

# The Future of Engineering

Professor Julien Epps, Dean of Engineering

**21%**  
**projected job**  
**growth\***



**UNSW**  
SYDNEY

\*<https://www.jobsandskills.gov.au/data/employment-projections>

# 2024 Engineering Landscape

**21% projected job growth over the next 10 years\***

**Engineers are required to be multi-skilled**

Students study complimentary generalist courses such as computing

**Occupations highest in the demand**

IT professionals, Mining Engineers, Civil Engineering, Renewable Energy Engineers and Telecommunications Engineers\*\*

**Leading Innovation**

Some of the newest jobs to emerge in Australia require Engineering: Quantum Hardware Engineer, Sustainability Engineer, Data Scientist, Nuclear Safety Engineer, Senior Advisor - Decarbonisation

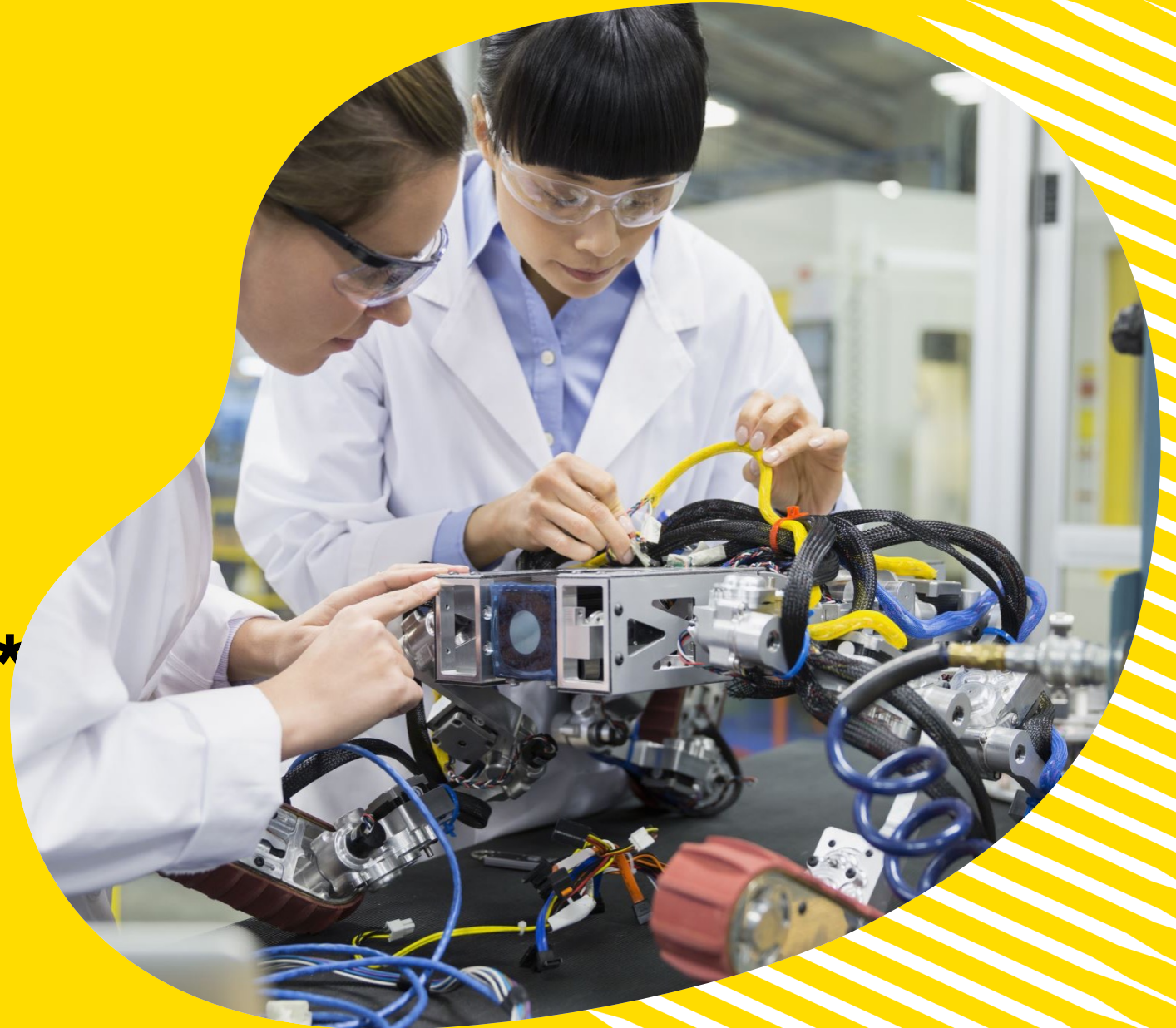
Engineering related occupations requiring a tertiary qualification	Projected employment growth 10 year (2023 - 2033)
Construction Managers	16%
Engineering Managers	18%
ICT Managers	22%
Design, Engineering, Science and Transport Professionals nfd	20%
Surveyors and Spatial Scientists	19%
Engineering Professionals (Biomedical, Clean Energy, Renewable, Decarbonisation and other)	21%
Chemical and Materials Engineers	23%
Civil Engineering Professionals	18%
Electrical and electronics Engineers	22%
Industrial, Mechanical, Manufacturers, Production Engineers	23%
Mining Engineers	23%
Chemists, and Food and Wine Scientists	21%
ICT Professionals	19%
Software and Applications Programmers	22%
Database and Systems Administrators, and ICT Security Specialists	22%
ICT Support and Test Engineers	23%
Telecommunications Engineering Professionals	21%
<b>Average Growth</b>	<b>21%</b>



