

Sectoral Skills Assessment **Engineering**

October 2025



Sectoral Skills Assessments

First launched in 2017, Sectoral Skills Assessments (SSAs) provide a robust and consistent evidence base to support strategic skills investment planning. Skills Development Scotland (SDS) has worked with key partners and stakeholders to produce SSAs, ensuring an inclusive approach to their development, dissemination and utilisation.

SSAs include published data sets. Inevitably, when using published data there is a time lag, but the data contained is the most up-to-date available at the time of writing. SSAs also include forecast data commissioned through Oxford Economics.

The Technical Note¹ provides full detail on the caveats that must be applied when using forecast data, but broadly, it should be noted that:

- Forecasts are based on what we know now and include past and present trends projected into the future.
- The more disaggregated they become, especially at smaller geographical units, the less reliable they are likely to be.
- Their value is in identifying likely directions of travel rather than predicting exact figures.
- The forecasts do not account for national or sectoral activities, initiatives or investments that are planned.

Industries and occupations used in the SSAs are defined by Standard Industrial Classifications (SIC)² and Standard Occupational Classifications (SOC).³

This SSA report is for the Engineering key sector.

The sector encompasses: Manufacturing of Metals, Electrical Products, Machinery/Equipment and Vehicles, Repair and Installation of Machinery/Equipment, Architectural and Engineering activities, and Research. Please see Appendix 1 for the SIC definition used in this report.

The SSAs are part of a suite of Labour Market Insight publications by SDS. Other products in the suite include:



Economy, People and Skills report which provides succinct and up-to-date evidence on Scotland's economy, businesses and people. It is published monthly.



Regional Skills Assessments provide a coherent, consistent evidence base to inform future investment in skills, built up from existing datasets and forecasts for College regions, Rural Scotland and all City and Growth Deals regions. These are published annually.



The **Data Matrix** is an interactive tool, offering more detailed data from a variety of sources in a visually engaging format. It is updated frequently.

Alongside the suite of Labour Market Insight publications, SDS also produces a wide range of reports such as statistics on Modern Apprenticeships and the Annual Participation measure for 16-19 year olds. This includes a wide range of data related to equalities. Further information can be found on the [Publications and Statistics](#) section of the SDS website.



We value user feedback on the Sectoral Skills Assessments.

If you would like to provide feedback, please do so [here](#).

For any further information or queries on the SSAs or any of our other products, please contact: RSA@sds.co.uk

1. SSA Technical Note (2025).

2. Office for National Statistics UK Standard Industrial Classification (SIC) 2007.

3. Office for National Statistics UK Standard Occupational Classification (SOC) 2010.

The Context for Scotland's Labour Market

Over the past decade, the Scottish economy has experienced disruption driven by changes in the global political landscape, the cost-of-living crisis and conflicts in the Middle East and Ukraine. In addition, megatrends in demography, technology, and the environment have continued to shape Scotland's economy and labour market, many of which are interdependent. Below is an overview of the drivers that are expected to have the greatest influence on Scotland's labour market outlook in the near term, based on a comprehensive analysis of both structural and cyclical factors.

The Economy

Scotland and the UK experienced weak economic growth of 1.1% in 2024, with inflation also staying above the 2.0% target. Forecasters expect economic growth to remain at around 1.0% in 2025, with inflation also expected to remain elevated. The effects of rising prices and high interest rates continue to impact Scottish households and businesses. This contributes to the Scottish labour market being cooler in 2025, following a period of sustained tightness in recent years.



Demographic Change

Scotland's population is projected to grow until mid-2047, largely driven by positive net migration, which will offset the anticipated natural decline due to a falling fertility rate. However, whilst the population is growing, it is also ageing. Around one-fifth of Scotland's residents were aged 65 or over in 2024. By 2047, the number of people of pensionable age is expected to increase by 21%. This demographic change has implications for the economy and labour market, by affecting caring responsibilities, tax revenue, and productivity.



Inclusion and Equality

There is a lingering effect from the cost-of-living crisis, which began in 2021, with rising energy prices and financial pressures continuing to have a disproportionate impact on low-to-middle income households. Poverty, including in-work poverty, persists; however, the Fair Work policy agenda aims to reduce labour market inequalities. Barriers to accessing the labour market remain for disabled people and minority ethnic groups, and gender equality still requires progress.



Technology and Automation

Artificial Intelligence (AI) continues to be the core driver in technology transformation. Scotland has a strong technology sector, underpinned by extensive academic and business presence in AI and related fields. The adoption of AI is rapidly increasing among Scottish businesses, particularly in optimising workflows. However, the implications of AI for the labour market remain uncertain. Scotland's strong base in digital and data skills could provide an advantage, but maintaining a skilled workforce will be essential.



