

Computing and ICT

Are you logical, analytical and good at solving problems? Are you interested in how computers and software work? If you think you'd like to write the computer programmes that control aircraft systems, make sure that financial data is secure or design and install big computer networks, then this could be the industry for you.

Digital technology accounts for 9% of the UK workforce. According to Scottish Development International, there are around 96,000 people working in digital technology roles across Scotland, with over 9,400 digital technology companies engaged in a variety of activities from software development to communications.

An important aspect of the information and communication technology industry is the high rate of change. While the actual power of computers grows every year, new applications are constantly being developed.

What areas can I work in?

There are many different sectors in the computing and ICT industry and you would usually specialise in a particular area. These include computer programming and software engineering, IT support, IT security, systems analysis and design, networks, database administration and web and multimedia.

Some areas of this industry are related to engineering, such as electrical and electronics work.

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?

Almost all companies and industries use computing and information technology, so the range of firms that you could work for is vast. They could include:

- large technology companies
- finance and commerce companies
- local government and the Civil Service
- the National Health Service (NHS)
- games development companies
- web design and development agencies
- aerospace companies
- manufacturing and engineering firms
- education.

What's the job market like?

According to SDI, the Scottish tech sector is booming despite the ongoing pandemic, and has grown at 1.5 times faster the rate than the overall economy. Tech companies have been considered more resilient to the impact of the pandemic, although some businesses have been negatively affected due to customer and supply chain issues.

The digital workforce in Scotland is expected to grow by up to 2.1% between 2023 and 2030. It is estimated that

Scotland will need around 13,000 new people to work in this industry every year, with UK national trends showing demands in web development, software development and cyber security.

Scotland's cyber security sector is one of the fastest growing areas in this industry, having attracted record investment last year, and the number of cyber security firms increasing by 21%. A major contributing factor to this growth is the increase of business and social activity moving online due to the pandemic, thereby creating demand for online security. This has resulted in a 9% increase in employment totalling 46,683 jobs (including 3,800 new jobs created).

According to a report by Tech Nation, in 2019 the role most in demand by employers was software developer, which made up 6% of all advertised digital tech roles. Seen as a key role within society, it ranks amongst the top 5 sought after roles alongside social care workers and nurses.

More women are working in IT than ever before, according to the BCS, now making up 20% of the UK's IT workforce (compared to 17% on the previous year). However, the situation remains that much work is still needed if the industry is to stay competitive. [Tech Future Girls](#), [Stemettes](#) and [Next Tech Girls](#) are just some of the initiatives encouraging more young women to consider a career in the industry.

Facts and figures

- Scotland's IT and software industry is forecast to grow by 38% by 2024.
- Edinburgh is named as the data capital of Europe and the UK's top city for company start-ups, while Glasgow is one of the UK's biggest tech investment hubs.
- It is reported that Scotland's particular strengths lie in software development, and data science. There are over 150 companies in the Scottish data science sector.
- In 2020, the top employing regions in Scotland lay in the central belt: Edinburgh, East and Midlothian; Glasgow Region; West Lothian; Fife; and West Region, respectively.
- The Scottish median real time advertised salary in the digital industries in 2020 was £31,200 per annum.
- From the academic year 2017/18, 76.9% of IT graduates were in employment 15 months after graduating. 71.3% of those worked as IT professionals, while 5% of all IT graduates went on to further study.

Want to find out more?

If you are considering a career in IT, take a look at Tech Future Careers (www.tpdegrees.com/careers) and the Screen Skills website (www.screenskills.com), which has information on job roles in the computer games sector.

Sources

- [BCS \(Chartered Institute for IT\)](#) (May 2021)
- Jobs and Skills Report (Key Statistics), [Tech Nation](#) (May 2021)
- Key Sectors – Software and IT, [Scottish Development International](#) (May 2021)
- Record Year for UK's £8.9bn cyber security sector (February 2021), [UK Government](#)
- Sectoral Skills Assessment (February 2021), [Skills Development Scotland](#)
- What do graduates do? Prospects in association with AGCAS (2020/21)