net increase of 132.9k employees in the Information & Communication Sector is predominantly driven by its strong projected economic growth (32.1%). This significantly exceeds the regional average (8.1%).

London

Declining industries

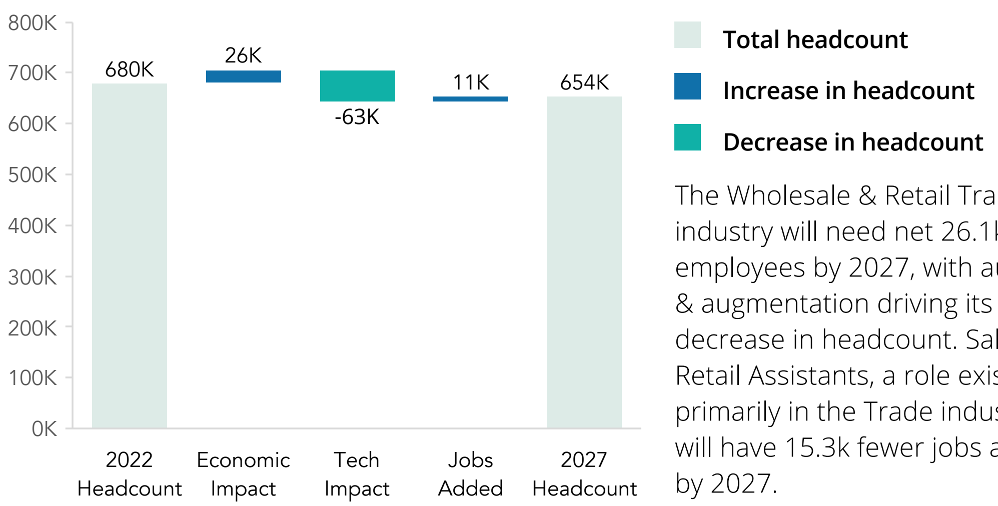
Despite the overall projected increase in headcount across London by 2027, 11 industries are expected to have lower headcounts by 2027 than in 2022. This is due to technological impact outweighing economic growth and other job addition. Of the 11 industries projected to decrease in workforce size, Wholesale & Retail Trade's drop is the greatest – with a 26.1k decrease in headcount. In light of this, local policy action is needed to ensure individuals in highly-impacted roles have viable career transition options.

Top 5 industries by decrease in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Wholesale and retail trade; repair of motor vehicles and motorcycles	680,000	+26,460	-63,060	+10,510	-26,090	-3.84%
Financial and insurance activities	404,900	+10,750	-36,890	+6,150	-20,000	-4.94%
Education	443,000	+5,110	-19,020	+3,170	-10,740	-2.42%
Accommodation and Food service activities	408,900	+16,890	-26,850	+4,470	-5,490	-1.34%
Manufacturing	135,200	+5,470	-12,110	+2,020	-4,620	-3.42%

Wholesale & Retail Trade: Impact breakdown, from 2022 to 2027



The Wholesale & Retail Trade industry will need net 26.1k fewer employees by 2027, with automation & augmentation driving its overall decrease in headcount. Sales and Retail Assistants, a role existing primarily in the Trade industry, will have 15.3k fewer jobs available by 2027.

London

Job impact

The impact at an industry level is driven by shifts in the roles needed in five years' time. In London, art officers, producers and directors top the list of additional jobs needed, while the region will need 15.3k fewer sales and retail assistants.

Jobs growing are those with the greatest projected increase in demand to 2027, while jobs going will see the greatest decrease.

Jobs growing

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Arts Officers, Producers and Directors	55,420	67,188	+11,770	+21.24%
Programmers & Software Development Professionals	54,010	63,186	+9,170	+16.98%
Journalists; Newspaper and Periodical Editors	48,370	57,499	+9,130	+18.88%
IT and Telecommunications Professionals	52,940	61,122	+8,180	+15.45%
IT Specialist Managers	48,190	55,712	+7,530	+15.63%
Managers and Proprietors in Other Services	89,690	96,286	+6,590	+7.35%
Cleaners and Domestics	151,130	157,580	+6,450	+4.27%
Sales, Accounts & Business Development Managers	88,820	94,368	+5,550	+6.25%
Security Guards and Related Occupations	77,430	82,359	+4,930	+6.37%
Solicitors	70,830	75,586	+4,760	+6.72%

Jobs going

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Sales and Retail Assistants	215,770	200,477	-15,290	-7.09%
Bookkeepers, Payroll Managers and Wages Clerks	72,850	67,244	-5,600	-7.69%
Other Administrative Occupations Nec	124,500	119,518	-4,990	-4.01%
Personal Assistants and Other Secretaries	96,520	91,859	-4,660	-4.83%
Kitchen and Catering Assistants	70,880	66,249	-4,630	-6.53%
Receptionists	57,930	53,770	-4,160	-7.18%
Bank and Post Office Clerks	33,530	29,685	-3,850	-11.48%
Financial Institution Managers and Directors	52,810	49,748	-3,070	-5.81%
Brokers	33,030	30,032	-3,000	-9.08%
National Government Administrative Occupations	55,660	52,967	-2,690	-4.83%

London

All industries table

Full data table showing the total impact in the region in the five years from 2022, subdivided into economic impact, tech impact and jobs added.

London impact breakdown 5 years from 2022, by industry

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Grand Total	**6,063,800**	**+490,990**	**-391,920**	**+65,320**	**+164,390**	**+2.71%**
Information and communication	498,000	+159,860	-32,360	+5,390	+132,890	+26.69%
Transportation and storage	304,900	+61,290	-23,810	+3,970	+41,450	+13.59%
Administrative and support service activities	551,000	+66,010	-41,740	+6,960	+31,220	+5.67%
Professional, scientific and technical activities	873,100	+74,160	-58,030	+9,670	+25,800	+2.95%
Real estate activities	147,000	+12,530	-5,550	+920	+7,910	+5.38%
Human health and social work activities	644,100	+25,730	-28,500	+4,750	+1,980	+0.31%
Activities of extraterritorial organizations and bodies	8,700	+1,200	-370	+60	+890	+10.23%
Activities of households as employers; undifferentiated goods and services producing activities of households for own use	16,000	+1,080	-440	+70	+710	+4.43%
Electricity, gas, steam and air conditioning supply	16,000	+690	-550	+90	+240	+1.50%
Agriculture, forestry and fishing	2,000	+160	-70	+10	+100	+5.08%
Public administration and defence; compulsory social security	273,000	+14,090	-17,470	+2,910	-470	-0.17%
Mining and quarrying	3,000	-560	-140	+20	-670	-22.68%
Water supply; sewerage, waste management and remediation activities	25,000	-530	-890	+150	-1,270	-5.07%
Other service activities	149,900	+4,510	-7,080	+1,180	-1,390	-0.93%
Construction	290,000	+3,560	-8,660	+1,440	-3,650	-1.26%
Arts, entertainment and recreation	190,000	+2,520	-8,340	+1,390	-4,430	-2.33%
Manufacturing	135,200	+5,470	-12,110	+2,020	-4,620	-3.42%
Accommodation and Food service activities	408,900	+16,890	-26,850	+4,470	-5,490	-1.34%
Education	443,000	+5,110	-19,020	+3,170	-10,740	-2.42%
Financial and insurance activities	404,900	+10,750	-36,890	+6,150	-20,000	-4.94%
Wholesale and retail trade; repair of motor vehicles and motorcycles	680,000	+26,460	-63,060	+10,510	-26,090	-3.84%

North East

North East
Economy in transition

By 2027, the North East workforce will have undergone significant technological change. Pearson's localised insights reveal how the landscape will evolve – and predicts that 5.3k more jobs will be available for local people.

Pearson's predictive analytics

Pearson's Workforce Skills division applies machine learning models to billions of data points in order to surface insights on how dynamic forces such as new work models, economic disruption, and artificial intelligence (AI) are reshaping the world of work.

North East in transition

Automation does not necessarily mean fewer jobs – it means *different* jobs. In the North East, the Information & Communication Technology (ICT) sector is projected to exhibit the highest growth in both the number of additional employees required and the percentage increase, surpassing other industries.

