



# NORTH WEST

The North West of England is an engineering powerhouse, with the greatest number of engineering workplaces of any UK region and the third highest employment in advanced manufacturing and engineering (AME).

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## Introduction

The region was a hotbed of manufacturing during the first Industrial Revolution and it is leading the way in the current, fourth Industrial Revolution too, with a pilot for Made Smarter aimed at embedding new digital skills in the industrial SME base currently being developed.

The North West is a region of strategic importance, with key industries including defence and aerospace having hubs there – so ensuring there is a good supply of individuals with the right skills to get into the AME sector is crucial.

The region is taking control of its own skills destiny, with the Greater Manchester Combined Authority in particular enjoying significant powers over skills spending, including over adult learning.



## Regional Profile

The North West has a strong base of micro-sized employers in the AME sector, with 11% of the UK total being located in the region. The region perhaps has fewer large employers than might be expected given its size and employment numbers – but the large employers in the North West are among the UK’s biggest in AME (e.g. BAE Systems, Vauxhall).

Employer size	Micro (0-9 employees)	Small (10-49 employees)	Medium (50-249 employees)	Large (250+ employees)	Total	As percentage of total
East Midlands	9,920	1,315	325	50	11,610	7.4
East of England	13,905	1,610	400	75	15,990	10.2
London	14,705	995	225	50	15,975	10.2
North East	6,180	535	165	35	6,915	4.4
<b>North West</b>	<b>15,120</b>	<b>1,625</b>	<b>375</b>	<b>75</b>	<b>17,195</b>	<b>10.9</b>
Northern Ireland	2,660	370	85	15	3,130	2
Scotland	14,080	1,085	250	65	15,480	9.9
South East	21,125	2,125	470	125	23,845	15.2
South West	11,575	1,265	270	65	13,175	8.4
Wales	5,120	545	160	35	5,860	3.7
West Midlands	13,620	2,110	525	110	16,365	10.4
Yorkshire and the Humber	9,655	1,435	375	65	11,530	7.3
<b>Total</b>	<b>137,665</b>	<b>15,015</b>	<b>3,625</b>	<b>765</b>	<b>157,070</b>	<b>100</b>
<b>As % of Total</b>	<b>87.6</b>	<b>9.6</b>	<b>2.3</b>	<b>0.5</b>	<b>100</b>	

	2018 Employment in AME
East Midlands	112,377
East of England	139,623
London	102,730
North East	56,051
<b>North West</b>	<b>161,874</b>
Northern Ireland	38,878
Scotland	107,941
South East	189,627
South West	144,903
Wales	79,798
West Midlands	192,956
Yorkshire and Humber	120,346
<b>Grand Total</b>	<b>1,447,103</b>



