

ROUTING

for **you**



Mapping
pathways to
help **YOU**
choose the right
route to your
future career.



**What is Advanced
Manufacturing?**

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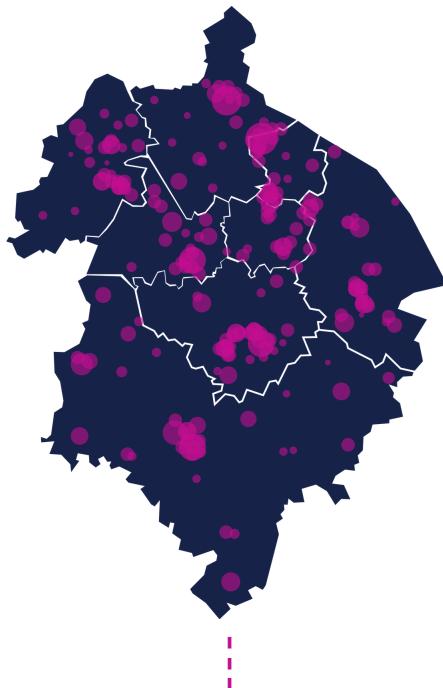
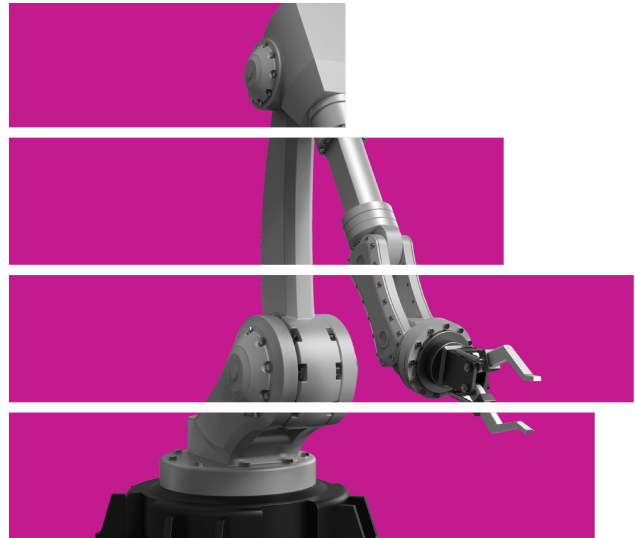
Advanced Manufacturing is the use of innovative technologies to improve products using advanced, cutting edge and often pioneering technology. It can also include high-tech processes such as automation and robotics supporting the rapid transfer of science and technology into the manufacture of products. This offers some of the most technologically ground-breaking and rewarding careers available.

Think:

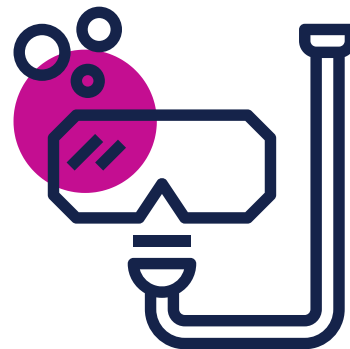
- High tech products and processes
- Electronics
- Computing
- Consoles and devices
- Nanotechnology
- 3D printing
- Virtual reality

Example job roles and industries:

- Aerospace and Aeronautical
- Energy Industry
- Material Handling
- Medical Device Design
- Medical Technologies Industry
- Food Technologists



The heat map above indicates the number of jobs posted by employers during 2019, helping you to quickly recognise areas of high and low job density around you.



Did you know there is a scuba diving pizza delivery man hired to deliver pizzas to an underwater hotel in Florida? Without Advanced Manufacturing, there would be no watertight container, no scuba diving kit and no underwater hotel.

Why Advanced Manufacturing?

Advanced Manufacturing includes many different skills and jobs and when you explore the possibilities, you will see it is built into everything that we do. Advanced Manufacturing uses modern technologies that continuously develop and change to be better, stronger and faster.

So, whether you are intrigued by information technology, compelled by computing, mad about make-up, crazy about cars or inspired by invention this could be a sector for you.



In the West Midlands, there are approximately 311,586 people employed in Manufacturing. That makes up to 12.3% of the total people employed in the region.