Our unique methodology

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to our proprietary occupation ontology of 5,600 occupations & 26,600 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

Impact in the North East by 2027

	Change in headcount
Economic Growth	**+72.5k (6.2%)**
Quantifies job demand as the economy grows or declines over time. It considers industry growth, industry supply-chains and employment elasticity.	
Technology Impact	**-80.7k (6.9%)**
A measure of jobs impacted by automation and augmentation, reducing their demand. It utilises Faethm by Pearson's technology adoption and work attribution models, informed by a task-level view of the workforce.	
Jobs Added	**+13.5k (1.1%)**
The additional jobs needed to support technology implementation and maintenance.	
Overall change	**+5.3k**

North East

Expanding industries

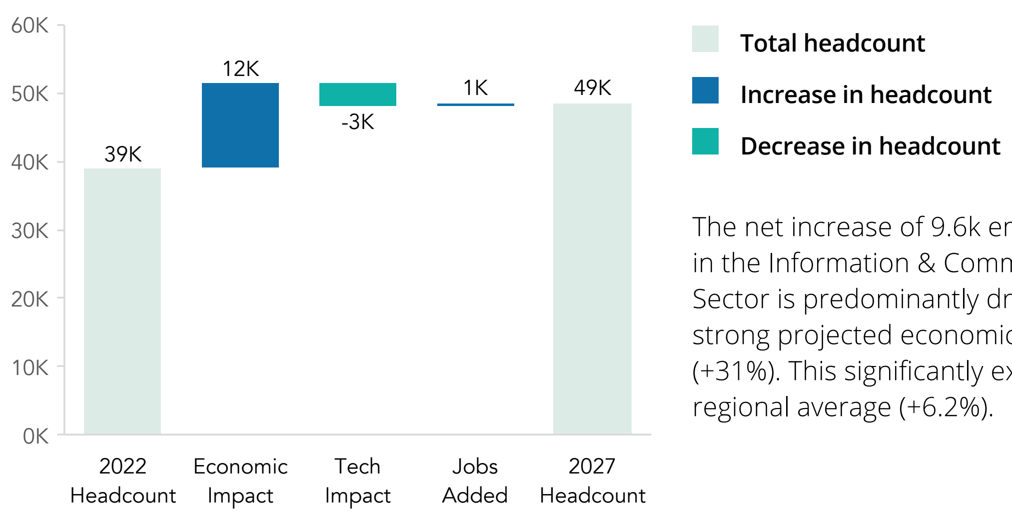
Of all high-level industries in the North East, our projections show that Information & Communication will experience the greatest growth in headcount by 2027 – with a 9.6k increase. This is because of increasing demand for digital services, which is expected to outweigh the potential impact of automation on the sector's workforce. Of growing roles, Programmers & Software Development Professionals will be the fastest growing transport-related role, with the region requiring nearly 800 more people to fill this role by 2027.

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Information and communication	39,000	+12,420	-3,380	+560	+9,600	+24.61%
Transportation and storage	56,000	+11,250	-4,520	+750	+7,480	+13.36%
Administrative and support service activities	98,000	+11,720	-8,060	+1,340	+5,010	+5.11%
Professional, scientific and technical activities	61,000	+5,160	-4,730	+790	+1,220	+2.00%
Real estate activities	17,000	+1,450	-640	+110	+910	+5.36%

Information & Communication: Impact breakdown, projections from 2022 to 2027



The net increase of 9.6k employees in the Information & Communication Sector is predominantly driven by its strong projected economic growth (+31%). This significantly exceeds the regional average (+6.2%).

North East

Declining industries

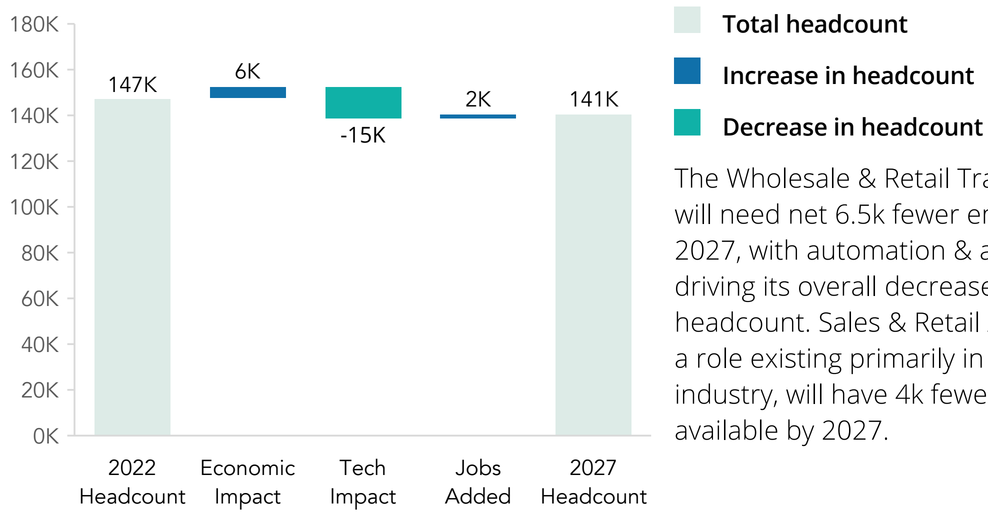
Despite the overall projected increase in headcount across the North East by 2027, 11 industries are expected to have lower headcounts by 2027 than in 2022. This is due to technological impact outweighing economic growth and other job addition. Of the 11 industries projected to decrease in workforce size, Wholesale & Retail Trade's drop is the greatest – with a 6.5k decrease in headcount. In light of this, local policy action is needed to ensure individuals in highly-impacted roles have viable career transition options.

Top 5 industries by decrease in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Wholesale and retail trade; repair of motor vehicles and motorcycles	147,000	+5,710	-14,640	+2,440	-6,490	-4.42%
Manufacturing	110,900	+4,480	-10,840	+1,810	-4,550	-4.10%
Education	108,100	+1,240	-4,810	+800	-2,760	-2.55%
Financial and insurance activities	26,000	+680	-2,990	+500	-1,810	-6.97%
Accommodation and Food service activities	99,900	+4,120	-7,040	+1,170	-1,750	-1.75%

Wholesale & Retail Trade: Impact breakdown, from 2022 to 2027



The Wholesale & Retail Trade industry will need net 6.5k fewer employees by 2027, with automation & augmentation driving its overall decrease in headcount. Sales & Retail Assistants, a role existing primarily in the Trade industry, will have 4k fewer jobs available by 2027.

North East

Job impact

The impact at an industry level is driven by shifts in the roles needed in five years' time. In the North East, Carers, Cleaners & Programmers top the list of additional jobs needed, while the region will need 4k fewer Sales & Retail Assistants.

Jobs growing are those with the greatest projected increase in demand to 2027, while jobs going will see the greatest decrease.

Jobs growing

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Care Workers and Home Carers	41,040	42,321	+1,280	+3.12%
Cleaners and Domestics	38,750	39,953	+1,200	+3.10%
Programmers and Software Development Professio..	3,990	4,754	+770	+19.31%
IT Specialist Managers	4,850	5,616	+760	+15.66%
Large Goods Vehicle Drivers	10,270	11,019	+750	+7.31%
Taxi and Cab Drivers and Chauffeurs	9,000	9,725	+730	+8.11%
Bus and Coach Drivers	6,960	7,652	+700	+10.06%
Security Guards and Related Occupations	10,320	10,907	+590	+5.72%
IT and Telecommunications Professionals	3,160	3,699	+540	+17.09%
Telecommunications Engineers	2,480	2,974	+500	+20.20%

Jobs going

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Sales and Retail Assistants	58,690	54,698	-3,990	-6.80%
Kitchen and Catering Assistants	22,700	21,181	-1,520	-6.70%
Other Administrative Occupations Nec	27,490	26,139	-1,350	-4.91%
Bar Staff	17,040	16,006	-1,040	-6.10%
National Government Administrative Occupations	18,160	17,210	-950	-5.23%
Bookkeepers Payroll Managers and Wages Clerks	10,220	9,328	-890	-8.71%
Metal Working Production and Maintenance Fitters	10,990	10,151	-830	-7.56%
Receptionists	10,650	9,815	-830	-7.80%
Elementary Process Plant Occupations Nec	9,170	8,363	-800	-8.73%
Bank and Post Office Clerks	7,740	6,967	-780	-10.07%

North East

All industries table

Full data table showing the total impact in the region in the five years from 2022, subdivided into economic impact, tech impact and jobs added.

North East impact breakdown 5 years from 2022, by industry

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Grand Total	**1,176,100**	**+72,500**	**-80,690**	**+13,450**	**+5,260**	**+0.45%**
Information and communication	39,000	+12,420	-3,380	+560	+9,600	+24.61%
Transportation and storage	56,000	+11,250	-4,520	+750	+7,480	+13.36%
Administrative and support service activities	98,000	+11,720	-8,060	+1,340	+5,010	+5.11%
Professional, scientific and technical activities	61,000	+5,160	-4,730	+790	+1,220	+2.00%
Agriculture, forestry and fishing	17,000	+1,400	-470	+80	+1,010	+5.93%
Real estate activities	17,000	+1,450	-640	+110	+910	+5.36%
Human health and social work activities	180,100	+7,200	-7,650	+1,270	+830	+0.46%
Electricity, gas, steam and air conditioning supply	6,000	+260	-290	+50	+10	+0.17%
Activities of extraterritorial organizations and bodies	100	+10	+00	+00	+10	+12.05%
Other service activities	28,000	+840	-1,220	+200	-180	-0.64%
Water supply; sewerage, waste management and remediation activities	8,000	-170	-290	+50	-410	-5.13%
Mining and quarrying	2,000	-380	-110	+20	-480	-23.61%
Public administration and defence; compulsory social security	76,000	+3,910	-5,410	+900	-600	-0.79%
Arts, entertainment and recreation	27,100	+360	-1,500	+250	-890	-3.29%
Construction	69,000	+850	-2,100	+350	-910	-1.32%
Accommodation and Food service activities	99,900	+4,120	-7,040	+1,170	-1,750	-1.75%
Financial and insurance activities	26,000	+680	-2,990	+500	-1,810	-6.97%
Education	108,100	+1,240	-4,810	+800	-2,760	-2.55%
Manufacturing	110,900	+4,480	-10,840	+1,810	-4,550	-4.10%
Wholesale and retail trade; repair of motor vehicles and motorcycles	147,000	+5,710	-14,640	+2,440	-6,490	-4.42%

North West

North West

Economy in transition

By 2027, the North West workforce will have undergone significant technological change. Pearson's localised insights reveal how the landscape will evolve – and predicts that 25.9k more jobs will be available for local people.

