

Current and future skills demand

Life Sciences includes the manufacture or research associated with Medtech, Digital Health, Pharma Services and contract research organisations, Therapeutics, Agritech and Stem cell and regenerative medicine. Chemical Sciences includes the manufacture of Commodity, Speciality and Consumer chemicals plus Materials and Industrial Biotechnology.

The Economy¹



Gross Value Added (GVA)² in 2019

Total **Life and Chemical Sciences** GVA is:
£4,463m
up 33% from 2009

Forecast GVA in 2029
£5,175m
up 16% from 2019



Productivity (GVA per job) in 2019

Life and Chemical Sciences productivity is:
£165,872
up 16% from 2009

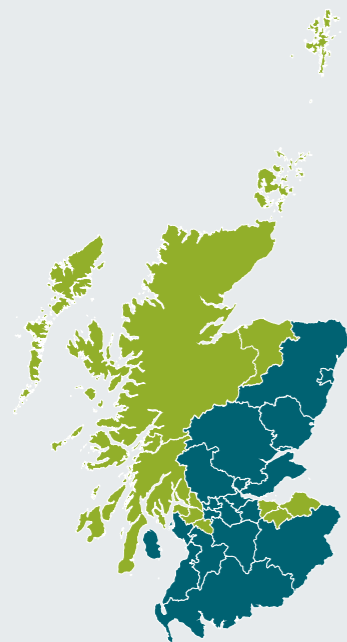
Productivity across **all sectors** is:
£50,368
up 13% from 2009

Forecast productivity in 2029

£200,849
up 21% from 2019

£57,747
up 15% from 2019

Employment



Top Employing Regions 2019³

Edinburgh, East and Midlothian
5,000 jobs

West
3,200 jobs

Highlands and Islands
2,900 jobs

Scotland Total⁴ Jobs in 2019
26,900 jobs
👤 2029: down by 4% to 25,800

Gender split⁵

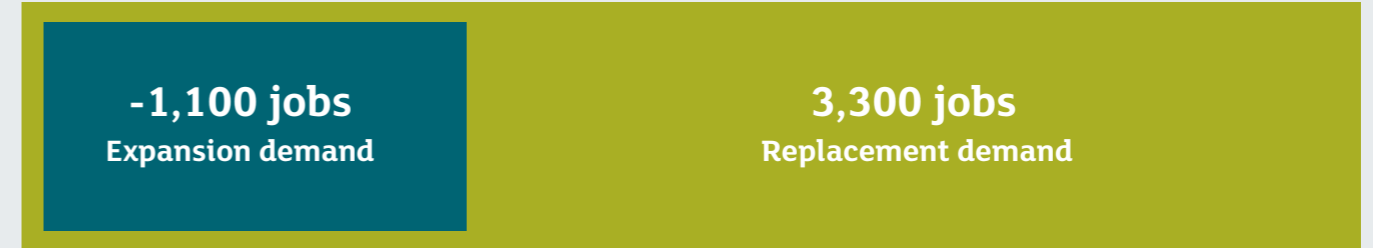
316,900 Female | 447,800 Male

Ethnicity

26,000 Ethnic Minority | 739,200 White

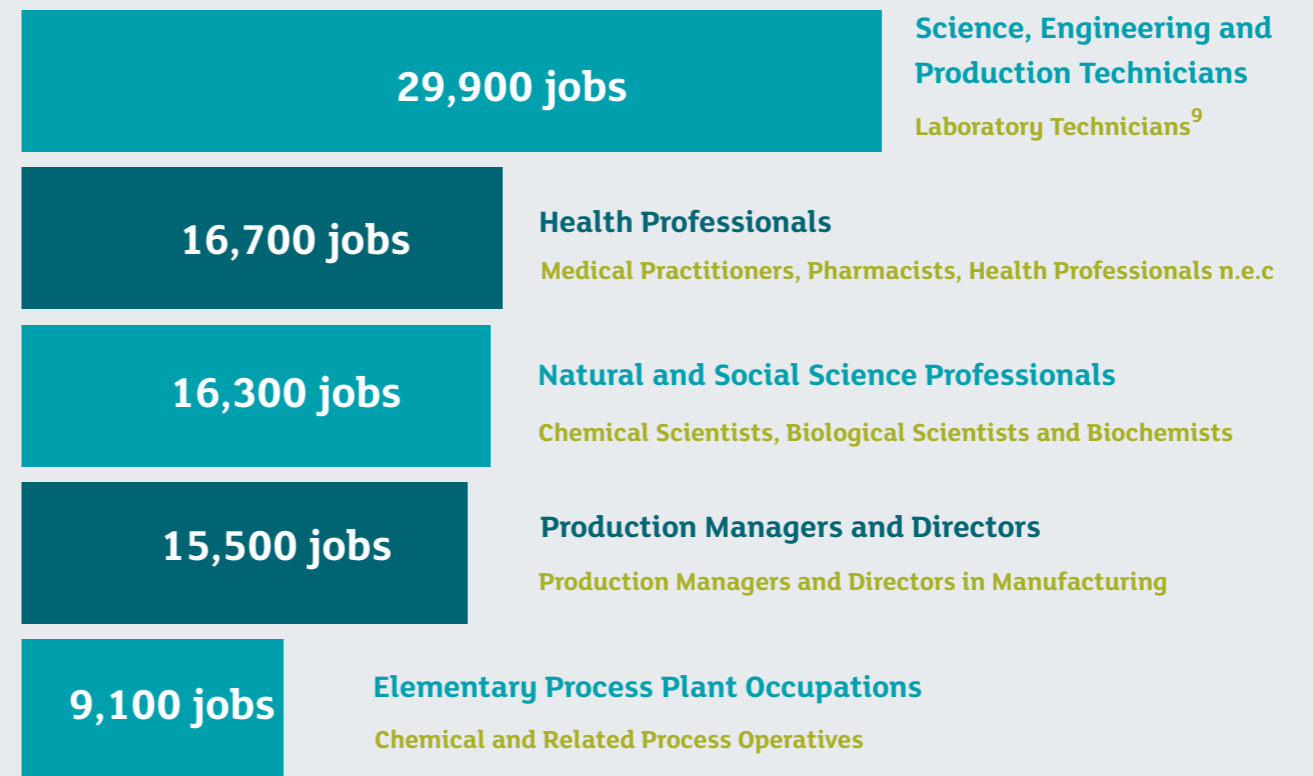
Future Job Openings

From 2019 to 2029 there will be a requirement for:



