



# YORKSHIRE AND THE HUMBER

Yorkshire and the Humber has an important strategic role to play in the UK Advanced Manufacturing and Engineering (AME) sector's future, with Sheffield City Region serving as the home of the Advanced Manufacturing Park (which includes the Advanced Manufacturing Research Centre).

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## Introduction

South Yorkshire is a manufacturing hub – it makes up 17% of the Sheffield City Region’s employment, compared with 13% nationally. Meanwhile, Humberside is an important UK centre for the marine industry.

Yorkshire and the Humber is the fourth strongest English region for Engineering & Manufacturing Technologies apprenticeships despite only being the sixth largest English region by AME employment – so it is clear that more is being done to support the sector’s skills development than in some other parts of the country.

The region’s higher education institutions and further education colleges are also focusing strongly on engineering skills.

## Regional Profile

Yorkshire and the Humber's AME employer base is broadly reflective of the wider UK, with a sizeable base of micro-sized organisations; however, the region has a relatively large proportion of medium-sized organisations, and it is these organisations which contribute much to the region's strength.

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
North West	15,120	1,625	375	75	17,195	10.9
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
<b>Yorkshire and the Humber</b>	<b>9,655</b>	<b>1,435</b>	<b>375</b>	<b>65</b>	<b>11,530</b>	<b>7.3</b>
<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
North West	161,874
Northern Ireland	38,878
Scotland	107,941
South East	189,627
South West	144,903
Wales	79,798
West Midlands	192,956
<b>Yorkshire and Humber</b>	<b>120,346</b>
<b>Grand Total</b>	<b>1,447,103</b>





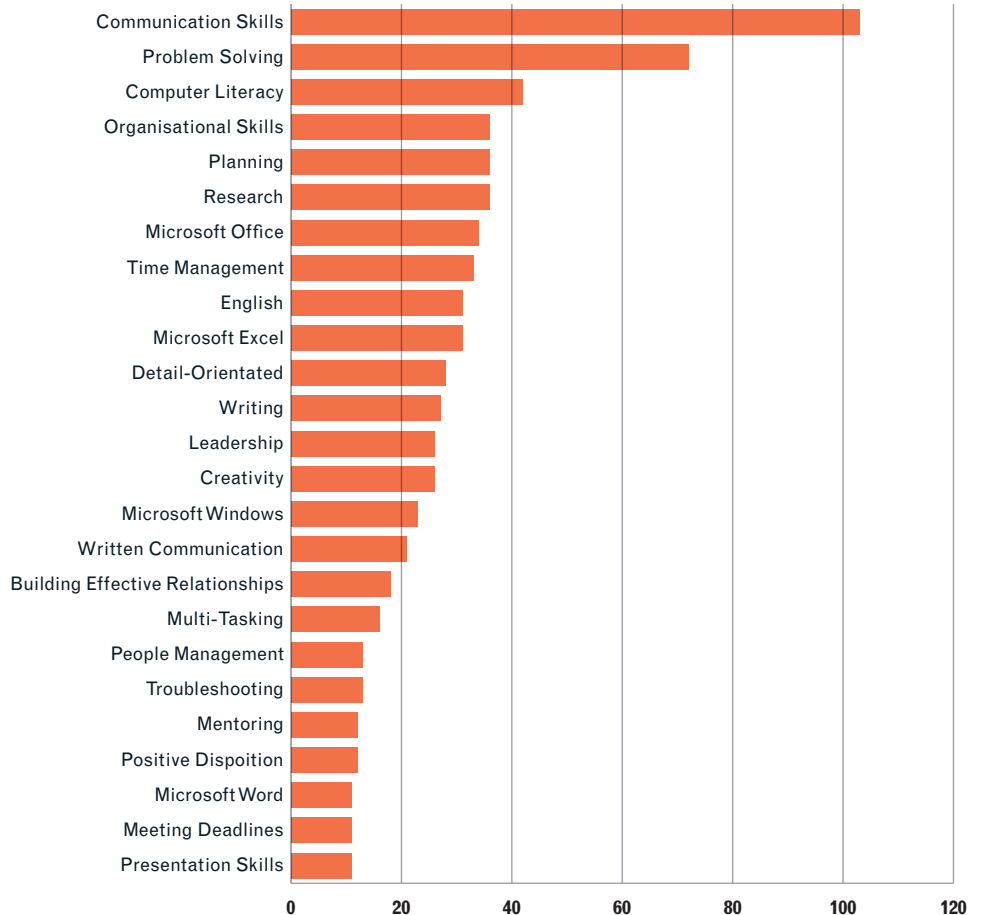
## Demand for Skills

According to Labour Insight analysis of 2017 job postings, mechanical engineering skills are those most demanded by Yorkshire and the Humber’s AME sector employers, with project management skills and team working skills also much needed.



Computer literacy skills feature in the top three most in demand generalist skills in the sector, which is a deviation from the UK norm – planning skills are relatively less sought after than in most other parts of the country.

Communication skills are the most demanded generalist skill.



## Yorkshire and the Humber employment by sector (SIC groups)

Fabricated metal products accounts for by far the largest proportion of AME employment in the region of any AME sector – it is more than twice the size of the second largest sector. This imbalance is not seen in most other UK regions.

