



SCOTLAND

Scotland is, relatively speaking, one of the UK's engineering 'big hitters', with almost 10% of the total advanced manufacturing and engineering (AME) sector employment coming from just 8.3% of the total UK population.

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Introduction

Scotland has traditionally had great strength in sectors such as marine and defence, and that strength remains today.

The Scottish Government enjoys significant devolved powers over education, skills and the economy and has used these to prioritise STEM industrial development and STEM skills. There is a STEM Education and Training Strategy in place, and the Scottish Government is measuring the success of the Strategy through a number of key performance indicators.

Employers in Scotland with payrolls over £3m per year must pay the UK-wide apprenticeship levy. The Scottish Government has chosen to spend some of the Scottish allocation of the levy on a Flexible Workforce Development Fund to help employers to access in-work skills training.

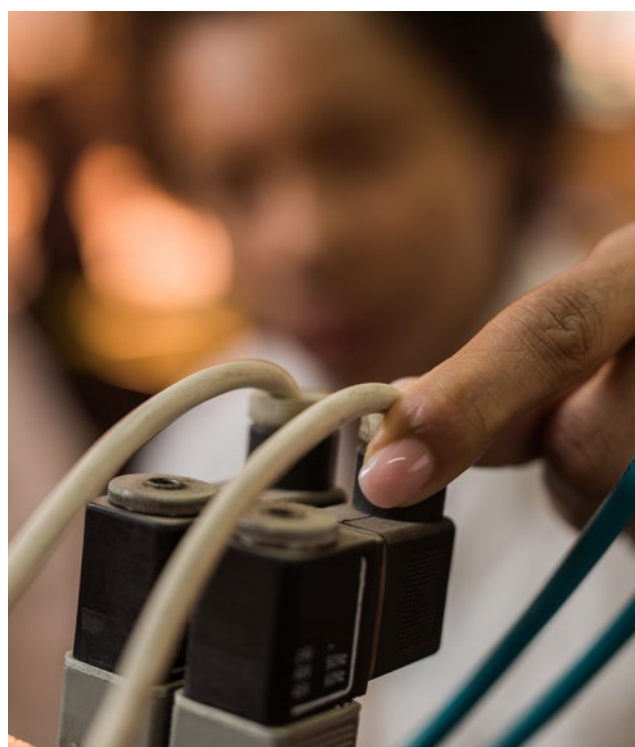
Regional Profile

Scotland's AME sectoral profile in terms of employer size is consistent with those across the rest of the UK, with the vast majority of the employer base being micro-sized and SME-sized.

(These figures are rounded to the nearest 5.)

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
Yorkshire and the Humber	9,655	1,435	375	65	11,530	7.3
Total	137,665	15,015	3,625	765	157,070	100
As % of Total	87.6	9.6	2.3	0.5	100	

