

Advanced manufacturing and engineering

**National
Careers
Service**
Helping you take
the next step

Engineering and manufacturing plays a vital role in the UK economy and its future but despite there being lots of opportunities, the sector is struggling to recruit people to roles in areas such as engineering and technician work.

182,000 people
with engineering skills needed in the
UK each year to 2022 ¹

20,000 predicted shortfall of
engineering graduates every year

More women needed - only **9%**



of the engineering
workforce is female. ²

More jobs will be **highly skilled jobs**
meaning more apprenticeships to apply for

Future trends

The sector is becoming more hi-tech and the UK is playing its part in leading the way in innovation and cutting-edge technology. This means employers are on the look-out for people with:

STEM qualifications | creative talent | problem solving skills | digital skills | flexibility

These are all areas where innovation will create new roles:

robotics | cyber security | biomedical technologies | telecommunications and satellites | driverless vehicles | smart energy | agri-tech | low-carbon technologies | intelligent mobility technologies | mechatronics | coding

Skills and qualities

Some employers report that they struggle to find candidates with the right people or personal skills. In engineering and manufacturing, employers are particularly looking for:

Advanced ICT and digital skills

Analytical skills

Communication

Problem solving

Maths

Creative thinking

Leadership and management

Design

Teamwork

Attention to detail

Flexibility

Languages

What could you earn?



These are the average salaries you might expect to earn in manufacturing and engineering*.

Salaries are likely to be lower for new starters and higher for experienced workers.

Metal working machine operative £22,800

Quality assurance technician £25,700

Motor vehicle technician £26,850

Motor vehicle assembler £34,000

Engineering technician £35,550

Design and development engineer £40,100

CNC (computer control) programmer £41,500

Electronics engineer £43,850

Flight engineer £84,75

*Annual Survey of Hours and Earnings 2017 median salary rounded to nearest £50

¹ CITB ² CITB



The local picture

The West Midlands is an exciting place to be when it comes to careers in advanced engineering and manufacturing. 50% of the UK's automotive industry is based in the Midlands and more than a quarter of the UK's aerospace sector is based here in the West Midlands.

Local employers and colleges are creating hundreds of apprenticeships for people in the area so that they can develop the skills needed to access the many jobs which will be available over the next decade or so - jobs that are vital to the local economy.

HS2 will create thousands of jobs for the West Midlands in this sector – both directly and in the supply chain.

Large and valued companies in the area include:



Jaguar Land Rover | Rolls Royce | MG Motor | Goodrich | BMW | Timet | GKN Aerospace | Moog Aircraft Group | ThyssenKrupp Aerospace | Maier Ltd | Changan | Hydraforce | Gestamp Tallent | Arcadis | IMI

But there are many more smaller employers offering a broad range of careers.

How many people are employed in a manufacturing job in our area?



Advanced manufacturing and engineering employs around 91,000 people across the area - around 10% of all employment. The number of people employed in the motor vehicle and parts manufacturing industry is nearly 22,000 with hotspots in Birmingham and Solihull.

Finding out more



www.semta.org.uk/careers
www.tomorrowsengineers.org.uk
www.futuremorph.org/my-future-finder
www.wisecampaign.org.uk
www.engineeringuk.com/research
www.jaguarlandrovercareers.com
www.automotiveapprenticeships.co.uk

Routes in



As well as the BTECs, HNC/Ds or a degree route, higher and degree apprenticeships will play a larger part in training the engineers and technicians of the future allowing an employer to train somebody up while working in partnership with a higher education institution. Young people can take advantage of the many colleges and training centres in the area (see box) who work with local employers to offer courses and apprenticeships which match the jobs available in the area.

Jaguar Land Rover runs the 'Young Women in the Know' scheme aimed at encouraging women into the sector.

There's no age cut off for starting an apprenticeship and nor is there one set route - it's possible to switch between qualification and training pathways depending on your starting point.

Some of the places you can train locally:

North Worcestershire Centre of Engineering Excellence

Virtual Reality (VR) and Robotics Development Centre and Centre for Advanced Aeronautical Provision based at Solihull College & University Centre

National College for High Speed Rail

Types of apprenticeships include:



engineering design and draughtsperson, welding, composites technician, maintenance and operations engineering technician, vehicle maintenance and repair, motorsport, CNC machinist, performance engineering, nuclear technician, high-speed rail and infrastructure technician, electronics production operative, document controller