



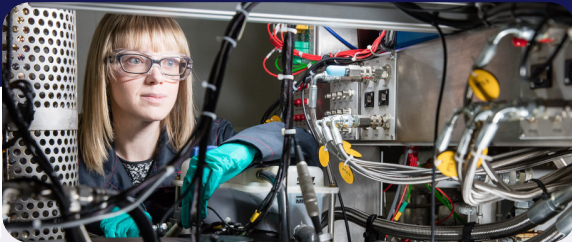
Brilliant Inspiration

Engineering and technology the key to the future

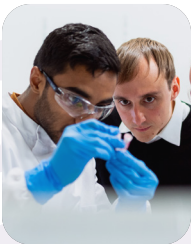


**Graduates
and apprentices**

working in engineering
and technology roles
earn more than graduates
and apprentices in
other areas



Around
20%
of all UK jobs
are in **engineering**



Engineering and
technology jobs are
**predicted to grow in all
UK regions** between now
and 2030 – faster than
other occupations



Up to **725,000**
new **low-carbon
jobs** will be
created by 2030
helping us **move
towards net zero**





What do engineers do?

Engineers and technicians are working on solutions to some of the world's biggest challenges, helping us to think differently about critical issues and come up with practical, efficient, sustainable and ethical solutions that enable us – and our planet – to thrive.

As an engineer, you could be working with new materials, chemicals and technology to design sports clothing, develop cancer treatments or improve wind turbines. Or you might be part of a team that designs electric planes, surgical robots or earthquake detection systems.

Engineers are making things better by working towards global Sustainable Development Goals (SDGs):



No poverty



Reduced inequalities



Zero hunger



Sustainable cities



Good health and wellbeing



Responsible consumption and production



Clean water



Climate action



Clean energy



Biodiversity



Engineers are well rewarded

Average earnings for professional engineers compare favourably against average earnings for other professionals and can exceed £80,000 for experienced engineers in senior roles.

For more information about engineering salaries, visit: www.checkasalary.co.uk/salaries/engineering



Dilani, Research & Development Engineer (Robotics), HeroTech8

Find out more at: www.neonfutures.org.uk/dilani

Engineers are also transforming sport, fashion, gaming, TV, film, health and wellbeing, using their skills to create more exciting, impactful, inclusive and sustainable ways for us to make the most of our free time. From re-designing sports arenas, hospitals and concert venues, making them greener and more accessible to people with different needs, to creating apps, enhancing visual effects for TV and film, and improving VAR technology.

UK engineering businesses are seeking a diverse workforce

Engineering is about creating, modifying, adapting and improving things, to enable everyone to live well. Employers in the engineering and technology sectors are actively seeking to recruit people who can offer experiences and ideas that reflect the population's diversity.

Where will the jobs be?

Unlike some other professions, engineers will always be needed. Machine learning and artificial intelligence (AI) systems are becoming increasingly advanced and their capability to perform everyday and complex tasks is growing all the time. While this is likely to have an impact on some jobs, which may cease to exist in the future, it will increase the demand for engineers and technicians who are needed to develop, integrate, test, use and improve the AI systems, as well as support people to use them safely and responsibly.

Green jobs

Many new roles will be created, and existing job roles will adapt to the emergence of the green economy and clean technologies. Green jobs involve protecting or restoring the environment and mitigating or adapting to climate change. They are found in lots of different sectors, from construction to healthcare. They will also be required to help us develop greener day-to-day practices - for example, transport (e-planes, electric vehicles and hydrogen HGVs), food production and waste reduction.

The types of job roles that are likely to appear in job searches in the coming years include:

- Solar energy adviser
- Carbon removal scientist
- Recycled goods designer
- Body part developer
- Augmented reality technician
- Autonomous transport specialist



- 3D printing food consultant
- Renewable power technician
- AI Engineer
- Environmental impact assessor
- Cybersecurity specialist
- Biotechnologist
- Ethical hacker



What skills will be needed in the future?

We all have skills, which we have been developing since we were young, so the chances are, you are already practising many of the skills that could help you progress into engineering.

These include:

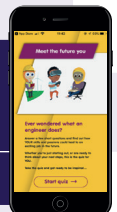
- Creativity
- Teamwork
- Open-mindedness
- Social conscience
- Communication
- Determination
- Innovation
- Problem-finding and solving

Engineers and technicians use their skills to improve the design and performance of everything we use today and to develop the products, processes and technologies of the future. Many jobs in the future will involve advanced digital and computing skills. In the coming years, there will be an increasing demand for people who can handle complex information, embrace change, and have an inclusive and ethical mindset.

Ethical decision-making - being able to consider the impact of different courses of action on others and demonstrate fairness, care and responsibility - will be an important skill.

Take the **Meet the Future You Quiz** to match your strengths and interests to different types of engineering and technology.

www.mtfy.org.uk





Lucy, Sustainability Apprentice, RNLI

Find out more at:
www.neonfutures.org.uk/lucy



Joshua, Structural Engineer - Search and Rescue, SARAIID

Find out more at:
www.neonfutures.org.uk/joshua

Which subjects will help keep options open for a career in engineering?

Engineering typically uses maths, science – often physics – and subjects such as D&T, computing, electronics and construction, to improve the world around us.

There are routes into engineering for people who have not studied maths and physics. Additionally, other subjects are also valued by engineering degree courses and employers, including **geography** for civil and environmental engineering, **chemistry** for chemical and biomedical engineering and **art and design** for product design and design engineering. **Languages** can also be an advantage.

What next?

- Explore different engineering job roles and hear people talking about what they do:
www.neonfutures.org.uk/case-study
www.thisengineering.org.uk

- Find out more about the different pathways into engineering, including apprenticeships, university degrees, T Levels and other vocational qualifications:
www.neonfutures.org.uk/all-roles
www.neonfutures.org.uk/t-level

- Take a look at green skills and jobs:
www.greencareershub.com

- Explore recommended podcasts, TV shows, days out, competitions, books and activities that will help develop your STEM skills and knowledge and find opportunities to put these into practice:
www.neonfutures.org.uk/my-world



Brilliant Inspiration

www.neonfutures.org.uk

Join us at:  NeonFutures

 @Neon_Futures

Information included in this leaflet is based on EngineeringUK research:
www.engineeringuk.com/research

Image credit: This is Engineering