Pearson's predictive analytics

Pearson's Workforce Skills division applies machine learning models to billions of data points in order to surface insights on how dynamic forces such as new work models, economic disruption, and artificial intelligence (AI) are reshaping the world of work.

North West in transition

Automation does not necessarily mean fewer jobs – it means *different* jobs. In the North West, the number of additional employees needed in Transportation & Storage is set to marginally exceed ICT. However, by percentage increase ICT will experience the greatest growth.

Our unique methodology

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to our proprietary occupation ontology of 5,600 occupations & 26,600 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

Impact in the North West by 2027

	Change in headcount
Economic Growth	**+250.2k (6.5%)**
Quantifies job demand as the economy grows or declines over time. It considers industry growth, industry supply-chains and employment elasticity.	
Technology Impact	**-269.2k (7.0%)**
A measure of jobs impacted by automation and augmentation, reducing their demand. It utilises Faethm by Pearson's technology adoption and work attribution models, informed by a task-level view of the workforce.	
Jobs Added	**+44.9k (1.2%)**
The additional jobs needed to support technology implementation and maintenance.	
Overall change	**+25.9k**

North West

Expanding industries

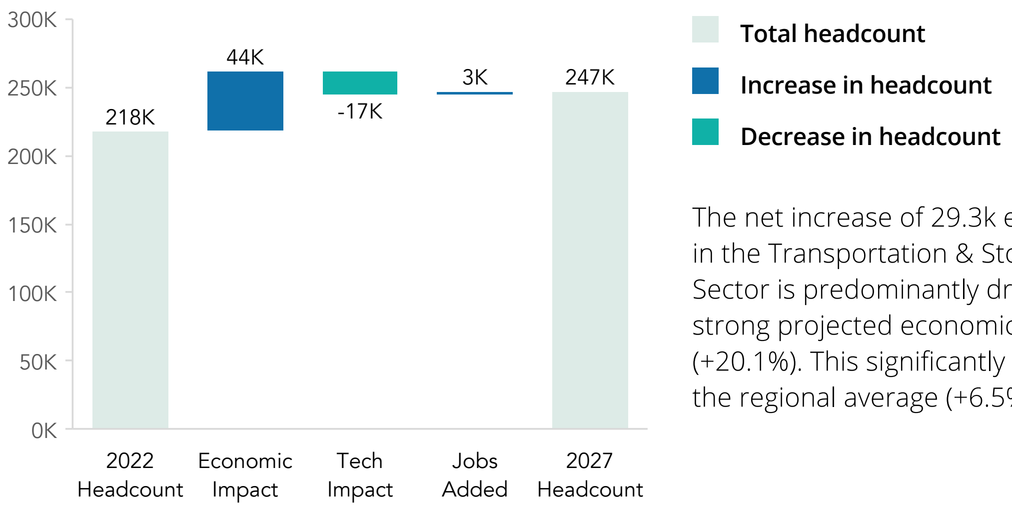
Of all high-level industries in the North West, our projections show that Transportation & Storage will experience the greatest growth in headcount by 2027 – with a 29.3k increase. This is because the projected surge in macroeconomic demand is strong enough to outweigh the impact of automation on the sector. Of growing roles, Large Goods Vehicle Drivers will be the fastest growing transport-related role, with the region requiring 2.9k more people to fill this role by 2027.

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Transportation and storage	217,900	+43,790	-17,420	+2,900	+29,270	+13.43%
Information and communication	113,000	+36,110	-8,790	+1,470	+28,780	+25.46%
Administrative and support service activities	360,000	+43,030	-29,680	+4,950	+18,300	+5.08%
Professional, scientific and technical activities	376,900	+31,900	-28,830	+4,810	+7,870	+2.09%
Real estate activities	47,000	+4,010	-1,790	+300	+2,520	+5.36%

Transportation & Storage: Impact breakdown, projection from 2022 to 2027



The net increase of 29.3k employees in the Transportation & Storage Sector is predominantly driven by its strong projected economic growth (+20.1%). This significantly exceeds the regional average (+6.5%).

North West

Declining industries

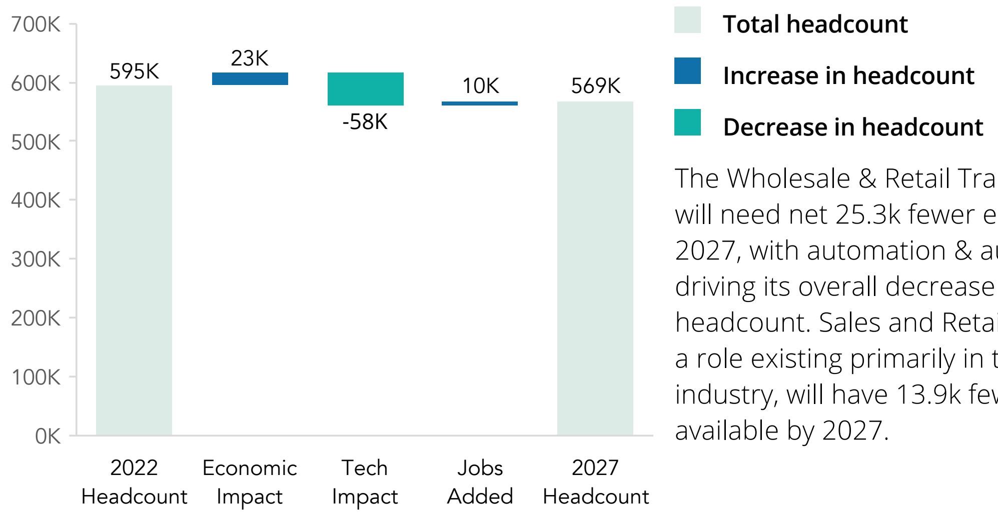
Despite the overall projected increase in headcount across the North West by 2027, 11 industries are expected to have lower headcounts by 2027 than in 2022. This is due to technological impact outweighing economic growth and other job addition. Of the 11 industries projected to decrease in workforce size, Wholesale & Retail Trade's drop is the greatest – with a 25.3k decrease in headcount. In light of this, local policy action is needed to ensure individuals in highly-impacted roles have viable career transition options.

Top 5 industries by decrease in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Wholesale and retail trade; repair of motor vehicles and motorcycles	594,600	+23,100	-58,070	+9,680	-25,290	-4.25%
Manufacturing	336,800	+13,610	-31,570	+5,260	-12,700	-3.77%
Education	305,000	+3,510	-13,470	+2,240	-7,710	-2.53%
Financial and insurance activities	92,900	+2,450	-9,900	+1,650	-5,800	-6.24%
Accommodation and Food service activities	253,900	+10,480	-17,490	+2,910	-4,100	-1.62%

Wholesale & Retail Trade: Impact breakdown, from 2022 to 2027



The Wholesale & Retail Trade industry will need net 25.3k fewer employees by 2027, with automation & augmentation driving its overall decrease in headcount. Sales and Retail Assistants, a role existing primarily in the Trade industry, will have 13.9k fewer jobs available by 2027.

North West

Job impact

The impact at an industry level is driven by shifts in the roles needed in five years' time. In the North West, Cleaners & Carers top the list of additional jobs needed, while the region will need 13.9k fewer Sales & Retail Assistants.

Jobs growing are those with the greatest projected increase in demand to 2027, while jobs going will see the greatest decrease.

Jobs growing

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Cleaners and Domestics	111,630	115,471	+3,840	+3.44%
Care Workers and Home Carers	117,270	121,064	+3,790	+3.23%
Large Goods Vehicle Drivers	38,910	41,853	+2,940	+7.56%
Taxi and Cab Drivers and Chauffeurs	34,500	37,204	+2,710	+7.86%
Programmers and Software Development Professio..	15,540	18,112	+2,570	+16.54%
IT Specialist Managers	17,330	19,814	+2,480	+14.31%
Bus and Coach Drivers	21,270	23,461	+2,190	+10.30%
Security Guards and Related Occupations	36,690	38,840	+2,150	+5.86%
Managers and Proprietors in Other Services	41,360	43,398	+2,040	+4.93%
IT and Telecommunications Professionals	13,400	15,421	+2,020	+15.08%

Jobs going

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Sales and Retail Assistants	191,090	177,225	-13,860	-7.25%
Other Administrative Occupations Nec	89,930	85,443	-4,490	-4.99%
Kitchen and Catering Assistants	57,850	53,880	-3,970	-6.86%
Bookkeepers Payroll Managers and Wages Clerks	45,010	41,048	-3,960	-8.80%
Receptionists	37,430	34,513	-2,910	-7.78%
Retail Cashiers and Checkout Operators	21,050	18,717	-2,330	-11.07%
Metal Working Production and Maintenance Fitters	30,500	28,321	-2,180	-7.15%
Bank and Post Office Clerks	21,650	19,534	-2,120	-9.79%
Bar Staff	34,000	31,908	-2,090	-6.15%
Food Drink and Tobacco Process Operatives	24,040	22,015	-2,020	-8.40%

North West

All industries table

Full data table showing the total impact in the region in the five years from 2022, subdivided into economic impact, tech impact and jobs added.