Sector	Yorkshire and The Humber 2018	Yorkshire and The Humber 2023	2018-23 Yorkshire and The Humber change	2018-23 UK change
Fabricated Metal Products	31,954	30,459	-4.70%	-6.10%
Mechanical Equipment	16,711	14,356	-14.10%	-18.80%
Electrical Equipment	11,976	11,675	-2.50%	-7.40%
Engineering design activities for industrial process and production	11,917	11,754	-1.40%	-1.30%
Research and experimental development on natural sciences and engineer	9,901	11,150	12.60%	7.20%
Basic Metals	9,066	8,131	-10.30%	-10.10%
Automotive	6,527	5,920	-9.30%	-10.60%
Repair of machinery Installation of industrial machinery and equipment	5,509	5,096	-7.50%	0.20%
Technical testing and analysis	4,507	4,449	-1.30%	-1.10%
Wholesale of metals and metal ores	2,725	2,782	2.10%	0.40%
Repair and maintenance of aircraft and spacecraft	1,827	1,683	-7.80%	-0.10%
Manufacture of computer, electronic and optical products	1,742	1,531	-12.10%	-21.50%
Repair and maintenance of other transport equipment	1,098	1,010	-8.00%	-0.30%
Aerospace	951	935	-1.60%	-3.50%
Repair of electrical equipment	909	843	-7.20%	0.40%
Repair of fabricated metal products, machinery and equipment	779	717	-7.90%	-0.20%
Repair and maintenance of ships and boats	715	660	-7.80%	0.00%
Rubber Tyres	525	426	-18.90%	-12.80%
Repair of electronic and optical equipment	503	466	-7.30%	0.30%
Marine	384	378	-1.50%	-3.50%
Other Transport Equipment	120	119	-1.50%	-3.30%
<b>Grand Total</b>	<b>120,346</b>	<b>114,541</b>	<b>-4.80%</b>	<b>-5.50%</b>

Yorkshire and the Humber's research sector is smaller, relatively speaking, than a number of other regions which have chosen to focus on high-tech manufacturing, but is projected to grow significantly in the medium term (in large part thanks to the Advanced Manufacturing Park).

Overall, the region's employment in AME will shrink at a lower rate than the UK as a whole from 2018-23.



## Yorkshire and the Humber employment by qualification level

Qualification level	Yorkshire and The Humber 2018	Yorkshire and The Humber 2023	2018-23 Yorkshire and The Humber change	2018-23 UK change
No qualification	4,029	2,410	-40.2%	-45.8%
QCF1 GCSE (below grade C) & equivalent	14,893	11,802	-20.8%	-21.8%
QCF2 GCSE (A-C) & equivalent	23,471	20,979	-10.6%	-10.3%
QCF3 A Level & equivalent	28,493	24,294	-14.7%	-14.9%
QCF4 HE below Degree Level	12,333	13,407	8.7%	3.2%
QCF5 Foundation Degree	3,905	4,329	10.9%	6.4%
QCF6 First Degree	23,980	27,544	14.9%	10.2%
QCF7 Other Higher Degree	7,694	8,160	6.1%	4.0%
QCF8 Doctorate	1,549	1,616	4.3%	2.2%
<b>Grand Total</b>	<b>120,346</b>	<b>114,541</b>	<b>-4.8%</b>	<b>-5.5%</b>

There is a plurality of Yorkshire and the Humber AME talent educated to A Level or equivalent and a majority of the workforce has not been through higher education.

There will be a sizeable medium term growth in the numbers educated to degree level so that by 2023 they will account for the largest group of workers – this reflects the expected shift across AME away from traditional ‘hand’ skills and towards higher-level roles.

The region has a number of skills challenges to solve in AME, including:-

Sheffield University has strong links with the Advanced Manufacturing Park and is ranked ninth in the UK for Aeronautical & Manufacturing Engineering, but the region has no universities in the UK top twenty for General Engineering (Bradford is ranked 24th).



**4,024 Operators** require development to **Level 2 or higher**



**3,031 Managers** require development to **Level 3 or higher**



**14,298** of those working in **Skilled Trades Occupations** require development to **Level 3 or higher**



**3,339** of those in **Associate Professional and Technical roles** require development to **Level 3 or higher**



**6,150 Professionals** require development to **Level 4 or higher**

## Yorkshire and the Humber employment by occupational area

There will be an expected medium-term increase in the numbers of managers and professionals employed within the Yorkshire and the Humber region's AME sector.

The decline in the numbers of operatives expected to be in employment in five years' time is smaller than in a number of other UK regions, reflecting the continuing strength of the region's casting and forging base amongst other areas.

## Qualification Split

Occupational area	Yorkshire and The Humber 2018	Yorkshire and The Humber 2023	2018-23 Yorkshire and The Humber change	2018-23 UK change
Skilled trades occupations	35,198	31,629	-10.10%	-11.70%
Professional occupations	23,382	23,857	2.00%	0.20%
Associate professional and technical	16,078	16,043	-0.20%	-1.90%
Managers, directors and senior officials	13,453	13,569	0.90%	-0.70%
Process, plant and machine operatives	12,810	11,172	-12.80%	-12.90%
Administrative and secretarial	9,118	8,554	-6.20%	-8.50%
Elementary occupations	5,848	5,309	-9.20%	-9.60%
Sales and customer service	3,080	2,995	-2.80%	-4.20%
Caring, leisure and other service	1,379	1,415	2.60%	2.30%
<b>Grand Total</b>	<b>120,346</b>	<b>114,541</b>	<b>-4.80%</b>	<b>-5.50%</b>



## Gender

The region's AME workforce is 17% female, which lags behind the UK average of 19%; the apprenticeships intake is also heavily male.

At higher skills levels, there are efforts afoot to make AME more attractive to female entrants, with Sheffield University and Leeds University both having a Women in Engineering Student Society.

Gender	Yorkshire and The Humber 2018	Yorkshire and The Humber 2023	2018-23 Yorkshire and The Humber change	2018-23 UK change
Females	20,974	21,260	1.4%	-0.6%
Males	99,373	93,281	-6.1%	-6.7%
<b>Grand Total</b>	<b>120,346</b>	<b>114,541</b>	<b>-4.8%</b>	<b>-5.5%</b>