

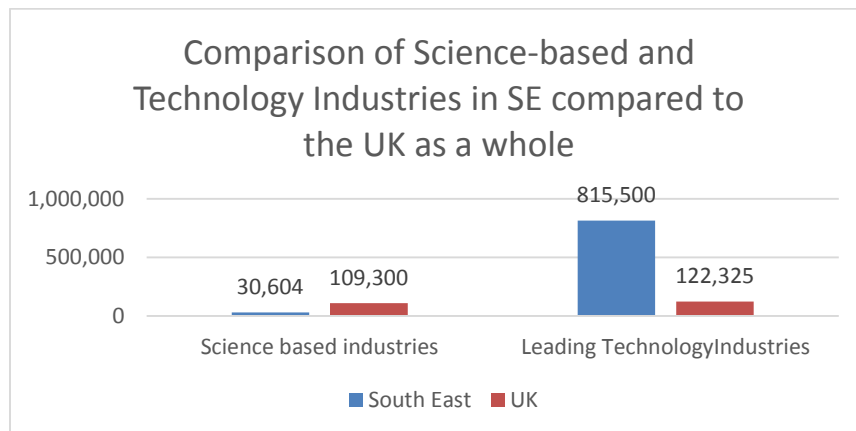


Manufacturing is about transforming raw materials into products. Contrary to common belief, UK manufacturing is strong with the UK currently the 11th largest manufacturing nation in the world. Manufacturing directly employs 2.6 million people. Engineering is usually aligned with manufacturing and much of the data and analysis brings these two interconnected areas together.

Engineering describes a wide range of occupations and industries – for example there are over 40 job titles on the National Careers Service website that have the word ‘engineer’ in their job title.

The South East is the biggest manufacturing region in the UK with approximately 22,000 businesses employing around 475,000 people (1/8 of the region’s workforce)¹. Despite the decline since the 1970s, the UK ranks second globally in aerospace manufacturing. Major employers in the region include BAE systems, e2v, Delphi and Cummins and their supply chains. In Surrey we have McLaren’s and In West Sussex alone there are around 2,100 manufacturers accounting for 12.5% of employment. Primary activities include: Furniture and wood products, Metal fabrication (not machinery), Computer and electronics, Food and beverages, Rubber and plastics, Textiles and clothes.

Number of Science based industries and Leading Technology industries in South East²



The South East encompasses Berkshire, Buckinghamshire, East Sussex, Hampshire, the Isle of Wight, Kent, Oxfordshire, Surrey and West Sussex. Our region (South Central) has overlap with the South East as a whole.

The Future of the industry

Over the next decade the UK’s manufacturing industry is set to undergo some radical changes as it goes through a period of profound and irreversible change. The impact of national and global economic, technological and political trends is transforming the way we make things, along with where and how we make them. There is a rapid growth in low carbon technologies such as wind turbines, carbon capture, biomass and bio-refinery. The industry is going to have to be adaptive and innovative to survive in the UK to 2030. One of the major uncertainties facing the sector is the degree to which additive manufacturing or 3D printing will revolutionise production and supply chains in the next 10 years.

¹ ONS

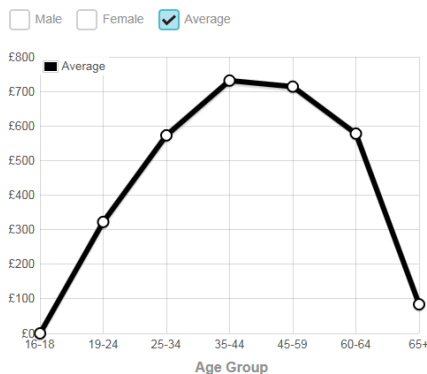
² [http://semta.org.uk/pdf/Skills-and-the-future-of-UK-SEM-Technologies-Summary-\(2011\).pdf](http://semta.org.uk/pdf/Skills-and-the-future-of-UK-SEM-Technologies-Summary-(2011).pdf)

Whilst job losses amongst the low skilled in the sector are likely to continue due to low-cost competition and automation, there will be continued need for high skilled engineers and (up-skilled) technicians to manage automated production systems.

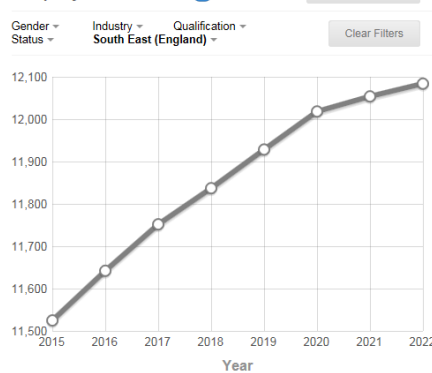
Material sciences and biology, as major economic growth areas for the UK, drive demand in associated production and commercialisation jobs e.g. development and commercialisation of new materials, biotech and nanotech.

