

9.1 Science & Engineering Occupations

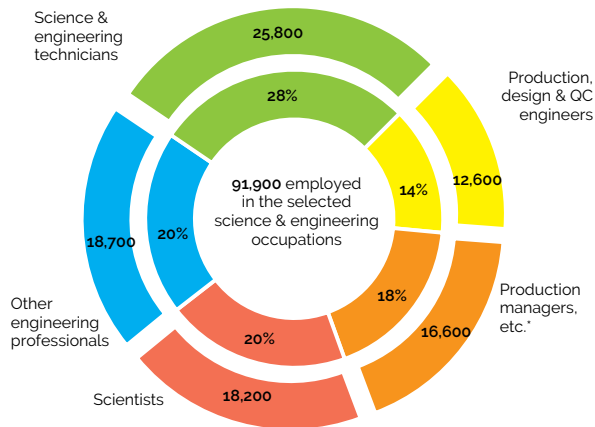
Overall employment: Approximately 91,900 persons (67% male) were employed in the selected science and engineering occupations, representing 4.1% of the national workforce

- **Sector:** 51% of overall employment was concentrated in industry, followed by 20% in professional service activities
- **Employment growth (5-year):** Between 2013 and 2018, overall employment increased by 27,300 (7.3% on average annually compared to 3.1% nationally). The strongest rate of employment growth was observed for other engineering professionals (16.6%) during the period.
- **Age:** The 25-54 age group accounted for the majority of persons employed, at 82%. The share of employees aged 55 and over was 12%, below the national average of 17%.
- **Education:** Those who had attained third level qualifications (80%) was significantly above the national average share (48%), while a further 15% had attained a higher secondary/FET qualification
- **Full-time/part-time:** Over 96% of science and engineering workers were in full-time employment
- **Nationality:** The share of non-Irish workers was slightly below the national average of 16%, while 86% of workers were Irish nationals

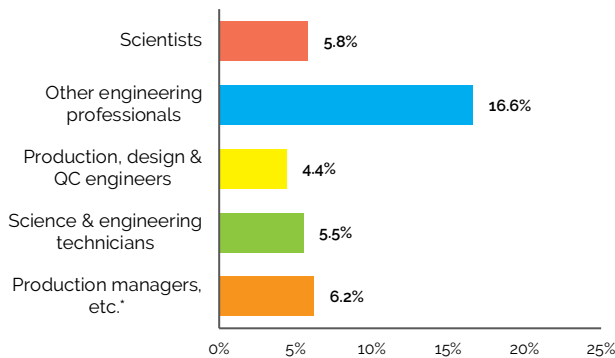
Overall outlook for these occupations:

While the supply of graduates in science and engineering has, in the main, increased over the last number of years, these people are sought after across a variety of other sectors (e.g. education, finance, public administration). The demand for skills in the science and engineering occupations, while likely to be relatively small in number in many cases, is driven chiefly by high-tech and related industries, with specialist skills sets requiring extensive experience, often in niche areas. The strong presence of research, development and innovation (RDI) activities in Ireland means that these skills are also required for R&D project manager roles.

Numbers employed, 2018



Average growth rates (%) 2013-2018



Between 2013 and 2018, overall employment increased by 27,300 (7.3% on average annually compared to 3.1% nationally).

Source: SLMRU (SOLAS) analysis of CSO data

*See detailed occupation description in table overleaf

Occupation	Economic summary	Shortage	Occupation shortage details
Scientists	With approximately 5,000 third level graduates per year, supply from the education system appears to be sufficient. However, demand is arising for roles that require a high level of experience and/or in niche areas.	● Niche Experience	<ul style="list-style-type: none"> — Chemists — Biochemists
Production, design & QC engineers	Job vacancies in this category appear frequently and have been noted as difficult to fill. Demand is mostly for roles requiring sector-specific experience (e.g. medium-high, high-tech and food/beverage manufacturing), although this is likely to be small in number given the number of people employed.	● Experience	<ul style="list-style-type: none"> — Process — Quality control — Design
Other engineering professionals (e.g. mechanical, electrical and electronic engineers)	Employment growth in this occupational group was above average ²⁸ . Vacancies in these occupations are frequently cited as difficult to fill although the demand is likely to be small in number given the size of the employment stock. While the supply from the education system appears to be growing, demand is mostly for roles requiring sector-specific experience (e.g. medium-high, high-tech and food/beverage manufacturing).	● Niche Experience	<ul style="list-style-type: none"> — Electrical — Chemical — Automation — Validation — Mechanical/manufacturing — EHS
Science & engineering technicians	Employment growth was above the national average; however, recent job hires analysis suggests that many of the job openings arising for this occupation are due to turnover. The demand is largely for roles in high tech manufacturing especially for those with experience.	●	<ul style="list-style-type: none"> — Quality control — Process
Production managers in manufacturing	While no shortages have been identified in this area, strong employment growth would indicate job opportunities exist for experienced personnel.	●	

*For detailed table see Appendix A

²⁸ Any annual change may relate to the break in the data series in the Labour Force Survey that occurred in Q3 2017, and should therefore be treated with caution.