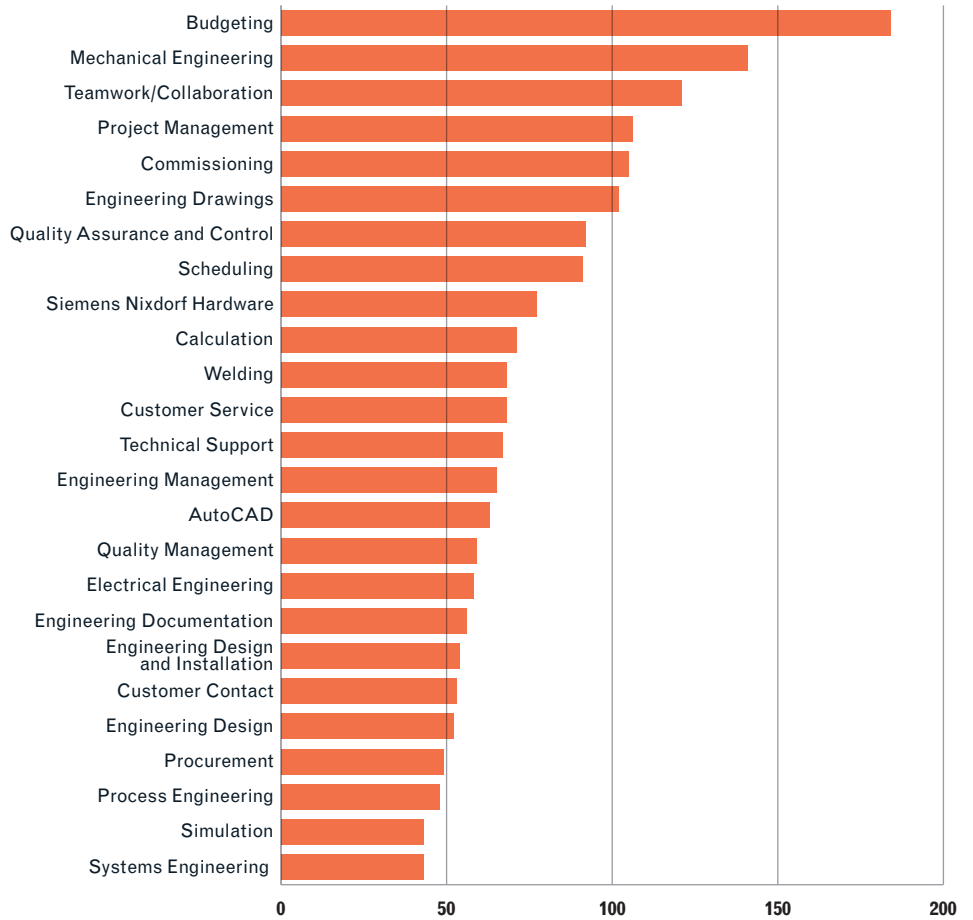
	2018 Employment in AME
East Midlands	112,377
East of England	139,623
London	102,730
North East	56,051
North West	161,874
Northern Ireland	38,878
Scotland	107,941
South East	189,627
South West	144,903
Wales	79,798
West Midlands	192,956
Yorkshire and Humber	120,346
Grand Total	1,447,103