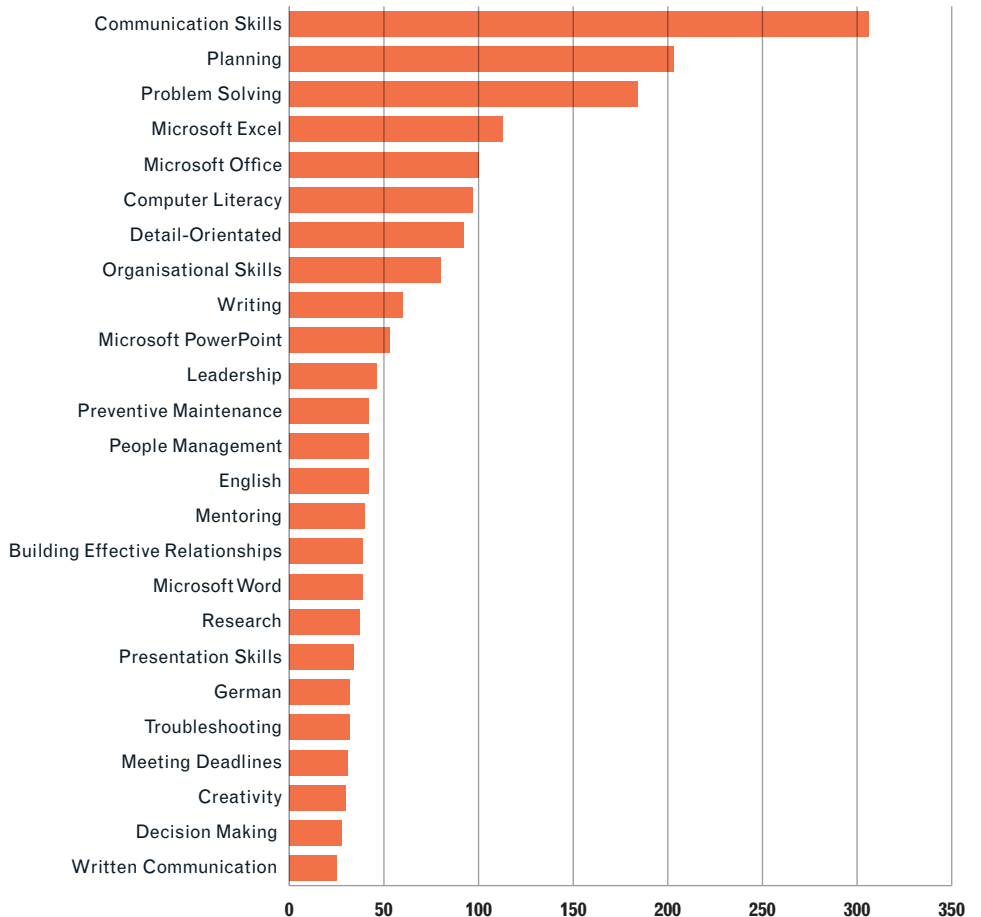
## Demand for Skills

In common with many other UK regions, According to Labour Insight analysis of job postings in 2017, Mechanical Engineering skills are highly sought after by employers in the North West AME sector.

Knowledge of the nuclear industry is also sought after, a function of the Sellafield nuclear site (and the National Skills Academy for Nuclear) being based in the region.



Communication skills are the most sought after general skills in the North West AME sector by some distance – more so than in most other UK regions.



## North West AME employment by sector (SIC groups)

The North West's numbers employed in aerospace and automotive are to be expected given the large employers which have chosen to base operations in the region.

In the medium-term, these sectors are expected to retain most of their employment, with smaller relative drops than in other regions – a reflection, perhaps, of expected strengthening of demand and need to boost production capacity even as job roles become more automated and the need for human labour decreases.

Sector	North West 2018	North West 2023	2018-23 North West change	2018-23 UK change
Fabricated Metal Products	24,796	22,807	-8.00%	-6.10%
Engineering design activities for industrial process and production	21,451	21,323	-0.60%	-1.30%
Automotive	16,975	15,656	-7.80%	-10.60%
Aerospace	14,668	13,455	-8.30%	-3.50%
Mechanical Equipment	13,705	10,609	-22.60%	-18.80%
Basic Metals	11,860	10,411	-12.20%	-10.10%
Research and experimental development on natural sciences and engineer	11,117	11,770	5.90%	7.20%
Technical testing and analysis	8,158	8,124	-0.40%	-1.10%
Repair of machinery Installation of industrial machinery and equipment	7,802	8,520	9.20%	0.20%
Electrical Equipment	7,034	6,840	-2.80%	-7.40%
Marine	5,713	5,244	-8.20%	-3.50%
Wholesale of metals and metal ores	4,093	4,149	1.40%	0.40%
Manufacture of computer, electronic and optical products	3,565	3,111	-12.70%	-21.50%
Repair and maintenance of aircraft and spacecraft	2,675	2,913	8.90%	-0.10%
Other Transport Equipment	1,725	1,584	-8.20%	-3.30%
Repair and maintenance of other transport equipment	1,627	1,769	8.70%	-0.30%
Repair of electrical equipment	1,261	1,380	9.40%	0.40%
Repair of fabricated metal products, machinery and equipment	1,142	1,243	8.80%	-0.20%
Repair and maintenance of ships and boats	1,041	1,134	8.90%	0.00%
Rubber Tyres	771	631	-18.20%	-12.80%
Repair of electronic and optical equipment	697	762	9.30%	0.30%
<b>Grand Total</b>	<b>161,874</b>	<b>153,436</b>	<b>-5.20%</b>	<b>-5.50%</b>