Climate Change and Net Zero

The transition to net zero will directly impact the labour market as actions are taken to meet net zero targets. This shift offers significant opportunities for job creation in Scotland, particularly in the clean energy sector. Scotland has strong natural assets, and existing sectoral strengths provide a strong foundation for a green economy. However, upskilling will be crucial for transition to net zero. Especially in the construction, manufacturing, agriculture, energy and transport sectors.



A fuller report on Scotland's Labour Market Drivers can be found [here](#).

The Scottish Engineering sector is dynamic and has a number of subsectors such as Aerospace and Space, Advanced Manufacturing, Hydrogen, Shipbuilding, and Energy.

The Engineering Skills Leadership Group (ESLG), meets regularly to discuss the sector's skills requirements and has representation from industry leaders. The ESLG serves as a direct link to the wider Industry Leadership Groups (ILGs) and aims to provide strategic direction on skills issues and opportunities in the Engineering sector.

The ESLG believe that significant action is required to address current and looming shortages of engineers. A recent [survey by Scottish Engineering](#) revealed a critical skills shortage: Scotland needs 58% more engineers by 2027 across 31 key roles.

The ESLG believe that repositioning Engineering as a discipline that spans multiple sectors is needed. Engineering is a discipline that uses scientific knowledge and principles, along with mathematics, to design, develop, and build solutions to complex problems in various fields, from infrastructure to technology and beyond. The Engineering sector supports a range of other sectors in Scotland's economy, including Construction, Food and Drink Manufacturing, Oil and Gas, and Transportation.

The UK and Scottish Governments both prioritise engineering as a key enabler of economic growth and net zero transition. The [UK Industrial Strategy](#) supports advanced manufacturing, clean energy, and innovation, with investments in skills, R&D, and infrastructure. Scotland's [Green Industrial Strategy](#) and [Space Strategy](#) focus on sustainable engineering, energy transition, and high-tech sectors like satellite manufacturing and launch services. Both strategies emphasise the need for a skilled workforce, particularly in STEM, digital, and green technologies.

Engineering roles are central to delivering infrastructure, innovation, and sustainability goals, requiring continuous investment in apprenticeships, upskilling, and collaboration between industry, education, and government.

Key developments in the Scottish economy are driving demand for engineering skills now and are likely to in the future. Engineering skills are a major element of the demand outlined below.

- [Offshore wind in Scotland](#) will be significant. Between 2024 and 2029 it is estimated that the workforce employed by the offshore wind sector will grow from around 9,000 to over 40,000.
- Shipbuilding and Defence are two other key sectors driving demand for engineering skills. [BAE Systems](#)

in Glasgow has significantly expanded its workforce in recent years, now employing approximately 3,750 people, including around 600 apprentices and graduates. This growth is driven by major defence contracts, including the Type 26 frigates for the Royal Navy. The UK Government has recently announced a significant increase in investment in defence spending and a [Defence Industrial strategy](#), which is likely to drive this demand further.

It is important to note that the forecasts used in this Sectoral Skills Assessment are policy and investment neutral.



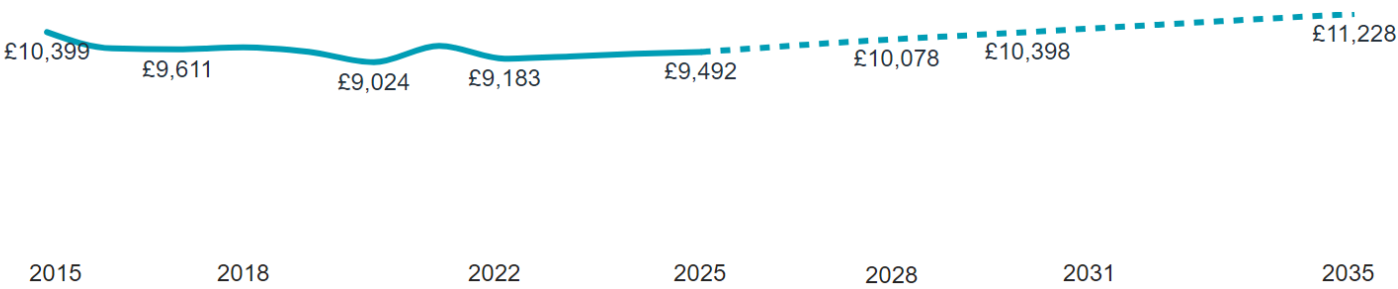
This means the figures present a baseline outlook that takes into account historical trends and external economic conditions, but the figures do not reflect investment or policy that is unconfirmed or at planning/development stage.

This would include, for example, planned government investments in the UK Defence sector.

Therefore, the forecasts should be used in conjunction with other sources, and readers are encouraged to overlay these with their own local and sectoral knowledge.

1. Insight from the sector gathered via Skills Development Scotland (2025).

Gross Value Added (GVA, £m) (2015-2035)^{1, 2}



In 2025, GVA in the Engineering sector was estimated to be £9,492m, generating 5.6% of Scotland's total economic output. Between 2015 and 2025, GVA in the sector was estimated to have decreased by 0.8% on average each year, compared to equivalent annual growth of 0.9% across Scotland.