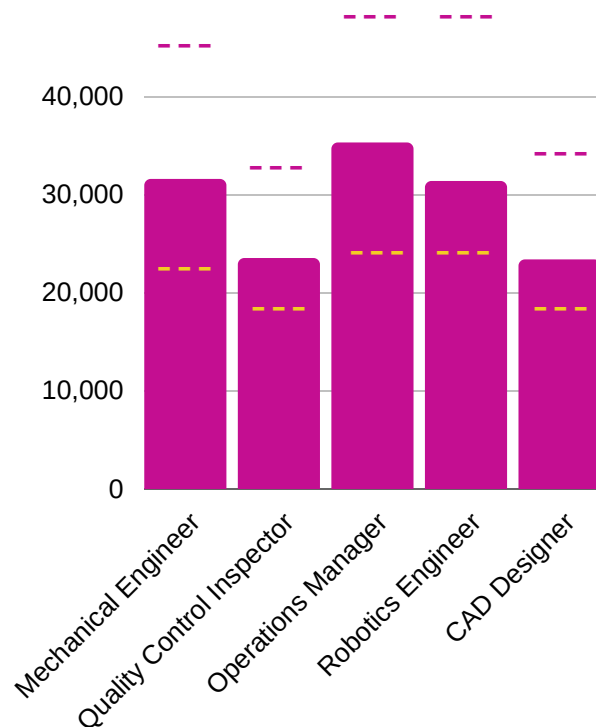
Women only represent 12% of the engineering workforce but 47% of the overall UK workforce

Top 100

One of the UK's top 100 Apprentice employers is a £36m Advanced Manufacturing Training Centre (AMTC) in Ansty Park, Warwickshire. It's a flagship facility for advanced apprenticeship programmes.

Average Salary in UK

- Can earn up to
- Average starting salary

A white rocket launching upwards from a dark blue circular background, with white smoke at the base.

Consider a career with truly limitless opportunities

You could be a Spacecraft and Satellites Designer earning around £60,000.



£50,000

Mid-level, lead or principle
Engineers earn around
£35,000 to £50,000.

Did you know?

You can branch into aerospace, medical, structural, or robotic, by taking specific modules.

Did you know?

Some universities offer placement years which allow you to spend time in industry.

Mechanical Engineer

Starting salaries for Mechanical Engineers, and for those on graduate training schemes, are in the range of £20,000 to £28,000.

Apprenticeships

There are approximately 90 apprenticeships in the Engineering Sector available in England, with more in development. Each apprenticeship sets out occupational standards for specific job roles, designed by employers. The standards outline the skills, knowledge, and behaviours required to demonstrate that an apprentice is fully competent in the job role.



Solihull College offer engineering courses that you can do straight after your GCSEs

Other Courses

Pearson BTEC National Extended Diploma
Pearson BTEC Level 3 National Diploma
Pearson BTEC National Foundation Diploma
Pearson BTEC Level 3 National Extended Certificate
Access to HE Diploma

University

Don't expect to be sitting in lectures and seminars for the entirety of your degree, which will generally last three or four years. During that time, you'll be involved in lots of practical and demonstration sessions, as well as laboratory and workshop lessons. Engineering graduates are awarded a BEng, rather than the more common BA or BSc.



Did you know Ferrari engines are engineered to sound perfect by utilizing 3rd and 6th harmonics on the air intake, like an organ or flute.

A Levels

Entry requirements range from CCC to A*AA, with the universities and colleges most commonly asking for AAB. Maths and Physics are generally the most important subjects. Other subjects that will support applications: further maths, design technology, computing, product design, and the other sciences.

School

You would be expected to secure 5 GCSEs at grade 4 or higher in Maths, English Literature and Science. Qualifications in Design and Technology and Engineering are also advantageous if your school offers them.

Did you know?

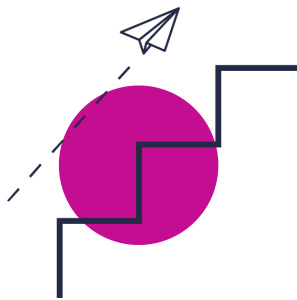


**Rowan Atkinson
Mr Bean**

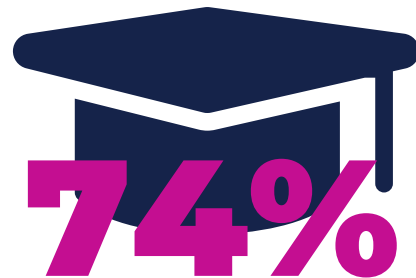
has a degree in
Electrical Engineering.



Engineer Nathaniel Baldwin invented the first pair of audio headphones on his kitchen table in 1910. Initially dismissed by sceptical investors, the headphones were picked up by the US Navy, who ordered 100 pairs and made the engineer rich.