North West impact breakdown 5 years from 2022, by industry

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Grand Total	**3,860,600**	**+250,170**	**-269,170**	**+44,860**	**+25,860**	**+0.67%**
Transportation and storage	217,900	+43,790	-17,420	+2,900	+29,270	+13.43%
Information and communication	113,000	+36,110	-8,790	+1,470	+28,780	+25.46%
Administrative and support service activities	360,000	+43,030	-29,680	+4,950	+18,300	+5.08%
Professional, scientific and technical activities	376,900	+31,900	-28,830	+4,810	+7,870	+2.09%
Real estate activities	47,000	+4,010	-1,790	+300	+2,520	+5.36%
Human health and social work activities	536,200	+21,430	-22,870	+3,810	+2,370	+0.44%
Agriculture, forestry and fishing	17,000	+1,400	-480	+80	+1,000	+5.87%
Electricity, gas, steam and air conditioning supply	19,000	+820	-740	+120	+210	+1.10%
Activities of households as employers; undifferentiated goods and services producing activities of households for own use	4,000	+270	-110	+20	+180	+4.48%
Activities of extraterritorial organizations and bodies	300	+40	-10	+00	+30	+9.58%
Other service activities	83,000	+2,500	-3,500	+580	-420	-0.51%
Mining and quarrying	2,000	-370	-110	+20	-460	-23.28%
Public administration and defence; compulsory social security	167,100	+8,610	-11,410	+1,900	-900	-0.54%
Water supply; sewerage, waste management and remediation activities	21,900	-460	-780	+130	-1,110	-5.06%
Construction	197,900	+2,430	-5,980	+1,000	-2,550	-1.29%
Arts, entertainment and recreation	114,000	+1,510	-6,170	+1,030	-3,630	-3.18%
Accommodation and Food service activities	253,900	+10,480	-17,490	+2,910	-4,100	-1.62%
Financial and insurance activities	92,900	+2,450	-9,900	+1,650	-5,800	-6.24%
Education	305,000	+3,510	-13,470	+2,240	-7,710	-2.53%
Manufacturing	336,800	+13,610	-31,570	+5,260	-12,700	-3.77%
Wholesale and retail trade; repair of motor vehicles and motorcycles	594,600	+23,100	-58,070	+9,680	-25,290	-4.25%

South East

South East

Economy in transition

By 2027, the South East workforce will have undergone significant technological change. Pearson's localised insights reveal how the landscape will evolve – and predicts that 71.7k more jobs will be available for local people.

Pearson's predictive analytics

Pearson's Workforce Skills division applies machine learning models to billions of data points in order to surface insights on how dynamic forces such as new work models, economic disruption, and artificial intelligence (AI) are reshaping the world of work.

South East in transition

Automation does not necessarily mean fewer jobs – it means *different* jobs. In the South East, the Information & Communication Technology (ICT) sector is projected to see the highest growth in both the number of additional employees required and the percentage increase, surpassing other industries.

Our unique methodology

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to our proprietary occupation ontology of 5,600 occupations & 26,600 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

Impact in the South East by 2027

	Change in headcount
Economic Growth	**+334.2k (6.8%)**

Quantifies job demand as the economy grows or declines over time. It considers industry growth, industry supply-chains and employment elasticity.

Technology Impact	**-315k (6.4%)**

A measure of jobs impacted by automation and augmentation, reducing their demand. It utilises Faethm by Pearson's technology adoption and work attribution models, informed by a task-level view of the workforce.

Jobs Added	**+52.5k (1.1%)**

The additional jobs needed to support technology implementation and maintenance.

Overall change	**+71.7k**

South East

Expanding industries

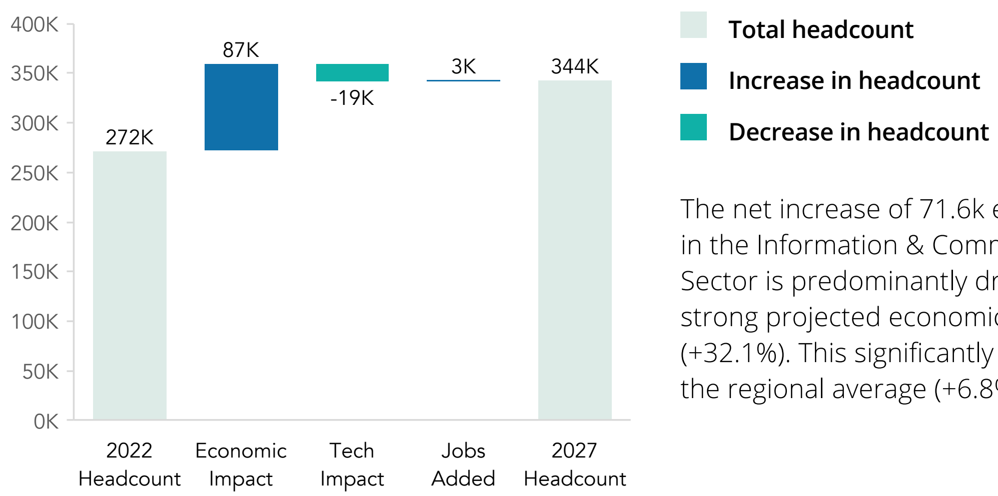
Of all high-level industries in the South East, our projections show that Information & Communication will experience the greatest growth in headcount by 2027 – with a 71.6k increase. This is because of increasing demand for digital services, which is expected to outweigh the potential impact of automation on the sector's workforce. Of growing roles, Programmers & Software Development Professionals will be the fastest growing ICT-related role, with the region requiring 7k more people to fill this role by 2027.

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Information and communication	272,000	+87,180	-18,740	+3,120	+71,560	+26.31%
Transportation and storage	210,200	+42,260	-16,340	+2,720	+28,640	+13.63%
Administrative and support service activities	418,000	+50,050	-32,390	+5,400	+23,060	+5.52%
Professional, scientific and technical activities	452,000	+38,310	-32,820	+5,470	+10,950	+2.42%
Real estate activities	82,800	+7,070	-3,090	+510	+4,490	+5.42%

Information & Communication: Impact breakdown, projection from 2022 to 2027



The net increase of 71.6k employees in the Information & Communication Sector is predominantly driven by its strong projected economic growth (+32.1%). This significantly exceeds the regional average (+6.8%).

South East

Declining industries

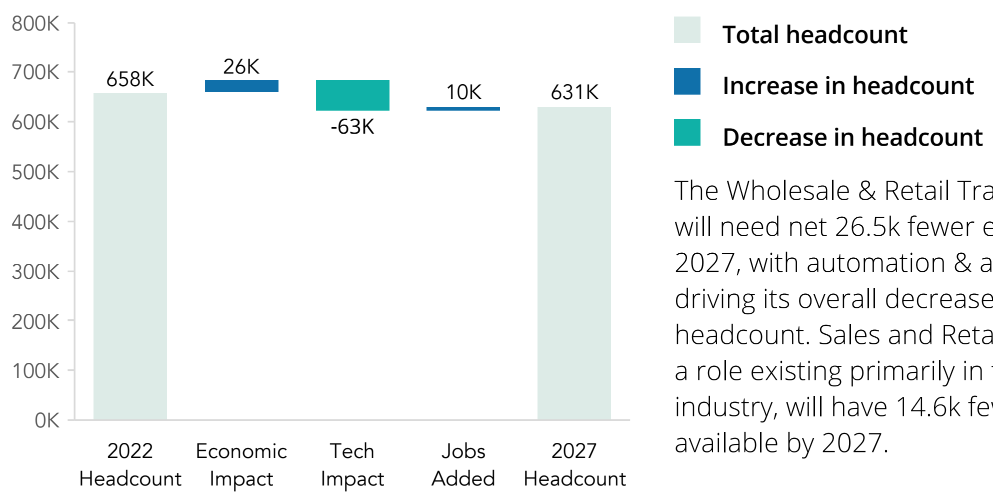
Despite the overall projected increase in headcount across the South East by 2027, 11 industries are expected to have lower headcounts by 2027 than in 2022. This is due to technological impact outweighing economic growth and other job addition. Of the industries projected to decrease in workforce size, Wholesale & Retail Trade's drop is the greatest – with a 26.5k decrease in headcount. In light of this, local policy action is needed to ensure individuals in highly-impacted roles have viable career transition options.

Top 5 industries by decrease in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Wholesale and retail trade; repair of motor vehicles and motorcycles	657,900	+25,580	-62,520	+10,420	-26,520	-4.03%
Education	490,000	+5,650	-21,400	+3,570	-12,180	-2.49%
Manufacturing	301,900	+12,220	-26,310	+4,390	-9,710	-3.22%
Financial and insurance activities	128,000	+3,380	-12,950	+2,160	-7,410	-5.79%
Accommodation and Food service activities	375,000	+15,480	-25,200	+4,200	-5,520	-1.47%

Wholesale & Retail Trade: Impact breakdown, from 2022 to 2027



The Wholesale & Retail Trade industry will need net 26.5k fewer employees by 2027, with automation & augmentation driving its overall decrease in headcount. Sales and Retail Assistants, a role existing primarily in the Trade industry, will have 14.6k fewer jobs available by 2027.