## North West employment by qualification level

Qualification level	North West 2018	North West 2023	2018-23 North West change	2018-23 UK change
No qualification	4,089	2,230	-45.5%	-45.8%
QCF1 GCSE (below grade C) & equivalent	17,457	14,173	-18.8%	-21.8%
QCF2 GCSE (A-C) & equivalent	31,167	28,630	-8.1%	-10.3%
QCF3 A Level & equivalent	34,527	28,618	-17.1%	-14.9%
QCF4 HE below Degree Level	16,992	17,402	2.4%	3.2%
QCF5 Foundation Degree	5,323	5,575	4.7%	6.4%
QCF6 First Degree	37,316	40,792	9.3%	10.2%
QCF7 Other Higher Degree	12,176	13,033	7.0%	4.0%
QCF8 Doctorate	2,828	2,983	5.5%	2.2%
<b>Grand Total</b>	<b>161,874</b>	<b>153,436</b>	<b>-5.2%</b>	<b>-5.5%</b>

The greatest proportion of North West AME workers is educated to degree level, a reflection of the very highly-skilled work undertaken in key areas such as defence and aerospace.

The proportion without qualifications is also smaller in the North West than in most other UK regions.

Although qualification levels are generally high, however, digital skills have been identified as a potential barrier to the sector’s continuing success – a digital skills initiative in St Helens is amongst those to have been funded by central government through the flexible learning fund, and the *Made Smarter* digital skills initiative is being piloted in the North West.

There are sizeable proportions of workers educated to GCSE and A Level equivalent, and the numbers of workers with these qualification levels are expected to drop significantly in the medium-term – in common with other parts of the UK, the demand for AME workers with degree-level education and skills is expected to rise.



**3,773 Managers** require development to **Level 3 or higher**



**12,866 Professionals** require development to **Level 4 or higher**



**5,500 of those working in Skilled Trades Occupations** require development to **Level 3 or higher**



**3,040 Operators** require development to **Level 2 or higher**



**5,711 of those in Associate Professional and Technical** roles require development to **Level 3 or higher**

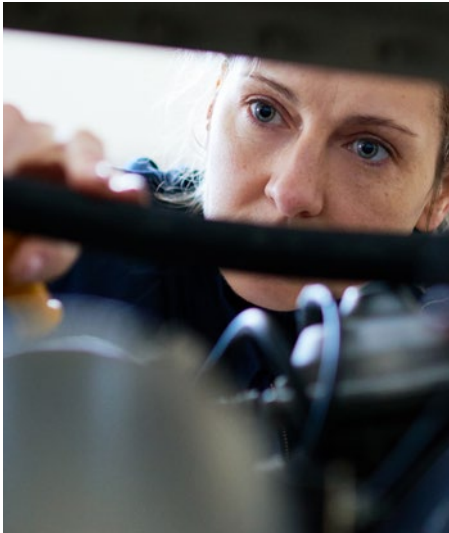


## North West employment by occupational area

There is expected to be a medium-term increase in the numbers of workers employed in professional occupations in the North West AME sector.

In common with other parts of the UK, the numbers employed in relatively less skilled operative-level roles will likely decrease.

Occupational area	North West 2018	North West 2023	2018-23 North West change	2018-23 UK change
Skilled trades occupations	46,136	46,401	0.60%	0.20%
Professional occupations	34,299	29,819	-13.10%	-11.70%
Associate professional and technical	25,005	24,668	-1.30%	-1.90%
Process, plant and machine operatives	16,633	16,566	-0.40%	-0.70%
Administrative and secretarial	15,033	12,894	-14.20%	-12.90%
Managers, directors and senior officials	14,247	13,235	-7.10%	-8.50%
Elementary occupations	5,624	5,047	-10.30%	-9.60%
Sales and customer service	3,869	3,755	-2.90%	-4.20%
Caring, leisure and other service	1,028	1,051	2.20%	2.30%
<b>Grand Total</b>	<b>161,874</b>	<b>153,436</b>	<b>-5.20%</b>	<b>-5.50%</b>



## Gender

The North West is relatively more gender diverse in AME than the UK as a whole – 20% of workers are female, compared with 19% for all regions.

Large employers in AME in the region have made a particularly strong effort to diversify their intake – for example, MBDA mandates a 50/50 split for school visits, which has led to a 50/50 balanced intake for the company’s apprenticeship programme.

Gender	North West 2018	North West 2023	2018-23 North West change	2018-23 UK change
Females	27,373	27,499	0.5%	-0.6%
Males	134,501	125,937	-6.4%	-6.7%
<b>Grand Total</b>	<b>161,874</b>	<b>153,436</b>	<b>-5.2%</b>	<b>-5.5%</b>