Looking ahead, GVA in the Engineering sector is forecast to grow on average by 1.7% each year between 2025 and 2035, which is in line with the growth anticipated across Scotland (1.7%). In 2035, the Engineering sector is forecast to account for 5.6% of Scotland's total economic output.



Engineering forecast GVA in 2028:
£10,078m

↑ up 6.2% from 2025

Scotland forecast GVA in 2028:
£177,951m

↑ up 5.2% from 2025

Engineering forecast GVA in 2035:
£11,228m

↑ up 11.4% from 2028

Scotland forecast GVA in 2035:
£199,512m

↑ up 12.1% from 2028

Productivity (GVA per job)^{1, 3}

In this report, we have used Oxford Economics' measure of productivity, which is calculated by dividing total sectoral GVA by total sectoral employment (measured by jobs). Please note, there are different ways of calculating productivity, and caution is needed when interpreting productivity data presented in this report. It must be considered in the context of other data and insight.

In 2025, productivity in the **Engineering** sector was estimated to be **£66,500**. In comparison, the Scottish average was £57,700.





Engineering forecast productivity in 2028:
£69,800

↑ up 4.9% from 2025

Scotland forecast productivity in 2028:
£59,100

↑ up 2.4% from 2025



Engineering forecast productivity in 2035:
£78,700

↑ up 12.8% from 2028

Scotland forecast productivity in 2035:
£63,600

↑ up 7.5% from 2028

1. SDS (2025). Oxford Economics Forecasts.
2. GVA is the measure of the value of goods and services produced within the economy and is an indicator of the sector's health.

3. Productivity is the measure of goods and services produced per unit of labour input. The Oxford Economics forecasts of productivity shown here have been calculated by dividing total sector GVA by total sector

employment (measured by jobs).

Current Demand



Workforce size 2025: **118,300** people¹

This was estimated to account for **4.4%** of Scottish employment.

The sector's workforce was estimated to have **declined** by **22.6%** (or **-34,600** people) between 2015 and 2025.

This compares to a Scotland wide increase of **5.5%** or **141,500** people between 2015 and 2025.

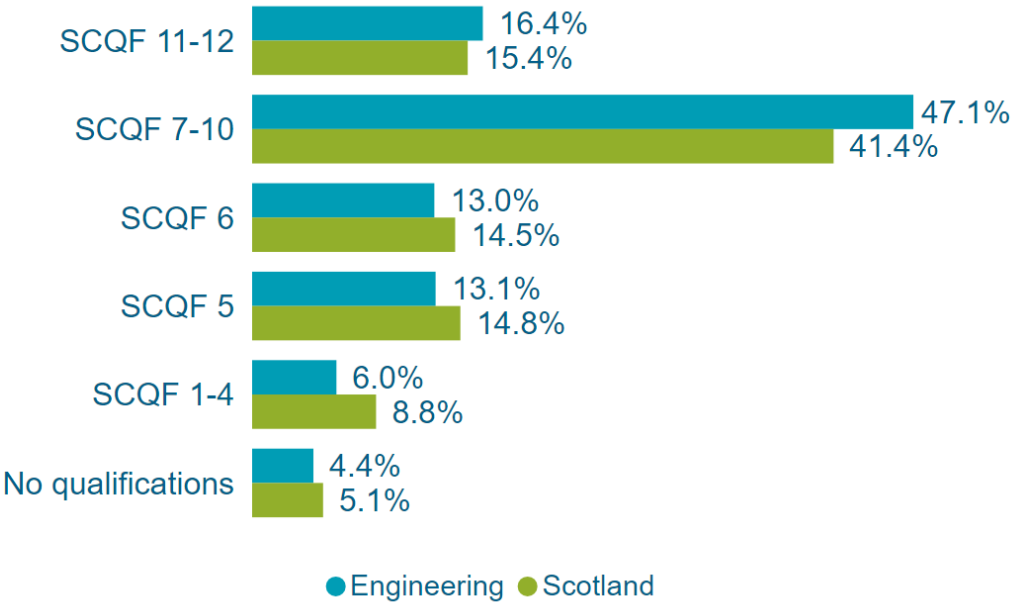
Employment by Region (people), 2025¹

The greatest number of people employed in **Engineering** were estimated to be in:

Aberdeen City and Shire	Glasgow College Region*	Edinburgh, East and Midlothian	Lanarkshire
28,200	20,000	15,000	11,500

Workforce Qualifications, 2025¹

It was estimated that workers in **Engineering** had higher qualifications than the Scottish average. In 2025, it was estimated that around 64% of workers in the sector were qualified to SCQF Level 7 and above.²



Top 10 Employing Occupations (people), 2025¹



1. SDS (2025). Oxford Economics Forecasts.
2. See [SCQF Framework](#) for further information on SCQF qualification levels.