2,100 Job Openings⁶

Future Job Openings: Top 5 Occupations from 2019 to 2029^{7,8}



¹ Forecasts by Oxford Economics (unless otherwise stated).
² GVA is the measure of the value of goods and services produced within the economy. GVA in constant 2016 prices.
³ Measured by total number of jobs.
⁴ Please note that 2019 is a forecast figure.

⁵ Source: Annual Population Survey (APS) April 2018–March 2019. This dataset is different to Oxford Economics and may not sum to reflect the Scotland total above. Due to data availability the sectoral definitions vary from those we have used elsewhere in this infographic. E.g. for Engineering we have used 'Manufacturing' and therefore figures may not sum to Scotland's total.

⁶ Expansion demand is the measure of an increase/decrease in jobs, as a result of economic growth or contraction; replacement demand is the number of job openings generated through labour market churn (i.e. those who retire, move away, or change jobs). N.B. Some figures may not sum due to rounding.

⁷ These top five job openings have been identified by the Key Sector Manager who works closely with industry experts and employers. Data is not split by sector as with other sections. Forecast job openings here represents Scotland as a whole.
⁸ Job openings by occupation is provided here at three digit Standard Occupational Classification level.

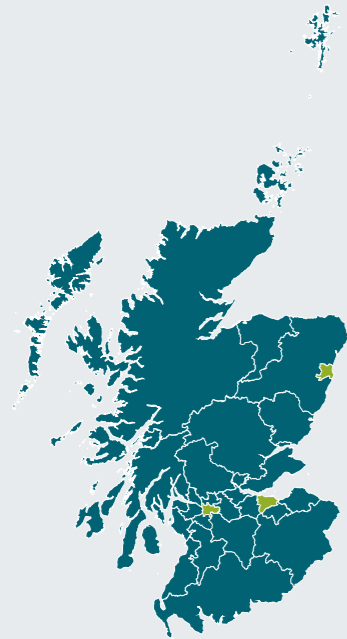
⁹ Other examples include: Quality Assurance Technicians, Planning, Process and Production Technicians, Science Engineering and Production Technicians n.e.c.

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Vacancies^{10,11}

Vacancies 2018



City of Edinburgh

758 vacancies
accounting for 43%

Glasgow City

422 vacancies
accounting for 24%

Aberdeen City

62 vacancies
accounting for 4%



Biological Scientists and Biochemists

80 vacancies
accounting for 5%



Sales Related Occupations

74 vacancies
accounting for 4%



Programmers and Software Development Professionals

61 vacancies
accounting for 3%

Total vacancies in Life and Chemical Sciences:
1,764 vacancies



Salary 2018

Median real-time advertised salary in Life and Chemical Sciences:

£21,600



Gender Pay-Gap¹²

30.1%

Scotland: 5.7%

Skills Shortage Vacancies and Gaps¹³

Skills Shortage Vacancies¹⁴

Density of Skills Shortage vacancies in Life and Chemical Sciences:

33%



Scotland: 24%

Skills Gaps¹⁵

Density of Skills Gaps in Life and Chemical Sciences:

5%



Scotland: 5%

Sectoral Insight¹⁶



Current **skill shortages** varies across a range of occupations – engineering, digital skills (including data), software and informatics.



University graduates, particularly from life sciences courses, are reported to lack **basic practical (laboratory) skills**. In addition, awareness of regulatory, compliance, quality management/assurance/control, Good Manufacturing Practice, Good Laboratory Practice and the ability to follow Standard Operating Procedures is required.



Individuals that **combine business, commercial, entrepreneurial** and **leadership skills** with sector knowledge.



There is a large volume of life sciences university graduates entering the sector. This is resulting in life sciences **graduates entering non-graduate roles**, such as lab technician.



Larger companies are more likely to employ apprentices and FE graduates whilst **smaller companies tend to employ university graduates**. This is potentially problematic as the life sciences sector is made up of mostly SMEs.

¹⁰ Source: Burning Glass Technologies Jan 2018 - Dec 2018 (based on calendar year). <http://www.burning-glass.com>.

¹¹ Burning Glass technologies gather insight on vacancies from online job postings and websites.

¹² Source: ONS 2018, based on the Annual Survey of Hours and

Earnings based on full-time employee jobs.

¹³ Due to the way the Employer Skills Survey collects and reports data, the sectoral definitions vary from those we have used elsewhere in this infographic. To define the Life and Chemical Sciences we have used 'Business Services' and 'Manufacturing'.

¹⁴ Base: All establishments with vacancies (only 2017 shown).

Skill-shortage vacancies as a proportion of all vacancies. This may be due to a lack of skills, qualifications or experience amongst applicants.

¹⁵ Base: All establishments (only 2017 shown). Skills gaps: the proportion of the workforce lacking full proficiency.)

¹⁶ Insight provided by the Key Sector Managers who work closely with industry experts and employers.