\*\*[https://www.professionalsaustralia.org.au/PA/Latest\\_News/Australia\\_faces\\_engineering\\_skills\\_crisis-by\\_2040.aspx](https://www.professionalsaustralia.org.au/PA/Latest_News/Australia_faces_engineering_skills_crisis-by_2040.aspx)

Please note percentages have been rounded up to the nearest whole number  
Table Reference: \*<https://www.jobsandskills.gov.au/data/employment-projections>

**Australia will  
experience an  
engineering  
workforce  
shortage of  
200,000 by 2040\***



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\*[https://www.professionalsaustralia.org.au/PA/Latest\\_News/Australia\\_faces\\_engineering\\_skills\\_crisis-by\\_2040.aspx](https://www.professionalsaustralia.org.au/PA/Latest_News/Australia_faces_engineering_skills_crisis-by_2040.aspx)

# Australia needs more, and more diverse, Engineering graduates

- Australia will be short 200,000 engineers by 2040 as only 8.5% of Australian university students graduate with engineering degrees compared with 12% in Canada and 23% in Germany.
- Australia relies on approx. 500,000 qualified engineers to tackle its most pressing challenges, from **climate change to clean energy transition and complex infrastructure needs. Engineers are crucial to the future of transport systems, sustainable cities, and overall national resilience.\***
- We need to do a better job at preventing critical skills leakage: **Just 66% of engineers work in engineering roles.**
- Less than **2 in 10\*** engineering students are women and women make-up only **15%** of the engineering workforce

\* UNSW has ~27% female commencing undergraduate students

# How is UNSW bridging the gap ?



**UNSW**  
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# Multiskilled engineering graduates



**Name:** Sudam Dias  
**Degree studied:** BEng (Hons) Electrical  
**Current role:** Senior Firmware Engineer



**Name:** Jade Gavin  
**Degree studying:** BEng (Hons) Mechatronics  
**Industrial Training:** Mining Engineering

- Interdisciplinary curriculum
- Minor in Nuclear Engineering and Humanitarian Engineering
- 20 Double Degrees within the Faculty of Engineering or with another Faculty.



# Diverse Student Experience

## **Women In Engineering Program**

*Scholarships, mentoring programs*

## **Gateway/Portfolio entry**

*Increasing access to all students*

## **Careers and Employability**

*Pre-employment workshops, industry fairs and a dedicated placement team*

## **Clubs and Societies**

*Faculty supported societies to support diversity such as TWEET and Queer Students in STEM*

## **ChallENG Program**

*Unique experiential learning opportunities*





# Graduate Outcomes

**89.4% of UNSW Engineering Graduates found employment within the first three months\***

*Our graduates are highly sought after due to the reputation of our alumni and rankings*

**UNSW produces Australia's highest-earning graduates\***

*UNSW remains on top of Go8 for median salary; \$70k compared to \$68k national and \$67k Go8 average\*\**



# How can we work together?

## **Encourage students to study STEM**

*Promote studying STEM subjects beyond year 10*

## **On-Campus Events**

*Experience days for hands-on learning*

## **Stay Connected**

*Contact our dedicated undergraduate manager to organise bespoke workshops*