*Glasgow College Region covers East Dunbartonshire, East Renfrewshire and Glasgow City local authorities.

Current Demand

The proportion of Local Authorities' workforce employed in Engineering, 2025^{1, 2}

Scottish local authorities have sectoral strengths that make them unique. This means that the **Engineering** sector may be more important to some local economies, as a higher proportion of the local workforce is employed in the sector.

The sector was most prominent in these local authorities:

Aberdeenshire
9.9%

Aberdeen City
9.6%

South Ayrshire
6.5%

Angus
6.2%



Real Living Wage and Gender Pay Gap³

Individuals earning Real Living Wage or more:

In April 2024, the real living wage rate for employees who did not work in London was £12.00.



Manufacturing

2023: **90.8%**

2024: **89.1%**

All sectors

2023: **89.8%**

2024: **88.6%**

Professional, Scientific and Technical Activities

2023: **94.3%**

2024: **93.3%**

Gender Pay Gap for median full-time hourly earnings:



Manufacturing

2023: **15.7%**

2024: **9.7%**

Scotland

2023: **1.4%**

2024: **2.2%**

Professional, Scientific and Technical Activities

2023: **25.3%**

2024: **22.3%**

Due to data availability, a 'best fit SIC code approach' has been used, so sectors definitions here may not fully match key sector definitions.

Modern Apprenticeships⁴



MA starts for Engineering and Energy Related*:

Q4 2023/24: **2,042**

Q4 2024/25: **2,038**



MAs in training for Engineering and Energy Related*:

Q4 2023/24: **5,299**

Q4 2024/25: **5,868**

For the latest quarterly MA statistics, please click [here](#).



* Based on SDS Occupational Groupings.

For data on FAs and GAs please see the Publications section of our [website](#). For data on colleges and universities please see [Scottish Funding Council](#) and [Higher Education Statistics Agency](#).

1. SDS (2025). Oxford Economics Forecasts.

2. The proportion of the workforce in the Local Authority employed in the sector is calculated by dividing the sectoral employment in the area by total employment in the area.

3. Scottish Government (2025). Annual Survey of Hours and Earnings: 2024. The figures for 2023 have been revised. Due to data availability, a 'best fit SIC code approach' has been used, so the sectoral definitions and totals in this section may vary from those we have used elsewhere.

4. SDS (2025). Modern Apprenticeship Statistics.

Job Postings^{1,2,3}



Between July 2024 and June 2025, there were **505,170** job postings in Scotland across all sectors. The labour market across the country has cooled following a peak in job postings in 2022, and since the end of 2023 the number of jobs postings each month has been broadly stable.



Spotlight on... Mechanical Engineers⁴

Between July 2024 and June 2025 there were **4,770 job postings** for Mechanical Engineers. The number of job postings has decreased by **14.2%** compared to the period between July 2023 and June 2024 (**8.0%** decline across all occupations comparatively). However, demand for these roles remained steady.

Top Locations:



Glasgow City
950 job postings



Edinburgh City
550 job postings



Aberdeen City
490 job postings



Fife
230 job postings

Specialised skills and knowledge included:



Mechanical and
Maintenance Engineering



Risk Analysis



Machinery



Project Management



Mechanical Design



Median real-time advertised
salary: **£42,400**



Spotlight on... Welders⁵

Between July 2024 and June 2025 there were **1,230 job postings** for Welders. The number of job postings has decreased by **10.1%** compared to the period between July 2023 and June 2024 (**8.0%** decline across all occupations comparatively). However, demand for these roles remained steady

Top Locations:



Glasgow City
160 job postings



Aberdeen City
110 job postings



Fife
130 job postings



Aberdeenshire
100 job postings

Specialised skills and knowledge included:

Welding:

- Metal Inert Gas
- Flux-Cored Arc
- Gas Tungsten Arc
- Shielded Metal Arc
- Electric Resistance
- Submerged Arc
- Metal-Core Arc



Engineering and
Technical Drawing



Fabrication



Median real-time advertised
salary: **£37,300**

1. Lightcast 2025. Online job postings data provides a useful barometer for the health of the jobs market. It is important to note that the data does not capture all activity, so it should be considered as an estimate of activity.

2. Job postings are rounded to the nearest 10.

3. Data is for the period covering July 2024 – June 2025

4. Data is based on SOC 2122 for the whole of Scotland. Median salary based on 37% of job postings.

5. Data is based on SOC 5213 for the whole of Scotland. Median salary

based on 54% of job postings.