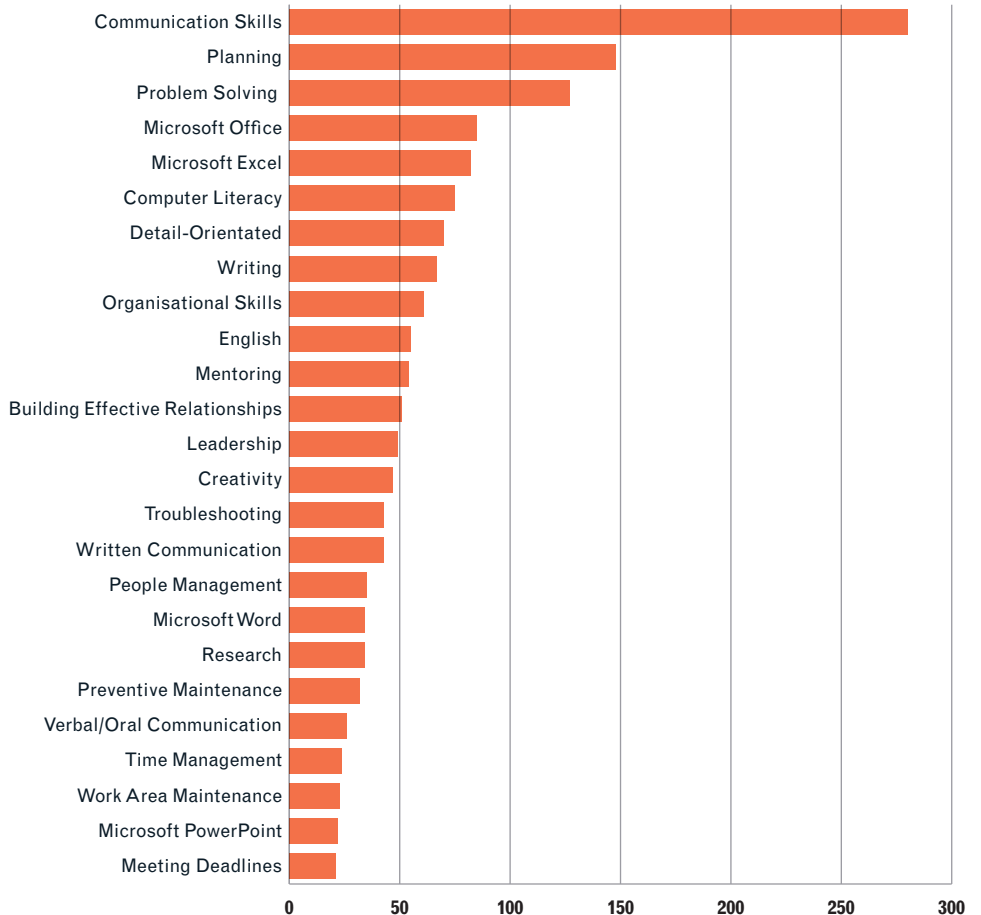
Demand for Skills

Labour Insight data shows that the top demanded specialist skill by AME sector employers in 2017 was budgeting skills – of the engineering skills in demand, there is strong demand for mechanical engineering and drawing skills.

The demand for Siemens Nixdorf Hardware skills is a strange outlier given that the company no longer exists and hasn't for almost twenty years.



In common with other parts of the UK, amongst more generalist skills communication, problem solving and planning skills are in high demand in the AME sector in Scotland – computer literacy skills also feature highly.



Scotland employment by sector (SIC groups)

Sector	Scotland 2018	Scotland 2023	2018-23 Scotland change	2018-23 UK change
Engineering design activities for industrial process and production	21,087	21,085	0.00%	-1.30%
Fabricated Metal Products	19,518	18,242	-6.50%	-6.10%
Mechanical Equipment	10,403	8,051	-22.60%	-18.80%
Research and experimental development on natural sciences and engineer	10,309	11,431	10.90%	7.20%
Technical testing and analysis	7,861	7,875	0.20%	-1.10%
Electrical Equipment	6,585	6,602	0.30%	-7.40%
Aerospace	6,438	6,067	-5.80%	-3.50%
Repair of machinery Installation of industrial machinery and equipment	6,149	5,596	-9.00%	0.20%
Manufacture of computer, electronic and optical products	4,314	3,681	-14.70%	-21.50%
Marine	2,531	2,388	-5.60%	-3.50%
Repair and maintenance of aircraft and spacecraft	2,277	2,065	-9.30%	-0.10%
Wholesale of metals and metal ores	2,019	1,970	-2.40%	0.40%
Automotive	1,999	1,929	-3.50%	-10.60%
Repair and maintenance of other transport equipment	1,389	1,259	-9.40%	-0.30%
Repair of fabricated metal products, machinery and equipment	962	872	-9.40%	-0.20%
Repair of electrical equipment	951	867	-8.80%	0.40%
Repair and maintenance of ships and boats	872	792	-9.20%	0.00%
Other Transport Equipment	772	729	-5.60%	-3.30%
Basic Metals	720	653	-9.30%	-10.10%
Repair of electronic and optical equipment	511	467	-8.60%	0.30%
Rubber Tyres	275	229	-16.70%	-12.80%
Grand Total	107,941	102,849	-4.70%	-5.50%



The Scottish AME sector's greatest employment is in engineering design activities, while fabricated metal products, mechanical equipment and research also account for sizeable proportions of the employment base.

This correlates with the highly-educated nature of the Scottish AME workforce.

Scotland employment by qualification level

Qualification level	Scotland 2018	Scotland 2023	2018-23 Scotland change	2018-23 UK change
No qualification	3,042	1,730	-43.1%	-45.8%
QCF1 GCSE (below grade C) & equivalent	10,182	8,102	-20.4%	-21.8%
QCF2 GCSE (A-C) & equivalent	15,247	13,013	-14.7%	-10.3%
QCF3 A Level & equivalent	17,488	13,573	-22.4%	-14.9%
QCF4 HE below Degree Level	13,557	13,850	2.2%	3.2%
QCF5 Foundation Degree	4,486	4,746	5.8%	6.4%
QCF6 First Degree	31,793	34,880	9.7%	10.2%
QCF7 Other Higher Degree	9,961	10,680	7.2%	4.0%
QCF8 Doctorate	2,185	2,274	4.1%	2.2%
Grand Total	107,941	102,849	-4.7%	-5.5%

The proportion of the Scottish AME sector workforce without qualifications is relatively low, at less than 3%.