The future growth of Engineering in the South East

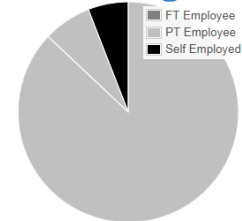
Estimated Weekly Pay ⁱ



Employment Level ⁱ



Status in 2022 ⁱ



Source: Careers Explorer

Skills shortages

The main skills employers in advanced manufacturing say are in short supply are technical and engineering skills at all levels. Technical skills gaps include:

- >CNC machining
- >Tool setting
- >General engineering skills
- >Materials equipment planning
- > Electronics and electrical
- >Engineering technicians
- >Robotics
- >Engineering

Job Roles

- >Mechanical Engineers
- >Electrical Engineers
- >Engineering technicians
- >Laboratory technicians
- >Metal working production and maintenance fitters
- >Food, drink and tobacco process operatives

Qualifications and Entry routes

Apprenticeships are one of the main routes into the Manufacturing/Engineering industry, especially at a craft or technician level. Vacancies can be found at www.gov.uk/apply-apprenticeship. General entry requirements may include A levels or equivalent in maths, physics or engineering, or equivalent science or engineering qualifications like BTEC level 3 Diploma in Engineering. Foundation degrees can be an entry route. Universities and colleges offer a wide range of courses.

Some manufacturing companies in the South Central region

AEROSPACE

BAE Systems

BAE Systems are a global leader in defence, aerospace, and security solutions. Although the head office is located in London there are branches in Farnborough, Christchurch, Portsmouth, Frimley and on the Isle of Wight.

Surrey Satellite Technology (SSTL)

SSTL, based in Guildford, employs almost 500 highly skilled professionals from around the world. More than 350 are expert, in-house engineers and experienced project managers who lead the design, build, test and launch satellites.

EADS Astrium

Located in Portsmouth this company has played a major role in the development of the UK's space capabilities. It employs 1400 staff who are involved in military communication satellites, spaceborne radars, sensors and scientific instruments and navigation system satellite systems.

GKN Aerospace

Located in Portsmouth and on the Isle of Wight – a global engineering group, with its technologies and products at the heart of aircraft produced by leading global manufacturers

AUTOMOTIVE

McLaren Technology Centre

Located in Woking and responsible for manufacturing innovative sports cars and cycles. McLaren employs approximately 1,000 staff. Plans were submitted in January 2015 to expand the site.

Transport Research Laboratory (TRL)

TRL'S head office is located in Wokingham and the company are responsible for providing research, consultancy, advice and solutions across a broad range of transport issues in both private and public sector.

CHEMICALS

Sparkford Chemicals – based in Southampton – Pharmaceuticals, animal products, etc.

SIS Chemicals – based in Fareham and New Milton - Cleaning chemicals

Healthcare technologies

Biodot – based in Chichester – fluid and powder dispensing systems

PLASTICS

Aida Plastics based in Eastleigh - a range of products including CNC profiling and marine products

Wight Plastics based on Isle of Wight – acrylic polycarbonate sheets

PHARMACEUTICALS

Trandermal based in Croydon – pharmaceutical products

Sandoz based in Camberley – pharmaceutical products

Medreich based in Richmond – pharmaceutical products

Payal based in Croydon

ENVIRONMENTAL TECHNOLOGIES

3c Environmental Technologies based in Yateley - Systems Installations and Chemical Water Treatment

FOOD

Oloves based in Shoreham – healthy snacks

Regis Foods based in Bognor Regis – frozen meals for home delivery

Dairy Crest based in Aldershot – manufactures cream and milk products

Fabrite Plastics, Wokingham - specialises in Plastic Fabrication.

For more information:

<https://nationalcareersservice.direct.gov.uk>. (See Career tools and job profiles) or call 0800 100 900 to speak to an adviser

Institute of Mechanical Engineers - www.imeche.org

Wise campaign - www.wisecampaign.org.uk

Tomorrow's Engineers - www.tomorrowsengineers.org.uk

The Institute of Engineering and Technology - www.theiet.org

SEMTA - www.semta.org.uk

Careers Practitioners in schools can access this factsheet and many other resources on our website Supporting Inspiration website. If you are a Careers Practitioner and would like to gain access to these resources please email inspirations.sc@ncs-cfbt.com to request a log-in.