Spotlight: Digital Practitioners in Engineering

Digital Practitioners in Scotland



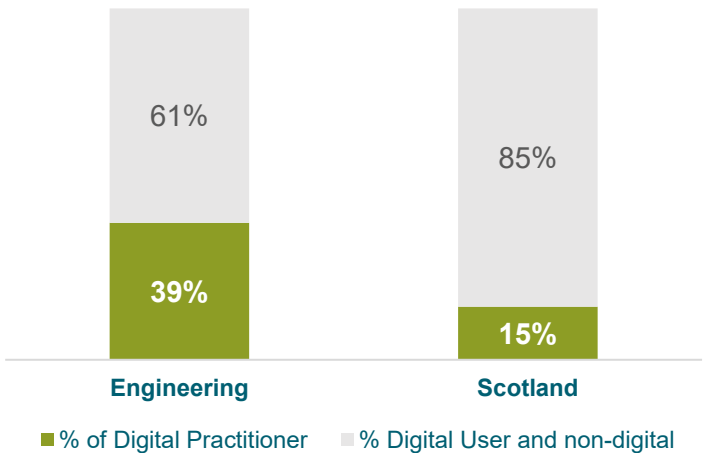
Recognising that digital skills permeate roles across all sectors and are no longer confined to traditional technology roles, SDS has undertaken research to define Scotland’s Digital Economy in 2025, building on the [Digital Economy Skills Action Plan](#).

This definition strengthens the evidence base and ensures SDS and partners can understand the spread of digital jobs across Scotland’s key sectors and identify how digital transformation is shaping skills demand, productivity and sectoral growth. More information on this research is available in Appendix 2.

This spotlight focuses on the presence of **Digital Practitioner** roles within the Engineering sector. Digital Practitioners are occupations that utilise technical and professional digital skills, either within the traditional digital sector or integrated into other roles outside the sector. Digital Practitioner roles include occupations like **Aerospace Engineers** and **Mechanical Engineers**.

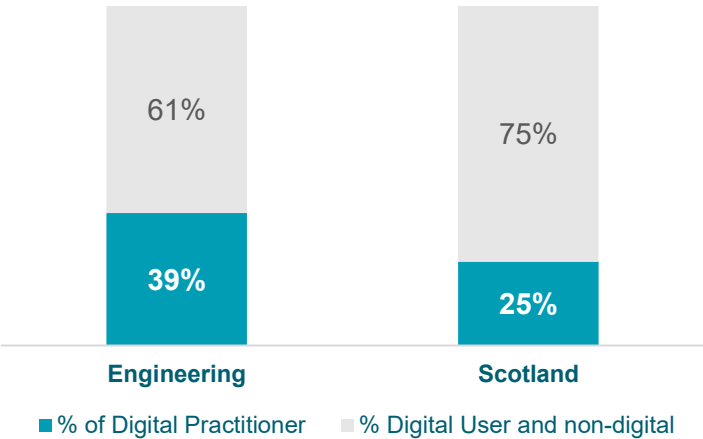
Employment ¹

In 2022, **39%** of people employed in the Engineering sector were employed in Digital Practitioner roles. This was higher than the Scottish average of **15%**.



Gross Value Added (GVA)²

Digital Practitioner roles within the Engineering sector make a sizeable contribution to the GVA of the whole sector (**39%** in 2022), higher than the average in Scotland.



Digital Insight for Engineering³



Digital technology is transforming Scotland’s engineering sector, driving innovation, productivity, and sustainability. Driven by the increased adoption of robotics, automation and digital twins, the demand for Digital Practitioner roles in the sector is expected to remain strong, with employers looking to bring in more individuals who have skills in data analysis, cyber security, GIS and sensor technology.

Skills and education providers are responding to this employer demand with the emergence of new MSc and degree courses which combine technology and engineering as well as an Engineering and Digital Manufacturing MA.

The increased digitalisation of engineering roles also means that addressing digital skills gaps in the current workforce through upskilling and reskilling must also remain a priority.

1. SDS analysis of Lightcast Labour Market Data (2022, accessed in 2024).
2. SDS analysis of Annual Business Survey Data (2022, published in 2024).
3. Insight from the sector gathered via Skills Development Scotland (2025).

Future Demand: Mid-term (2025-2028)¹

In the mid-term (2025-2028), **the number of people in employment is forecast to grow by 1.1% (1,300 people)** in the **Engineering** sector. This is lower than the growth that is forecast overall across Scotland, where employment is anticipated to rise by 2.5% (68,000 people).

By 2028, the regions forecast to have the greatest level of sectoral employment are **Aberdeen City and Shire and Glasgow College Region**, the same as in 2025. Between 2025 and 2028, the sector is forecast to see the greatest growth in **Administrative Occupations (400 people)**, and **Science and Technology Professionals (400 people)**.

Forecasts for the mid-term (2025-2028) suggest there could be demand for **5,800 people in the sector**, as a result of the need to **replace workers** leaving the labour market and **opportunities created** through expansion demand. Whilst positive, caution is needed as a wide range of factors may impact the labour market over this period.