South East
Job impact

The impact at an industry level is driven by shifts in the roles needed in five years' time. In the South East, Programmers top the list of additional jobs needed, while the region will need 14.6k fewer Sales & Retail Assistants.

Jobs growing are those with the greatest projected increase in demand to 2027, while jobs going will see the greatest decrease.

Jobs growing

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Programmers & Software Development Professionals	36,630	43,627	+6,990	+19.08%
IT and Telecommunications Professionals	36,720	43,045	+6,320	+17.21%
IT Specialist Managers	34,760	41,046	+6,280	+18.07%
Cleaners and Domestics	125,970	130,312	+4,350	+3.45%
IT & Telecommunications Directors	16,460	20,466	+4,010	+24.37%
Care Workers and Home Carers	121,420	125,343	+3,920	+3.23%
Managers and Proprietors in Other Services	63,410	67,110	+3,700	+5.84%
Sales Accounts & Business Development Managers	66,620	69,571	+2,960	+4.44%
IT Business Analysts Architects & Systems Designers	18,530	21,355	+2,830	+15.28%
IT Project and Programme Managers	10,860	13,563	+2,700	+24.86%

Jobs going

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Sales and Retail Assistants	200,470	185,913	-14,560	-7.26%
Kitchen and Catering Assistants	80,650	75,242	-5,410	-6.71%
Bookkeepers Payroll Managers and Wages Clerks	63,240	58,055	-5,180	-8.19%
Other Administrative Occupations Nec	109,540	104,451	-5,090	-4.65%
Receptionists	49,220	45,461	-3,760	-7.64%
Personal Assistants and Other Secretaries	56,460	53,542	-2,920	-5.17%
Retail Cashiers and Checkout Operators	23,390	20,807	-2,590	-11.07%
Bar Staff	38,900	36,531	-2,370	-6.09%
Customer Service Occupations nec	39,300	37,072	-2,230	-5.67%
Teaching Assistants	57,370	55,280	-2,090	-3.64%

South East

All industries table

Full data table showing the total impact in the region in the five years from 2022, subdivided into economic impact, tech impact and jobs added.

South East impact breakdown 5 years from 2022, by industry

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Grand Total	**4,913,600**	**+334,230**	**-315,000**	**+52,500**	**+71,730**	**+1.46%**
Information and communication	272,000	+87,180	-18,740	+3,120	+71,560	+26.31%
Transportation and storage	210,200	+42,260	-16,340	+2,720	+28,640	+13.63%
Administrative and support service activities	418,000	+50,050	-32,390	+5,400	+23,060	+5.52%
Professional, scientific and technical activities	452,000	+38,310	-32,820	+5,470	+10,950	+2.42%
Real estate activities	82,800	+7,070	-3,090	+510	+4,490	+5.42%
Human health and social work activities	582,000	+23,260	-24,840	+4,140	+2,560	+0.44%
Agriculture, forestry and fishing	40,100	+3,290	-1,210	+200	+2,280	+5.69%
Public administration and defence; compulsory social security	191,100	+9,890	-10,850	+1,810	+850	+0.44%
Activities of households as employers; undifferentiated goods and services producing activities of households for own use	9,000	+600	-240	+40	+410	+4.57%
Electricity, gas, steam and air conditioning supply	16,100	+700	-580	+100	+210	+1.31%
Activities of extraterritorial organizations and bodies	900	+120	-30	+10	+100	+11.45%
Mining and quarrying	3,000	-560	-130	+20	-670	-22.55%
Other service activities	135,100	+4,070	-5,900	+980	-840	-0.62%
Water supply; sewerage, waste management and remediation activities	35,900	-760	-1,290	+210	-1,830	-5.10%
Arts, entertainment and recreation	147,900	+1,960	-7,300	+1,220	-4,130	-2.79%
Construction	364,900	+4,480	-10,870	+1,810	-4,580	-1.26%
Accommodation and Food service activities	375,000	+15,480	-25,200	+4,200	-5,520	-1.47%
Financial and insurance activities	128,000	+3,380	-12,950	+2,160	-7,410	-5.79%
Manufacturing	301,900	+12,220	-26,310	+4,390	-9,710	-3.22%
Education	490,000	+5,650	-21,400	+3,570	-12,180	-2.49%
Wholesale and retail trade; repair of motor vehicles and motorcycles	657,900	+25,580	-62,520	+10,420	-26,520	-4.03%

South West

South West

Economy in transition

By 2027, the South West workforce will have undergone significant technological change. Pearson's localised insights reveal how the landscape will evolve – and predicts that 35.9k more jobs will be available for local people.

Pearson's predictive analytics

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South West in transition

Automation does not necessarily mean fewer jobs – it means *different* jobs. In the South West, the Information & Communication Technology (ICT) sector is projected to exhibit the highest growth in both the number of additional employees required and the percentage increase, surpassing other industries.

Our unique methodology

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to our proprietary occupation ontology of 5,600 occupations & 26,600 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

Impact in the South West by 2027

	Change in headcount
Economic Growth	**+199.5k (6.6%)**

Quantifies job demand as the economy grows or declines over time. It considers industry growth, industry supply-chains and employment elasticity.

Technology Impact	**-196.3k (6.5%)**

A measure of jobs impacted by automation and augmentation, reducing their demand. It utilises Faethm by Pearson's technology adoption and work attribution models, informed by a task-level view of the workforce.

Jobs Added	**+32.7k (1.1%)**

The additional jobs needed to support technology implementation and maintenance.

Overall change	**+35.9k**

South West

Expanding industries

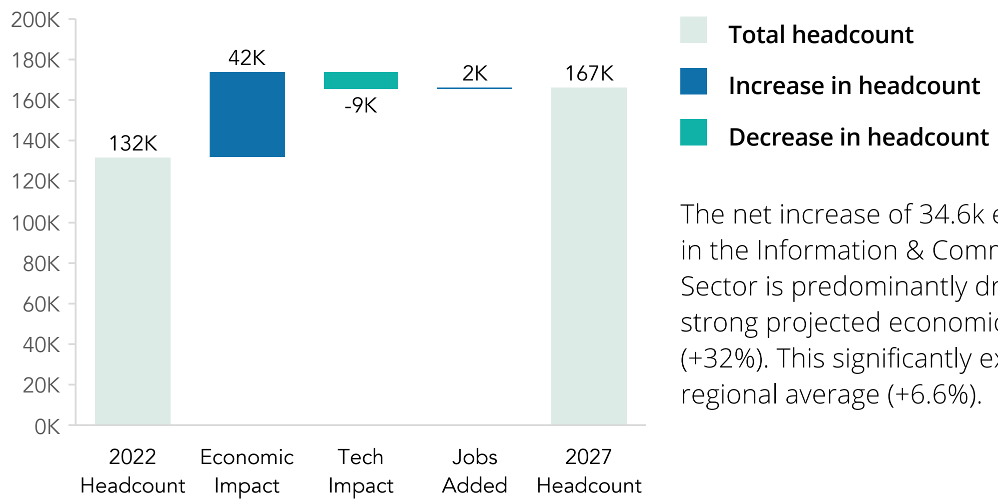
Of all high-level industries in the South West, our projections show that Information & Communication will experience the greatest growth in headcount by 2027 – with a 34.6k increase. This is because of increasing demand for digital services, which is expected to outweigh the potential impact of automation on the sector's workforce. Of growing roles, Programmers & Software Development Professionals will be the fastest growing ICT-related role, with the region requiring 3.6k more people to fill this role by 2027.

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Information and communication	131,900	+42,270	-9,160	+1,530	+34,640	+26.26%
Transportation and storage	131,100	+26,340	-10,550	+1,760	+17,550	+13.39%
Administrative and support service activities	250,000	+29,950	-19,220	+3,200	+13,940	+5.58%
Professional, scientific and technical activities	262,800	+22,260	-19,570	+3,260	+5,950	+2.26%
Real estate activities	67,000	+5,720	-2,500	+420	+3,630	+5.41%

Information & Communication: Impact breakdown, projection from 2022 to 2027



The net increase of 34.6k employees in the Information & Communication Sector is predominantly driven by its strong projected economic growth (+32%). This significantly exceeds the regional average (+6.6%).

South West

Declining industries

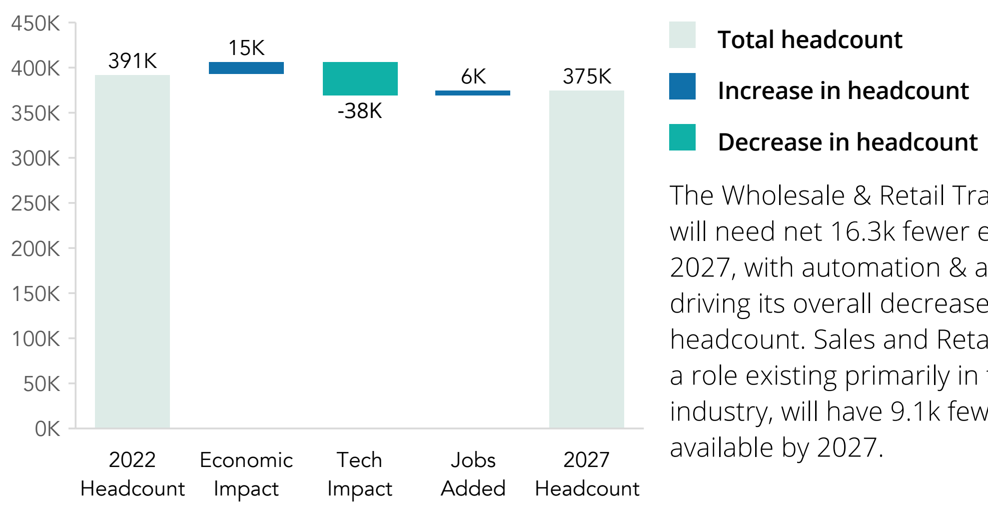
Despite the overall projected increase in headcount across the South West by 2027, 10 industries are expected to have lower headcounts by 2027 than in 2022. This is due to technological impact outweighing economic growth and other job addition. Of the industries projected to decrease in workforce size, Wholesale & Retail Trade's drop is the greatest – with a 16.3k decrease in headcount. In light of this, local policy action is needed to ensure individuals in highly-impacted roles have viable career transition options.

