

# Engineering<sup>14</sup>

## WORKFORCE OVERVIEW

8,653 Pacific Peoples employed in Engineering in 2018.

This is 5.3% of the total Engineering workforce.

## LARGE GENDER AND ETHNICITY IMBALANCE

Engineering stands out as the Hanga-Aro-Rau industry with the most significant gender gap. Only 17% of the engineering workforce comprises females.

This substantial imbalance is equally evident in the representation of Pacific Peoples in the industry.

## SLOW, STEADY ANNUAL GROWTH

The total Engineering workforce exceeded 172,000 in 2021, although annual growth has slowed since 2018.

The forecast is for approximately 4,000 new jobs each year.

## WIDE RANGE OF FIELDS

The the Automotive Workforce Development Strategy (MITO, 2021) include promoting industry and career opportunities to Pacific Peoples to create talent pipelines and strengthen relationships with Pacific groups and increase workforce diversity.

Engineering has multiple specialisations, including automotive, chemical and process, civil and environmental, materials and manufacturing, and mechanical.

## STEM EDUCATION

Low numbers of Pacific learners study STEM subjects (science, technology, engineering, mathematics) compared to other ethnicities.

- 14,600 Pacific learners (8.6% of total studying STEM)
- 108,075 Europeans (63.8%)
- 27,247 Māori (16.4%)
- 34,240 Asians (20.2%)
- 8,510 Other (5%)

## SKILL MISALIGNMENT IN ENGINEERING EDUCATION & TRAINING

In our 2022 survey, 81% of participating engineering employers identified “recruiting labour with the requisite skills” as their primary labour market challenge

Infometrics forecasts a substantial increase in demand for engineering qualifications at the degree level and beyond between 2022 and 2027.

## URGENT NEED FOR EMPLOYABILITY SKILLS

In our 2022 workplace survey, engineering employers told us that new recruits (regardless of ethnic background) are often poorly prepared.

Lacking industry knowledge and soft skills, e.g., turning up on time, being able to take instruction, being conscientious, having a good attitude, and showing initiative.

## FUTURE SIGNIFICANCE

“The world is going digital, which will require a breed of engineers who are more literate in high-tech areas like nanotechnology, materials engineering, and ICT” (CEBR, 2016, p. 28).

“Engineers ... design solutions to the world’s problems and help build the future” (CEBR, 2016, p. 8)

## ENHANCING MANUFACTURING AND ENGINEERING APPEAL

There is a lack of attraction among students and potential employees to the manufacturing and engineering sectors (Deloitte, 2022).

For Pacific Peoples, building connections with community groups, rather than solely relying on school career guidance mechanisms, may prove more effective when attracting to the workforce. (NZHRC, 2022).

<sup>14</sup> Data and insights presented here have been extracted from Deloitte Limited, 2022; Deloitte Limited, 2023; Infometrics, 2023a; Infometrics, 2023b; New Zealand Human Rights Commission, 2022; Stats NZ Tatauranga Aotearoa, 2018.