Workforce (people), 2028¹



Workforce size 2028: **119,700** people



The sector's workforce is expected to **grow** by **1.1%** (or **1,300** people) between 2025 and 2028



Compared to a Scotland wide increase of **2.5%** or **68,000** people

Total Requirement^{1,2}



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+



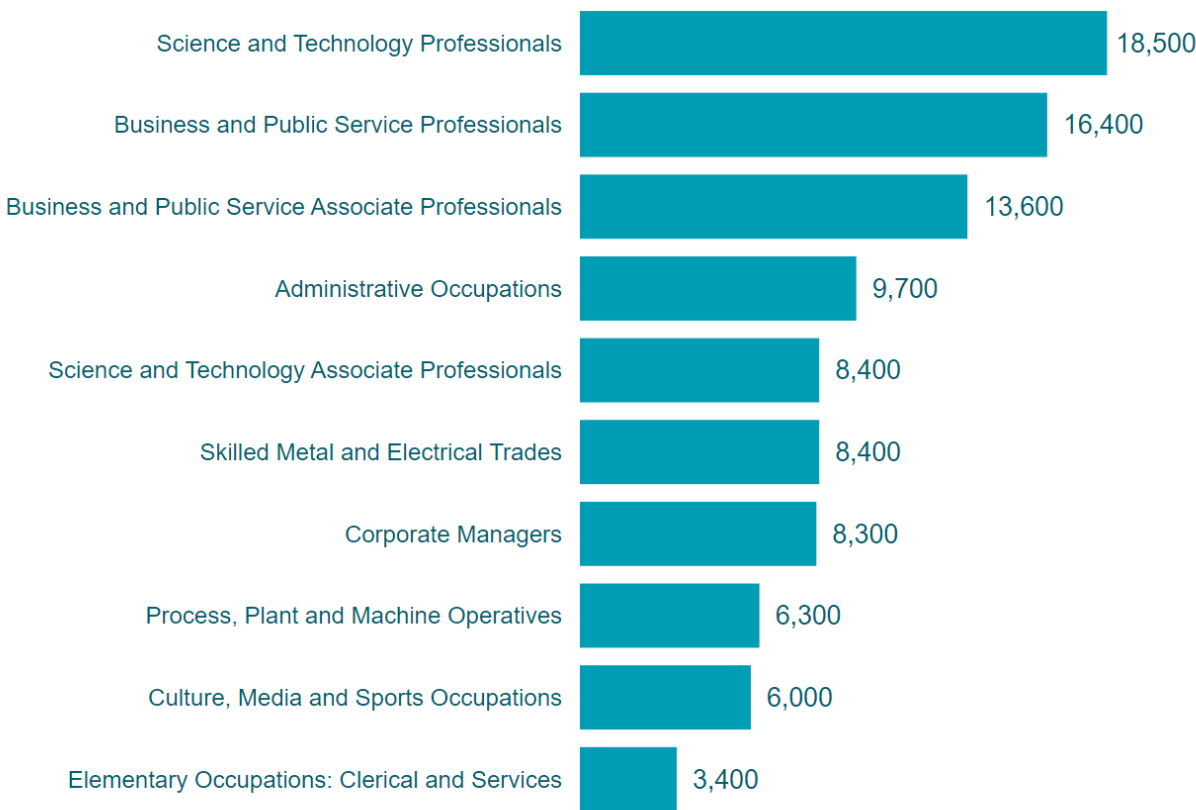
Total requirement:
5,800 people

Replacement demand:
4,400 people

Expansion demand:
1,300 people

Engineering is forecast to account for **1.4%** of Scotland's total requirement for people in the mid-term (2025-2028)

Top 10 Employing Occupations (people), 2028¹



1. SDS (2025). Oxford Economics Forecasts.

2. Total requirement for people is made up of expansion and replacement demand.

The expansion demand is the number of people required as a result of economic growth or contraction.

The replacement demand is the number of people required to replace workers leaving the labour market (i.e. those who retire, move away or change jobs). Please note, figures are rounded to the nearest 100 and as a result totals may not equal the sum of the constituent parts.

Future Demand: Long-term (2028-2035)¹

Employment in the Engineering sector is forecast to decline in the long-term (2028-2035), **with a decline of 0.9% (1,100 people)**. This is in contrast with the growth that is anticipated overall across Scotland, where employment is forecast to rise by 4.0% (112,500 people).

By 2035, the regions forecast to have the greatest level of sectoral employment are **Aberdeen City and Shire and Glasgow College Region**. Between 2028 and 2035, the greatest growth is forecast to be in **Administrative Occupations (800)** followed by **Business and Public Service Associate Professionals (300 people)** in the sector.

Forecasts for the long-term (2028-2035) estimate that **8,000 people** could be required in the sector. This will be driven by **the need to replace workers** leaving the labour market.