Top 5 industries by decrease in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Wholesale and retail trade; repair of motor vehicles and motorcycles	391,100	+15,200	-37,820	+6,300	-16,320	-4.17%
Manufacturing	224,900	+9,100	-20,720	+3,450	-8,170	-3.63%
Education	259,100	+2,990	-11,400	+1,900	-6,510	-2.51%
Financial and insurance activities	73,000	+1,930	-7,480	+1,250	-4,310	-5.90%
Accommodation and Food service activities	252,000	+10,410	-16,530	+2,760	-3,370	-1.34%

Wholesale & Retail Trade: Impact breakdown, from 2022 to 2027



The Wholesale & Retail Trade industry will need net 16.3k fewer employees by 2027, with automation & augmentation driving its overall decrease in headcount. Sales and Retail Assistants, a role existing primarily in the Trade industry, will have 9.1k fewer jobs available by 2027.

South West

Job impact

The impact at an industry level is driven by shifts in the roles needed in five years' time. In South West, Programmers & Software Development Professionals top the list of additional jobs needed, while the region will need 9.1k fewer Sales & Retail Assistants.

Jobs growing are those with the greatest projected increase in demand to 2027, while jobs going will see the greatest decrease.

Jobs growing

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Programmers & Software Development Professionals	18,590	22,236	+3,640	+19.58%
Care Workers and Home Carers	92,200	95,169	+2,970	+3.22%
Cleaners and Domestics	88,100	91,059	+2,960	+3.36%
IT and Telecommunications Professionals	13,520	15,865	+2,350	+17.39%
IT Specialist Managers	14,330	16,633	+2,300	+16.05%
Managers and Proprietors in Other Services	33,660	35,659	+1,990	+5.91%
Large Goods Vehicle Drivers	28,450	30,302	+1,850	+6.50%
IT & Telecommunications Directors	7,370	9,216	+1,850	+25.10%
Farmers	29,860	31,398	+1,540	+5.16%
Gardeners and Landscape Gardeners	32,510	34,038	+1,530	+4.71%

Jobs going

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Sales and Retail Assistants	125,800	116,700	-9,100	-7.23%
Kitchen and Catering Assistants	48,540	45,253	-3,290	-6.78%
Other Administrative Occupations Nec	66,710	63,619	-3,090	-4.63%
Bookkeepers Payroll Managers and Wages Clerks	35,050	32,080	-2,970	-8.47%
Receptionists	30,640	28,282	-2,360	-7.70%
Retail Cashiers and Checkout Operators	14,820	13,178	-1,640	-11.06%
Personal Assistants and Other Secretaries	30,570	28,973	-1,600	-5.23%
Bar Staff	26,010	24,446	-1,570	-6.04%
Metal Working Production and Maintenance Fitters	21,570	20,127	-1,440	-6.68%
National Government Administrative Occupations	23,210	22,012	-1,200	-5.17%

South West

All industries table

Full data table showing the total impact in the region in the five years from 2022, subdivided into economic impact, tech impact and jobs added.

South West impact breakdown 5 years from 2022, by industry

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Grand Total	**3,044,700**	**+199,450**	**-196,280**	**+32,710**	**+35,880**	**+1.18%**
Information and communication	131,900	+42,270	-9,160	+1,530	+34,640	+26.26%
Transportation and storage	131,100	+26,340	-10,550	+1,760	+17,550	+13.39%
Administrative and support service activities	250,000	+29,950	-19,220	+3,200	+13,940	+5.58%
Professional, scientific and technical activities	262,800	+22,260	-19,570	+3,260	+5,950	+2.26%
Real estate activities	67,000	+5,720	-2,500	+420	+3,630	+5.41%
Agriculture, forestry and fishing	52,000	+4,270	-1,430	+240	+3,080	+5.93%
Human health and social work activities	396,300	+15,840	-16,560	+2,760	+2,040	+0.51%
Public administration and defence; compulsory social security	151,100	+7,810	-8,650	+1,440	+610	+0.40%
Activities of households as employers; undifferentiated goods and services producing activities of households for own use	4,000	+270	-110	+20	+180	+4.51%
Electricity, gas, steam and air conditioning supply	11,000	+480	-390	+60	+160	+1.45%
Activities of extraterritorial organizations and bodies	400	+50	-10	+00	+40	+10.36%
Other service activities	62,000	+1,870	-2,700	+450	-380	-0.61%
Mining and quarrying	2,900	-550	-170	+30	-680	-23.44%
Water supply; sewerage, waste management and remediation activities	24,000	-510	-860	+140	-1,230	-5.13%
Arts, entertainment and recreation	86,200	+1,140	-4,160	+690	-2,330	-2.70%
Construction	212,000	+2,610	-6,300	+1,050	-2,650	-1.25%
Accommodation and Food service activities	252,000	+10,410	-16,530	+2,760	-3,370	-1.34%
Financial and insurance activities	73,000	+1,930	-7,480	+1,250	-4,310	-5.90%
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Manufacturing	224,900	+9,100	-20,720	+3,450	-8,170	-3.63%
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West Midlands

West Midlands

Economy in transition

By 2027, the West Midlands workforce will have undergone significant technological change. Pearson's localised insights reveal how the landscape will evolve – and predicts that 21.5k more jobs will be available for local people.

Pearson's predictive analytics

Pearson's Workforce Skills division applies machine learning models to billions of data points in order to surface insights on how dynamic forces such as new work models, economic disruption, and artificial intelligence (AI) are reshaping the world of work.

The West Midlands in transition

Automation does not necessarily mean fewer jobs – it means *different* jobs. In the West Midlands, demand for employees in Transportation & Storage is actually set to exceed ICT. At the other end of the spectrum, the West Midlands' Wholesale & Retail Trade sector will offer 17.9k fewer jobs by 2027. Local governments must therefore take urgent steps to transition individuals from at-risk roles to growing sectors in need of new talent.

Our unique methodology

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to our proprietary occupation ontology of 5,600 occupations & 26,600 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

Impact in the West Midlands by 2027

	Change in headcount
Economic Growth	**+192.6k (6.5%)**
Quantifies job demand as the economy grows or declines over time. It considers industry growth, industry supply-chains and employment elasticity.	
Technology Impact	**-205.3k (6.9%)**
A measure of jobs impacted by automation and augmentation, reducing their demand. It utilises Faethm by Pearson's technology adoption and work attribution models, informed by a task-level view of the workforce.	
Jobs Added	**+34.2k (1.2%)**
The additional jobs needed to support technology implementation and maintenance.	
Overall change	**+21.5k**

West Midlands

Expanding industries

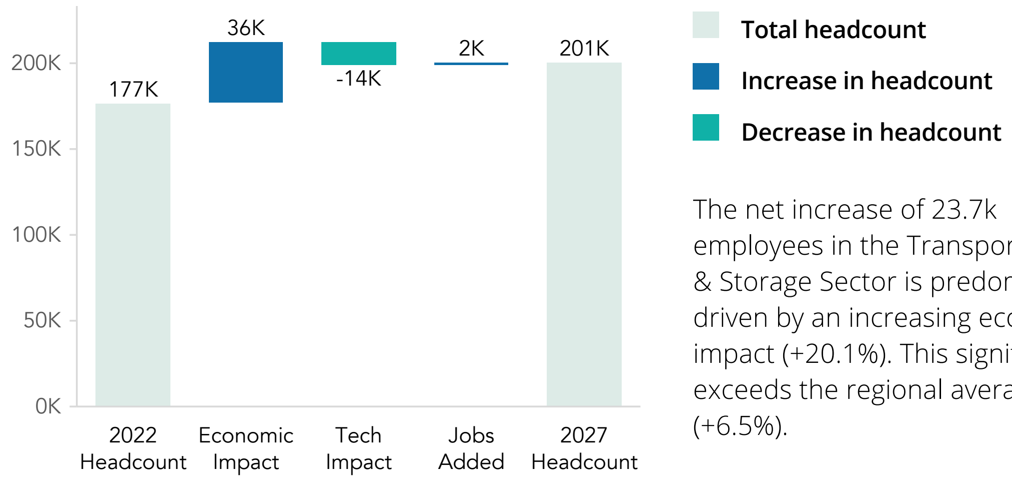
Of all high-level industries in the West Midlands, our projections show that Transportation & Storage will experience the greatest growth in headcount by 2027 – with a 23.7k increase. This is because the projected surge in macroeconomic demand is strong enough to outweigh the impact of automation on the sector. Within the sector, Large Good Vehicle Drivers will be the fastest growing role, with the West Midlands requiring 2.7k more people to fill this role by 2027.