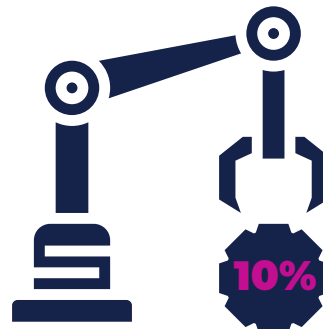
On average, salaries in Manufacturing in 2019 were £34,538, which is 14% higher than the rest of the economy, which sat at £30,629.



Not many Job postings in 2019 stated desirable qualifications, but of those that did, 74% required applicants to have a level 4 or higher qualification.



In the Automotive Industry, Solihull, Coventry, Warwickshire and Birmingham, offer a whopping 30,000 positions.



This sector makes up more than 10% of all jobs within the area.

Tomorrow's Working World

Worldwide changes

What's happening and how does this impact you and your career?

Which jobs will be a priority?

Environmental concerns and changes to the global climate.



People are looking for greener energies and developing technologies which are more efficient and sustainable. The importance of looking after the planet has never been more recognised.

Moving towards a greener world will affect all sectors. Industries are switching over to ecological technologies and changing how we work with an increase in remote working and digital technology.

Engineering Automotive Design, Chemical Processing, Recycling and Waste Solutions, Agriculture Energy and Utilities Innovation

Ever-increasing need for speed, turnarounds and direct routes to a result.



Convenience and fast delivery of projects is a priority. With an economy vastly effected by global changes and the pandemic, businesses are finding ways to save money and speed up processes to help them survive.

Businesses are becoming more accessible via digital platforms and using technology to reduce overheads, providing opportunities in roles within the technology, manufacturing and digital sectors.

Advanced Manufacturing, Business Developers, Creative App Development, Coding, Digital Marketing, Professional Services, Lawyer, Sales Representative, Underwriter, Auctioneer, Judge, Coroner, Valuer

Technology is advancing every day with new technologies emerging at an ever-growing rate.



The world is changing as a result of emerging technology. Some jobs and market requirements have become redundant because of new ways of working.

Technologies will keep changing, and therefore different skills will be desired in areas such as IT, design, mechanics and STEM subjects.

Engineering, Advanced Manufacturing, Creative Media roles, ICT Data Analysts, Aerospace, Aeronautical, Electronics, Energy Technology

Life expectancy is longer than ever before with the average person living to 81 years old.



Due to medical advances and the development of life sciences, people are living for longer than ever before.

You will be working longer due to the ever-increasing retirement age. Although this may not be something you are thinking about now, it will be important to you when you get older. You want to find a career that makes you happy and fulfils you.

All sectors



What next?

The information in this brochure only scratches the surface when it comes to choosing your career pathway. Now it is time to start looking at your options and choices, carry out research and discover what is out there for you. Follow your passions and make a career out of what you love. Opportunities are endless. You just need to start looking for them.

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Sources & Useful Links

Useful links:

- <https://nationalcareers.service.gov.uk/explore-careers>
- www.statista.com
- http://www.lmiforall.org.uk/explore_lmi/
- <https://www.ucas.com/>

Advanced Manufacturing:

- <https://nationalcareers.service.gov.uk/job-profiles/mechanical-engineer>

Business, Professional and Financial:

- <https://gbslep.co.uk/what-we-do/business/business-professional-financial-services>

Creative:

- <https://www.gov.uk/government/news/uks-creative-industries-contributes-almost-13-million-to-the-uk-economy-every-hour>
- <https://www.wmca.org.uk/news/creative-industries-in-west-midlands-to-get-12m-boost-from-government/>
- https://www.thecreativeindustries.co.uk/media/529975/cic_3yr_export_strategy_v3_singles.pdf
- <https://www.creativeindustriesfederation.com/statistics>

Energy Technology:

- <http://www.nef.org.uk/knowledge-hub/other-renewable-energy/renewable-energy-technologies>
- <https://www.prospects.ac.uk/jobs-and-work-experience/job-sectors/energy-and-utilities/renewable-energy-careers>
- <https://www.bmrsolutions.co.uk/a-beginners-guide-to-careers-in-renewable-energy/>
- <https://www.careeronestop.org/GreenCareers/ExploreGreenCareers/renewable-energy.aspx>
- <https://www.statista.com/statistics/1094309/renewable-energy-market-size-global/>
- <https://www.quanta-cs.com/blogs/2017-10/why-work-in-renewable-energies>

Life Science:

- <https://www.healthcareers.nhs.uk/explore-roles>
- <https://career-advice.jobs.ac.uk/resources/what-jobs-could-i-do-in-life-sciences/>
- <https://gbslep.co.uk/what-we-do/business/life-sciences-healthcare>
- <https://www.lateet.com/8-cool-facts-to-know-about-a-career-in-life-sciences/>

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 Life Ready
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