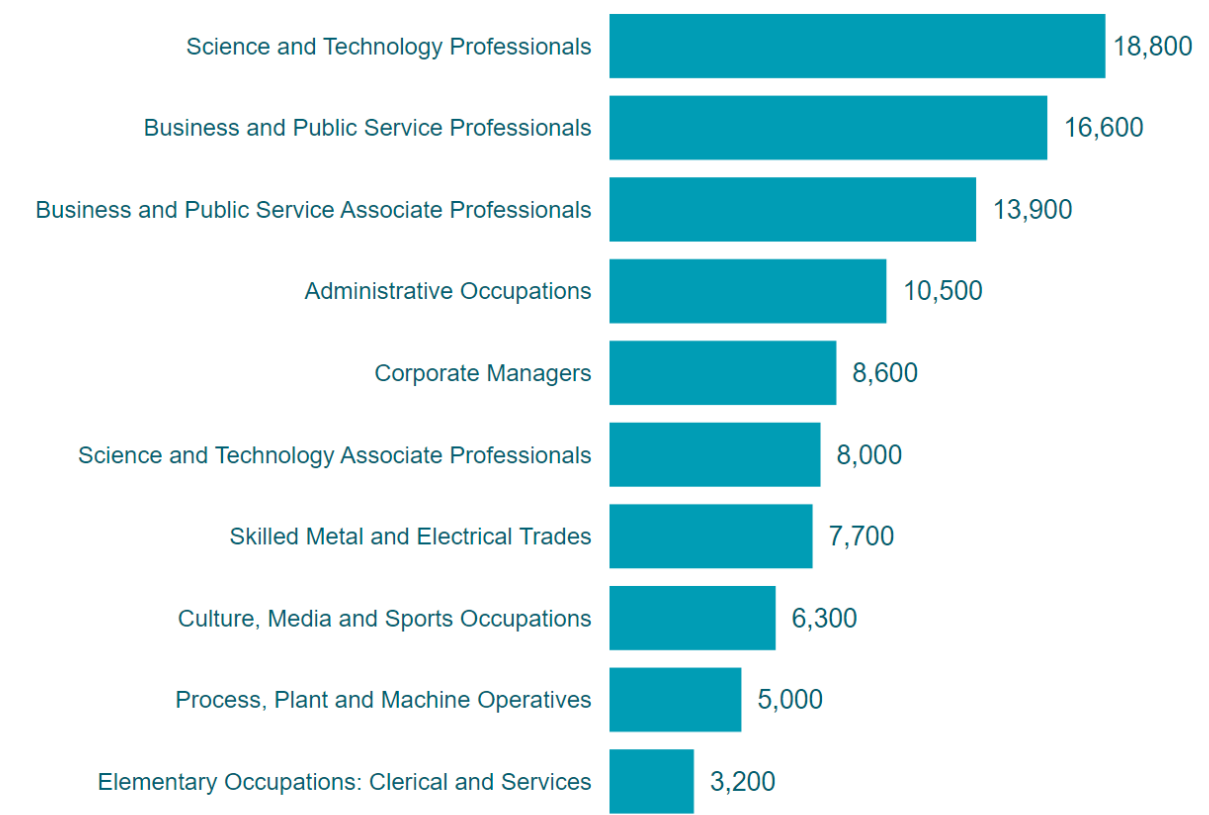
Workforce (people), 2035¹



Total Requirement^{1,2}



Top 10 Employing Occupations (people), 2035¹



1. SDS (2025). Oxford Economics Forecasts.
2. Total requirement for people is made up of expansion and replacement demand.
The expansion demand is the number of people required as a result of economic growth or contraction.

The replacement demand is the number of people required to replace workers leaving the labour market (i.e. those who retire, move away or change jobs). Please note, figures are rounded to the nearest 100 and as a result totals may not equal the sum of the constituent parts.

Appendix 1: Engineering Sector Definition (SIC 2007)

SIC	Name
24	Manufacture of basic metals
25	Manufacture of fabricated metal products, except machinery and equipment
26	Manufacture of computer, electronic and optical products
27	Manufacture of electrical equipment
28	Manufacture of machinery and equipment n.e.c.
29	Manufacture of motor vehicles, trailers and semi-trailers
30	Manufacture of other transport equipment
33	Repair and installation of machinery and equipment
71	Architectural and engineering activities; technical testing and analysis
72.19	Other research and experimental development on natural sciences and engineering
13.94	Manufacture of cordage, rope, twine and netting
38.31	Dismantling of wrecks