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Transportation and storage	177,000	+35,560	-14,230	+2,370	+23,700	+13.39%
Information and communication	84,000	+26,890	-6,180	+1,030	+21,740	+25.87%
Administrative and support service activities	301,900	+36,120	-24,480	+4,080	+15,720	+5.21%
Professional, scientific and technical activities	232,800	+19,700	-18,040	+3,010	+4,660	+2.00%
Real estate activities	38,900	+3,320	-1,500	+250	+2,070	+5.32%

Transportation & Storage: Impact breakdown, projections from 2022 to 2027



The net increase of 23.7k employees in the Transportation & Storage Sector is predominantly driven by an increasing economic impact (+20.1%). This significantly exceeds the regional average (+6.5%).

West Midlands

Declining industries

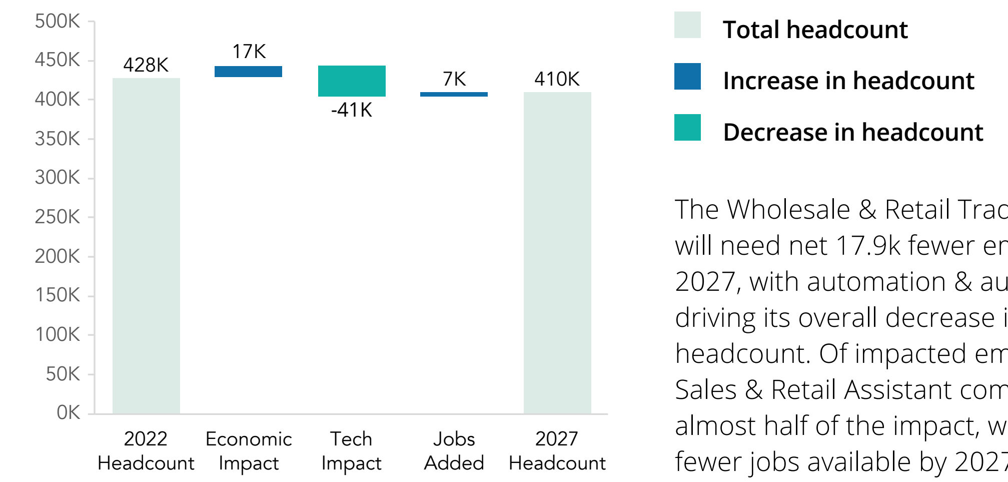
Despite the overall projected increase in headcount across the West Midlands by 2027, 11 industries are expected to have lower headcounts by 2027 than in 2022. This is due to technological impact outweighing economic growth and other job addition. Of the 11 industries projected to decrease in workforce size, Wholesale & Retail trade's drop is the greatest – with a 17.9k decrease in headcount. In light of this, local policy action is needed to ensure individuals in highly-impacted roles have viable career transition options.

Top 5 industries by decrease in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Wholesale and retail trade; repair of motor vehicles and motorcycles	427,900	+16,630	-41,470	+6,910	-17,920	-4.19%
Manufacturing	306,100	+12,360	-29,250	+4,880	-12,010	-3.92%
Education	253,900	+2,930	-11,290	+1,880	-6,480	-2.55%
Financial and insurance activities	67,100	+1,770	-7,260	+1,210	-4,290	-6.40%
Accommodation and Food service activities	187,900	+7,750	-12,990	+2,160	-3,070	-1.63%

Wholesale & Retail Trade: Impact breakdown, projections from 2022 to 2027



The Wholesale & Retail Trade industry will need net 17.9k fewer employees by 2027, with automation & augmentation driving its overall decrease in headcount. Of impacted employees, Sales & Retail Assistant comprise almost half of the impact, with 9.0k fewer jobs available by 2027.

West Midlands

Job impact

The impact at an industry level is driven by shifts in the roles needed in five years' time. In the West Midlands, Cleaners and Domestics top the list of additional jobs needed, while the region will need 9.0k fewer Sales and Retail Assistants.

Jobs growing are those with the greatest projected increase in demand to 2027, while jobs going will see the greatest decrease.

Jobs growing

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Cleaners and Domestics	91,430	94,719	+3,290	+3.60%
Care Workers and Home Carers	84,100	86,879	+2,780	+3.31%
Large Goods Vehicle Drivers	34,550	37,230	+2,680	+7.76%
Programmers and Software Development Professio..	12,040	14,099	+2,060	+17.12%
IT Specialist Managers	13,250	15,229	+1,980	+14.94%
Taxi and Cab Drivers and Chauffeurs	21,970	23,698	+1,730	+7.87%
IT and Telecommunications Professionals	10,870	12,597	+1,730	+15.92%
Managers and Proprietors in Other Services	32,810	34,516	+1,700	+5.18%
Security Guards and Related Occupations	27,360	29,007	+1,650	+6.03%
Bus and Coach Drivers	15,790	17,342	+1,560	+9.88%

Jobs going

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Sales and Retail Assistants	124,630	115,642	-8,990	-7.21%
Other Administrative Occupations Nec	69,720	66,281	-3,440	-4.93%
Bookkeepers Payroll Managers and Wages Clerks	37,420	34,095	-3,320	-8.87%
Kitchen and Catering Assistants	45,770	42,681	-3,080	-6.73%
Receptionists	27,720	25,564	-2,150	-7.76%
Metal Working Production and Maintenance Fitters	26,120	24,256	-1,860	-7.12%
Personal Assistants and Other Secretaries	28,170	26,535	-1,640	-5.82%
Bank and Post Office Clerks	16,610	15,009	-1,600	-9.63%
Retail Cashiers and Checkout Operators	14,360	12,766	-1,590	-11.07%
Elementary Process Plant Occupations Nec	18,890	17,335	-1,560	-8.26%

West Midlands

All industries table

Full data table showing the total impact in the region in the five years from 2022, subdivided into economic impact, tech impact and jobs added.

West Midlands impact breakdown 5 years from 2022, by industry

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Grand Total	**2,973,300**	**+192,660**	**-205,340**	**+34,220**	**+21,540**	**+0.72%**
Transportation and storage	177,000	+35,560	-14,230	+2,370	+23,700	+13.39%
Information and communication	84,000	+26,890	-6,180	+1,030	+21,740	+25.87%
Administrative and support service activities	301,900	+36,120	-24,480	+4,080	+15,720	+5.21%
Professional, scientific and technical activities	232,800	+19,700	-18,040	+3,010	+4,660	+2.00%
Real estate activities	38,900	+3,320	-1,500	+250	+2,070	+5.32%
Agriculture, forestry and fishing	35,000	+2,880	-1,000	+170	+2,050	+5.86%
Human health and social work activities	374,100	+14,950	-16,040	+2,670	+1,580	+0.42%
Electricity, gas, steam and air conditioning supply	15,000	+650	-570	+90	+180	+1.20%
Activities of households as employers; undifferentiated goods and services producing activities of households for own use	4,000	+270	-100	+20	+180	+4.52%
Activities of extraterritorial organizations and bodies	300	+40	-10	+00	+30	+10.38%
Public administration and defence; compulsory social security	110,000	+5,670	-7,010	+1,170	-170	-0.15%
Mining and quarrying	1,000	-180	-50	+10	-230	-23.49%
Other service activities	85,200	+2,570	-3,790	+630	-590	-0.69%
Water supply; sewerage, waste management and remediation activities	18,100	-380	-650	+110	-920	-5.08%
Arts, entertainment and recreation	72,900	+960	-3,940	+660	-2,320	-3.18%
Construction	180,100	+2,210	-5,480	+910	-2,350	-1.30%
Accommodation and Food service activities	187,900	+7,750	-12,990	+2,160	-3,070	-1.63%
Financial and insurance activities	67,100	+1,770	-7,260	+1,210	-4,290	-6.40%
Education	253,900	+2,930	-11,290	+1,880	-6,480	-2.55%
Manufacturing	306,100	+12,360	-29,250	+4,880	-12,010	-3.92%
Wholesale and retail trade; repair of motor vehicles and motorcycles	427,900	+16,630	-41,470	+6,910	-17,920	-4.19%

Yorkshire and the Humber

Yorkshire and The Humber

Economy in transition

By 2027, the Yorkshire and The Humber workforce will have undergone significant technological change. Pearson's localised insights reveal how the landscape will evolve – and predicts that 12.9k more jobs will be available for local people.

Pearson's predictive analytics

Pearson's Workforce Skills division applies machine learning models to billions of data points in order to surface insights on how dynamic forces such as new work models, economic disruption, and artificial intelligence (AI) are reshaping the world of work.

Yorkshire and The Humber in transition

Automation does not necessarily mean fewer jobs – it means *different* jobs. In Yorkshire and The Humber, the number of additional employees needed in Transportation & Storage is set to marginally exceed ICT. However, by percentage increase ICT will experience the greatest growth.

Meanwhile, the region's Wholesale & Retail Trade sector will offer 15.7k fewer jobs by 2027. Local governments must act now to transition individuals from at-risk roles to growing sectors in need of new talent.

