Engineering

Do you want to work in an industry that makes a very real impact on the world around us? Would you like to design aircraft, ships or cars, or find new ways of generating renewable energy to make sure that thousands of homes have heating and lighting?

Engineers use science and technology to come up with the answers to practical problems. They design, develop, build, fix and put all types of things together.

If you have an enquiring mind, enjoy problem solving and making things work, and like using technology to design new products, structures or systems, then engineering could be the career for you.

According to Engineering UK, the engineering industry employs 6.3 million people in the UK, accounting for 19% of all jobs. [6]

What areas can I work in?

There are all sorts of engineers working in hundreds of different industries. Areas include: aeronautical, chemical and material, electrical and electronic, mechanical and manufacturing, naval and marine, offshore and energy, and general engineering.

Related industries include science, information technology and construction, for jobs such as chemical engineer, telecommunications engineer and civil engineer.

To see the routes to getting into each of these sectors, take a look at our Career Pathway.

What kind of companies can I work for?

Possible employers include:

- energy and utility companies
- aircraft and aerospace engineering firms
- pharmaceutical, plastics, paper, textiles manufacturers
- food and drink manufacturers
- oil and gas companies
- general manufacturing firms
- telecommunications and IT companies
- defence
- marine
- Civil Service or National Health Service (NHS)
- transport.

What's the job market like?

In Scotland in 2023, there were 135,700 people working in the engineering sector [1] and 95,400 people working in

the energy sector. [2]

In their second quarterly review of 2024, the industry organisation Scottish Engineering paints an optimistic picture for the Scottish engineering sector, reporting positive overall order intakes for its member businesses. This is a continuing positive trend from the last quarterly review. [3]

Despite this optimism, in 2023, Scottish engineering sector employment was predicted to grow mid-term by 0.3% (400 people) between 2023 and 2026 – a smaller percentage growth than is forecast overall across Scotland, which is predicted to rise by 2.2% (57,000 people). However, it is also forecast in the same period that there could be a replacement demand for 5,000 people in the sector, as a result of workers leaving the market. [1]

In the mid-term (2023-2026) forecasts indicate a decline by 1% in certain energy sector job areas, a reflection of improvements in productivity and automation. However, energy is forecast to account for 1.3% of Scotland's total requirement in this period, with a replacement demand of 4,300 people. In 2026 the top employing regions are forecast to be Aberdeen City and Shire, and the Highlands and Islands, similar to 2023. Skills shortages are reported in key disciplines, particularly in engineering and manual construction. [2]

A continuing trend in this sector is that females are the most underrepresented group, with only 15.7% of females working in the UK engineering and technology workforce. [6]

Facts and figures

- 1 in 5 jobs in the UK are in engineering (19%), yet engineering vacancies account for 1 in 4 of all job adverts in the UK. [6]
- In the UK, from the academic year 2020/21, 71.2% electrical and electronic engineering graduates were in full time employment 15 months after graduating, with 48% pursuing careers within engineering and building professions and 21.7% going into IT. [4]
- From that same period, 70.4% of mechanical engineering graduates were in full time employment 15 months after graduating. Of those, 59% were working as engineering and building professionals. [4]
- In the UK, the average salary for electrical engineering graduates was £31,874 a year, higher than the overall graduate average of £27,383. [4]
- Workers in the energy sector have higher qualifications than the Scottish average, with an estimated 63.4% of workers qualified to SCQF Level 7 and above (2023). [2]
- Scotland is home to nine out of ten onshore wind farms in the UK and three of the top ten offshore wind farms. [5]

Want to find out more?

If you are interested in working in the renewable energy sector, Renewable UK is a good source of careers information.

And Tomorrow's Engineers is another excellent source of information on careers in engineering.

Sources

[1] Sectoral Skills Assessment: Engineering, October 2023, Skills Development Scotland

[2] Sectoral Skills Assessment: Energy, October 2023, Skills Development Scotland

[3] Quarterly Review - Q2 2024, Scottish Engineering (July 2024)

[4] What do graduates do? Prospects in association with AGCAS (2023/24)

[5] Market Report: Offshore and onshore wind market, January 2024, Business Gateway

[6] Engineering key facts, June 2024, Engineering UK