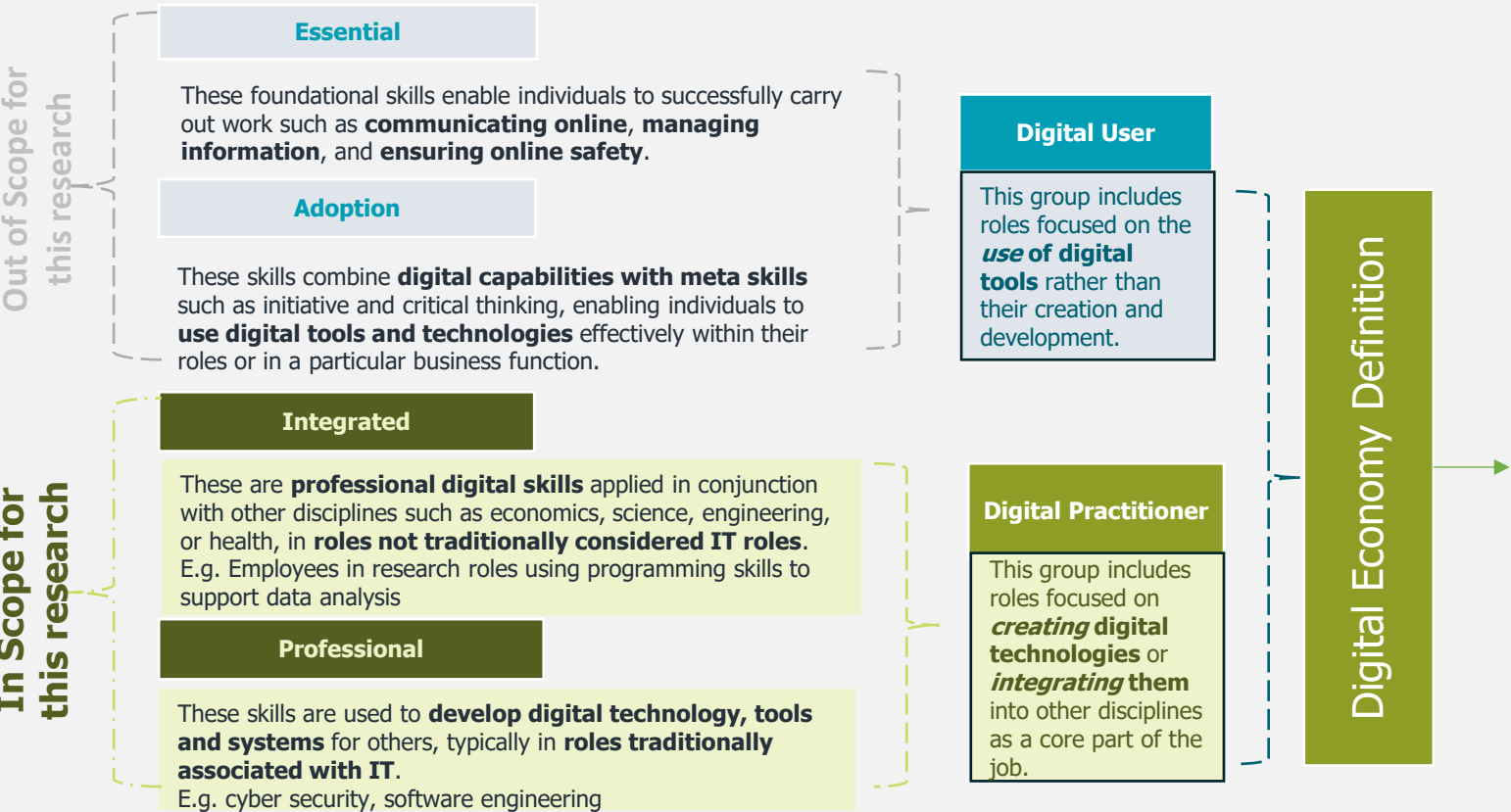
Project Background

In March 2023, SDS released the [Digital Economy Skills Action Plan](#) (DESAP), which emphasised the increasing importance of digital skills across all sectors in Scotland. While the Digital Tech Sector is well-defined and focuses on activity related to the production of digital technologies, the DESAP noted a lack of comparable data for the wider Digital Economy (which encompasses all economic activity that is enabled by digital technology) due to an unclear definition. To address this, SDS worked collaboratively with stakeholders to define the Digital Economy with the aim of improving the understanding of related jobs and skills.

Methodology

Following a literature review and stakeholder consultations, a final definition of the digital economy was produced (see below). This was then used to identify jobs (based on SOC^s) and skills (from the Lightcast Skill Taxonomy) that were considered part of the Digital Economy. The research focused on Digital Practitioners as a particular area of interest to understand how skills that create or integrate digital technologies are permeating across occupations. This list of Digital Practitioner jobs and skills was then applied to the Scottish Labour Market to assess the economic value of Digital Practitioner jobs in Scotland.

Definition of the Digital Economy



Key Findings for Scotland



Estimated at almost 400,000, Digital Practitioner jobs in Scotland account for **15% of the total workforce.** This is comparable to the size of the Human Health and Social Work sector.



Digital practitioner roles contribute £34.6 billion in GVA to Scotland's economy, which represents around **25% of Scotland's GVA.**



At least **half** of all Digital Practitioner job postings require a **bachelor's degree or equivalent.**



The median advertised salary for Digital Practitioner job postings in Scotland was **£38,627. This was 35% higher than the average median advertised salary across all Scottish job postings.**

For further information or queries on the SSAs or any of our other products, please contact: [**RSA@sds.co.uk**](mailto:RSA@sds.co.uk)