Our unique methodology

For this analysis, a UK labour market dataset was collated from the census and Annual Survey of Hours and Earnings, then mapped to our proprietary occupation ontology of 5,600 occupations & 26,600 tasks. Once mapped, Pearson's technological transformation models were used to produce in-depth projections of the future of the work. Macroeconomic factors have been modelled by economists specialising in workforce dynamics, informed by industry-level statistics & projections from the UK government.

Impact in Yorkshire and The Humber by 2027

	Change in headcount
Economic Growth	**+167.9k (6.2%)**
Quantifies job demand as the economy grows or declines over time. It considers industry growth, industry supply-chains and employment elasticity.	
Technology Impact	**-185.9k (6.8%)**
A measure of jobs impacted by automation and augmentation, reducing their demand. It utilises Faethm by Pearson's technology adoption and work attribution models, informed by a task-level view of the workforce.	
Jobs Added	**+31.0k (1.1%)**
The additional jobs needed to support technology implementation and maintenance.	
Overall change	**12.9k**

Yorkshire and The Humber

Expanding industries

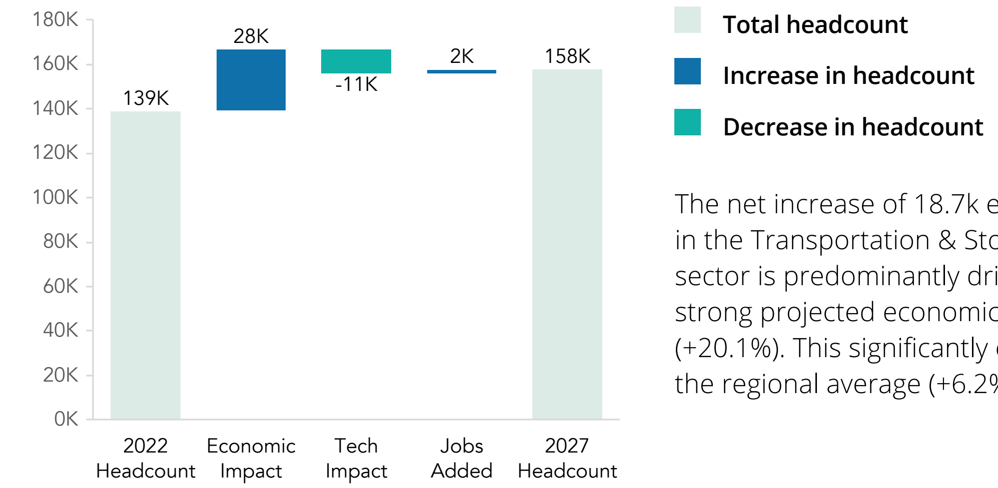
Of all high-level industries in Yorkshire and The Humber, our projections show that Transportation & Storage will experience the greatest growth in headcount by 2027 – with a 18.7k increase. This is because the projected surge in macroeconomic demand is strong enough to outweigh the impact of automation on the sector. Of growing roles, Large Goods Vehicle Drivers will be the fastest growing transport-related role, with the region requiring 2.2k more people to fill this role by 2027.

Top 5 industries by increase in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Transportation and storage	139,000	+27,920	-11,070	+1,850	+18,690	+13.45%
Information and communication	70,900	+22,670	-5,450	+910	+18,130	+25.56%
Administrative and support service activities	267,000	+31,920	-22,120	+3,690	+13,480	+5.05%
Professional, scientific and technical activities	199,900	+16,910	-15,480	+2,580	+4,010	+2.01%
Real estate activities	48,000	+4,100	-1,780	+300	+2,610	+5.43%

Transportation & Storage: Impact breakdown, projections from 2022 to 2027



The net increase of 18.7k employees in the Transportation & Storage sector is predominantly driven by its strong projected economic growth (+20.1%). This significantly exceeds the regional average (+6.2%).

Yorkshire and The Humber

Declining industries

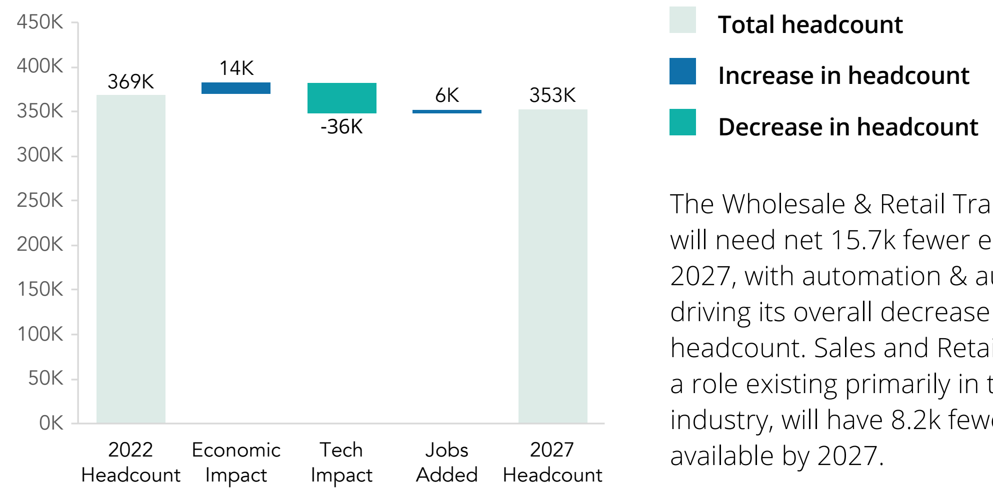
Despite the overall projected increase in headcount across Yorkshire and The Humber by 2027, 11 industries are expected to have lower headcounts by 2027 than in 2022. This is due to technological impact outweighing economic growth and other job addition. Of the industries projected to decrease in workforce size, Wholesale & Retail Trade's drop is the greatest – with a 15.7k decrease in headcount. In light of this, local policy action is needed to ensure individuals in highly-impacted roles have viable career transition options.

Top 5 industries by decrease in headcount, 2022 to 2027

Totals may not sum due to rounding.

Industry	2022 Headcount	Economic Impact	Tech Impact	Jobs Added	Net Change	% Net Change
Wholesale and retail trade; repair of motor vehicles and motorcycles	369,000	+14,340	-36,080	+6,010	-15,730	-4.26%
Manufacturing	276,100	+11,140	-27,300	+4,550	-11,610	-4.21%
Education	263,100	+3,030	-11,780	+1,960	-6,790	-2.58%
Financial and insurance activities	57,100	+1,510	-5,960	+990	-3,460	-6.06%
Accommodation and Food service activities	161,900	+6,680	-11,200	+1,870	-2,650	-1.64%

Transportation & Storage: Impact breakdown, projections from 2022 to 2027



The Wholesale & Retail Trade industry will need net 15.7k fewer employees by 2027, with automation & augmentation driving its overall decrease in headcount. Sales and Retail Assistants, a role existing primarily in the Trade industry, will have 8.2k fewer jobs available by 2027.

Yorkshire and The Humber

Job impact

The impact at an industry level is driven by shifts in the roles needed in five years' time. In Yorkshire and The Humber, cleaners, carers, HGV drivers and programmers top the list of additional jobs needed, while the region will need 8.2k fewer sales assistants.

Jobs growing are those with the greatest projected increase in demand to 2027, while jobs going will see the greatest decrease.

Jobs growing

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Cleaners and Domestics	87,240	90,265	+3,020	+3.46%
Care Workers and Home Carers	76,930	79,398	+2,470	+3.21%
Large Goods Vehicle Drivers	30,630	32,808	+2,180	+7.12%
Programmers and Software Development Professio..	10,580	12,314	+1,730	+16.35%
Taxi and Cab Drivers and Chauffeurs	21,020	22,631	+1,620	+7.71%
IT Specialist Managers	10,910	12,377	+1,470	+13.48%
Managers and Proprietors in Other Services	27,380	28,762	+1,380	+5.04%
Bus and Coach Drivers	13,850	15,226	+1,380	+9.97%
Security Guards and Related Occupations	23,420	24,723	+1,310	+5.59%
IT and Telecommunications Professionals	7,520	8,684	+1,170	+15.56%

Jobs going

Role	2022 Headcount	2027 Headcount	Net Change	% Net Change
Sales and Retail Assistants	114,280	106,122	-8,150	-7.13%
Other Administrative Occupations Nec	61,420	58,263	-3,150	-5.13%
Kitchen and Catering Assistants	39,800	37,065	-2,730	-6.86%
Bookkeepers Payroll Managers and Wages Clerks	29,040	26,475	-2,570	-8.85%
Food, Drink and Tobacco Process Operatives	25,020	22,914	-2,100	-8.39%
Receptionists	25,030	23,100	-1,930	-7.71%
Metal Working Production and Maintenance Fitters	24,360	22,569	-1,790	-7.35%
Elementary Process Plant Occupations Nec	19,420	17,770	-1,650	-8.50%
Retail Cashiers and Checkout Operators	13,470	11,981	-1,490	-11.06%
Elementary Storage Occupations	48,060	46,608	-1,450	-3.02%

Yorkshire and The Humber

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Impact in Yorkshire and The Humber by 2027

	Change in headcount
Economic Growth	**+167.9k (6.2%)**
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Jobs Added	**+31.0k (1.1%)**
The additional jobs needed to support technology implementation and maintenance.	
Overall change	**12.9k**

Pearson