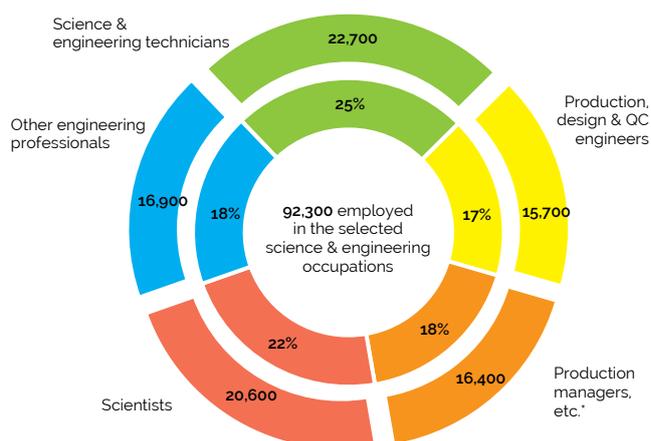


9.1 Science & Engineering Occupations

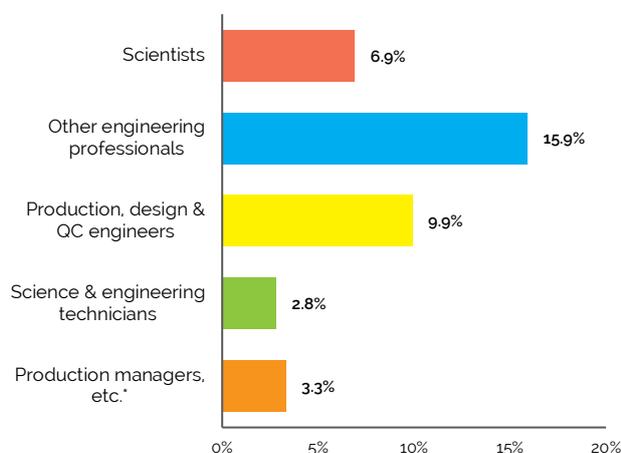
Overall employment: Approximately 92,000 persons (67% male) were employed in the selected science and engineering occupations, representing 3.8% of the national workforce.

- **Sector:** 50% of overall employment was concentrated in industry, followed by 16% in professional service activities
- **Employment growth (5-year):** Between 2014 and 2019, overall employment increased by 25,900 (6.8% on average annually compared to 3.2% nationally). The strongest rate of employment growth was observed for other engineering professionals (15.9%) during the period
- **Age:** The 25-54 age group accounted for the majority of persons employed, at 81%. The share of persons employed aged 55 years and over was 14%, below the national average of 19%
- **Education:** The share who had attained third level qualifications (76%) was significantly above the national average share (48%), while a further 19% had attained a higher secondary/FET qualification
- **Full-time/part-time:** Over 93% of science and engineering workers were in full-time employment
- **Nationality:** The share of non-Irish workers was broadly in line with the national average of 17%, while 84% of workers were Irish nationals.

Numbers employed, 2019 (annual average)



Average growth rates (%) 2014-2019



Between 2014 and 2019, overall employment increased by 25,900 (6.8% on average annually compared to 3.2% nationally).

Source: SLMRU (SOLAS) analysis of CSO data

*See detailed occupation description in table below

Overall Outlook for these Occupations

Employment in this occupational group grew strongly in the five-year period with demand for skills in these jobs particularly evident in 2019. The supply of graduates in science and engineering has, in the main, increased over the last number of years, with these people sought after across a variety of other sectors (e.g. education, finance, public administration). Despite this, science and engineering occupations are forecast to experience an annual average fall in employment of 9.9%, or 9,200 persons, between 2019 and 2020. However, this decline is primarily driven by an assumption of reduced activity in manufacturing as a result of COVID-19; a swift recovery in the manufacturing sector may mitigate any potential decline in employment numbers.

Occupation	Economic summary
Scientists	Employment growth for this occupation over the five-year period was double that of the national average. Over 100 new employment permits were issued in 2019 for scientists, indicating that employers were unable to source suitable candidates in Ireland for certain roles, most likely niche areas. Supply from the third level education system was strong, with over 1,400 science awards in medical or pharmaceutical-related areas. The COVID-19 crisis is more likely to have had an impact on the nature of the work rather than on employment levels for these high-skilled roles, at least initially.
Production, design & QC engineers	This occupation experienced strong employment growth over the five-year period. Demand for these skills in 2019 was evident through a high volume of vacancies, with some identified as difficult-to-fill, and over 400 new employment permits issued (particularly for quality and process engineers). There were nearly 900 NFQ level 8+ awards in 2018 in these areas, broadly similar to other years; however, supply for these occupations can come from a range of other engineering disciplines. With industry being the main employer for these occupations, the effect of COVID-19 on employment numbers would have varied according to the manufacturing sub-sector.
Other engineering professionals (e.g. mechanical, electrical and electronic engineers)	Employment growth was very strong for this occupation over the five-year period, although changes to the Labour Force Survey methodology in 2017 account for some of this change. A high demand for these skills was evident in the vacancy data (particularly for electrical, automation, validation and manufacturing engineers), along with a high number of new employment permits issued in 2019 (over 400). There were approximately 1,500 awards at NFQ level 8+ for these engineering fields but this has remained largely unchanged compared to 2014. While some jobs in industry may have been impacted by COVID-19 restrictions, a recovery is likely in the short-term with the reopening of the economy.
Science & engineering technicians	Employment growth over the five-year period was below the national average for this occupation, with a decline occurring between 2018 and 2019. Quality and process technician jobs appeared frequently in the vacancy data in 2019. There were over 3,200 awards at NFQ levels 6 and 7 related to these occupations, a slight increase on earlier years. With most of these occupations concentrated in industry, a recovery from the restrictions due to COVID-19 will be linked to a full resumption of activities in this sector.
Production managers in manufacturing	Employment growth over the five years was on a par with the national average. Job opportunities are likely to arise for those with experience, replacing those who leave due to retirement, etc. With most of these occupations concentrated in industry, the outlook post-COVID-19 will be dependent on a return to full activity in this sector.

**For detailed table see Appendix A*