With 41% of the workforce being qualified to at least degree level, the Scottish AME sector is relatively highly educated – the UK average across the sector is just 30%.

The sector is likely to become even more well-educated in the medium-term, with a decline in the numbers without qualifications and with education to sub-higher education level. Two of the UK's top ten ranked universities for General Engineering (Strathclyde and Aberdeen) are in Scotland, while Glasgow is ranked 7th for Aeronautical & Manufacturing Engineering (and 7th for research in this field too).



1,582 Managers require development to **Level 3 or higher**



5,424 Professionals require development to **Level 4 or higher**



3,693 Technicians require development to **Level 4 or higher**



7,088 of those working in Skilled Trades Occupations require development to **Level 3 or higher**



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

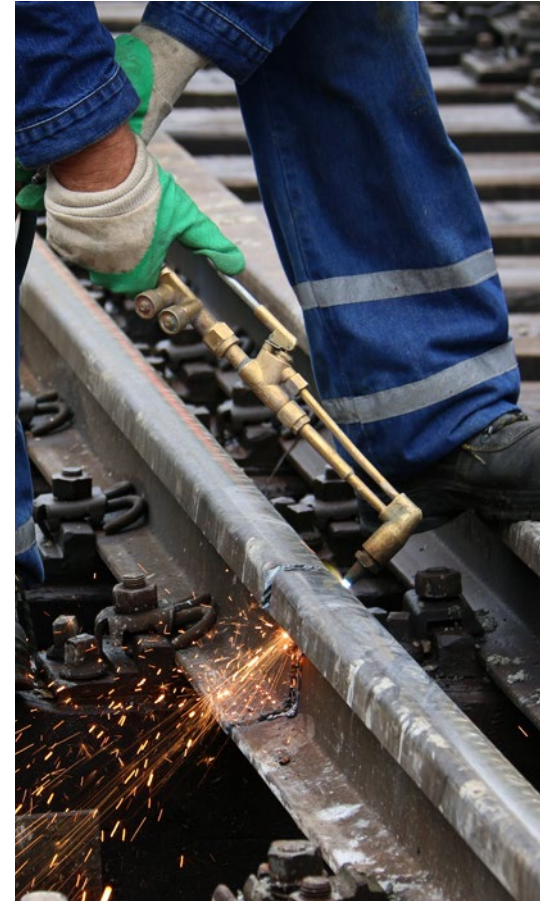


Scotland employment by occupational area

There is a relatively high proportion of the Scottish AME workforce employed in professional occupations – an area where there is expected to be a modest increase in employment in the medium term.

The relatively high expected decline in the numbers employed in skilled trades roles implies a likely further take-up of new digital technologies which supplant human effort. The relatively small expected decline in the overall workforce compared with the UK, however, is a function of the sector’s relatively high skills levels and numbers employed in higher-skilled roles.

Occupational area	Scotland 2018	Scotland 2023	2018-23 Scotland change	2018-23 UK change
Professional occupations	30444	30749	1.00%	0.20%
Skilled trades occupations	19419	16922	-12.90%	-11.70%
Associate professional and technical	17595	17329	-1.50%	-1.90%
Managers, directors and senior officials	11079	11022	-0.50%	-0.70%
Process, plant and machine operatives	10334	8987	-13.00%	-12.90%
Administrative and secretarial	9340	8641	-7.50%	-8.50%
Elementary occupations	6057	5559	-8.20%	-9.60%
Sales and customer service	2341	2252	-3.80%	-4.20%
Caring, leisure and other service	1332	1387	4.10%	2.30%
Grand Total	107941	102849	-4.70%	-5.50%



Gender

With just 3% of engineering apprentices in Scotland being female, the sector has more work to do to secure a talent pipeline for the future which truly reflects wider Scottish society.

The Scottish Government has prioritised getting more women involved in STEM, including by requiring colleges and higher education institutions to ensure 25% of engineering students are female by 2030

Gender	Scotland 2018	Scotland 2023	2018-23 Scotland change	2018-23 UK change
Females	20,190	20,092	-0.5%	-0.6%
Males	87,750	82,757	-5.7%	-6.7%
Grand Total	107,941	102,849	-4.7%	-5.5%