





ENGINEERS  
AUSTRALIA



# Queensland's 2025-26 State Nominated Skilled Migration Program

Engineers Australia Submission

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## Queensland's 2025-26 State Nominated Skilled Migration Program

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# About Engineers Australia

As Australia's national peak body for engineering, we are the voice and champion of our 130,000-plus members, with over 28,000 residing in Queensland. We provide them with the resources, connections, and growth they need to do ethical, competent and high-value work in our communities. A mission-based, not-for-profit professional association, Engineers Australia is constituted by Royal Charter to advance the science and practice of engineering for the benefit of the community.

Engineers Australia maintains national professional standards, benchmarked against international norms. As Australia's signatory to the International Engineering Alliance (IEA), this includes accreditation of undergraduate university engineering programs.

Under the Migration Regulations 1994, Engineers Australia is the designated assessing authority to perform the assessment of potential migrant engineering professionals' skills, qualifications, and/or work experience to ensure they meet the occupational standards needed for employment in Australia.

Due to this and to avoid any actual or perceived conflict of interest, Engineers Australia does not provide advice to government on the composition or number of engineers which should be targeted through Australia's migration program. However, this submission highlights key data which should be considered for the occupations targeted for consultation.

## Contact

Engineers Australia welcomes the opportunity to provide feedback to Migration Queensland regarding the 2025-26 State Nominated Skilled Migration Program. We look forward to continued engagement on this important initiative. Please feel free to contact Caitlin Buttress, Head of Advocacy, at [cbuttress@engineersaustralia.org.au](mailto:cbuttress@engineersaustralia.org.au) for further information.

# Introduction

Engineers Australia welcomes the opportunity to provide feedback to Migration Queensland on the 2025–26 State Nominated Skilled Migration Program.

Australia faces persistent and structural shortages of engineers, with migration playing a critical role in addressing workforce gaps. Our submission highlights the growing demand for engineers, the importance of aligning skilled migration with workforce needs, and the value of experienced engineers and international graduates in sustaining Australia’s engineering capability. We look forward to continued collaboration with Migration Queensland to support a strong and resilient engineering workforce.

## The engineering profession in Queensland

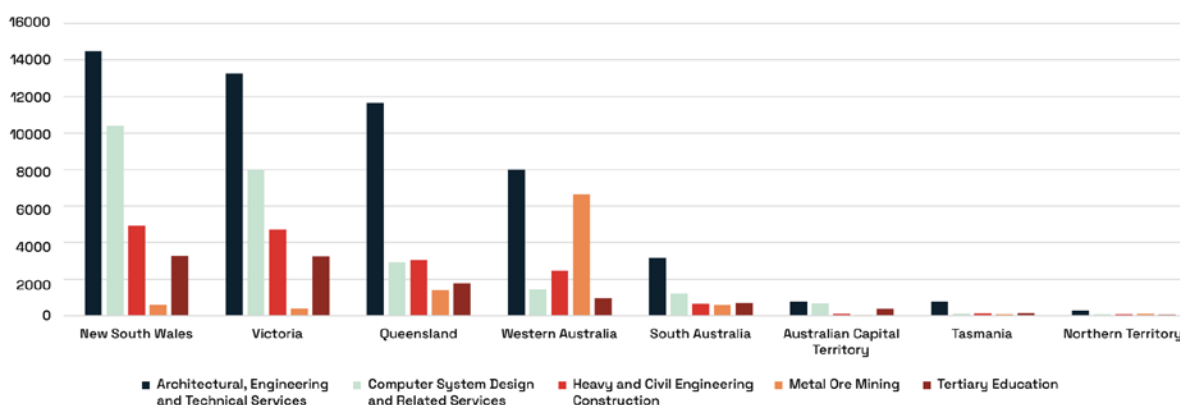
Based on the most recent census data from 2021, Queensland had 42,071 engineers working in engineering occupations, 17 per cent of the national total. That represents a 40 per cent increase over a decade in the number of engineers working in engineering occupations from the 2011 census.

**Table 1: Statistics for the engineering population in Queensland**

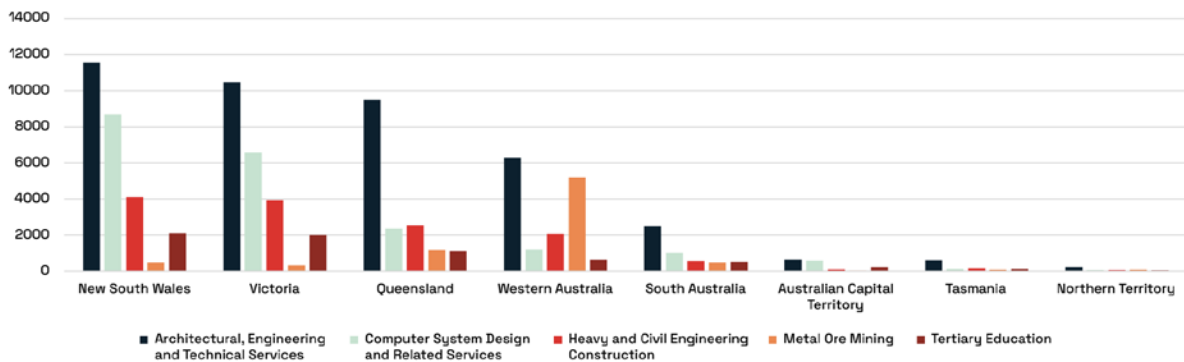
Census Year	2011		2016		2021	
Employed	45,497	80.5%	52,568	74.8%	68,743	76.7%
Not in the labour force	9,578	16.9%	14,277	20.3%	18,360	20.5%
Looking for work	1,400	2.4%	3,427	4.9%	2,359	2.6%
Total Labour force	46,897		55,995		71,102	
Working in engineering occupations	28,525	60.8%	31,095	55.5%	42,071	59.2%

The strong growth of Queensland’s engineering workforce reflects the state’s expanding infrastructure, energy, and manufacturing sectors, as well as its role in major national priorities such as the clean energy transition and critical infrastructure development. A larger engineering workforce is essential for delivering complex projects, driving innovation, and ensuring Queensland remains competitive in a rapidly evolving global economy. This growth also highlights the increasing demand for engineering expertise across industries, reinforcing the need for a sustainable pipeline of skilled professionals through both education and migration pathways.

**Figure 1: Distribution of qualified engineers in the top 5 sub industries for each state/territory (represents 26.2% of the qualified engineering labour force)**



**Figure 2: Distribution of engineering occupations in the top five sub-industries for each state/territory (represents 36.6% of the population of engineering occupations)**



## Supply of engineers via migration

Engineers born overseas who migrate to Australia, via the skilled, temporary or humanitarian migration programs, are essential to the supply of engineering capability in Australia. The total number of permanent settlements in Australia through the skilled migration program<sup>1</sup> is shown in the table and figure below, filtered to professional engineering unit groups within ANZSCO<sup>2</sup>. We note the recovery in levels of permanent skilled migration since the COVID-19 pandemic occurred, with a 70.8 per cent increase in 2023.

**Table 2: Permanent settlements - skilled migration scheme – engineers**

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total	5,916	7,066	7,743	8,074	6,755	5,694	3,896	4,013	4,107	7,016
% change year on year	-	19.4%	9.6%	4.3%	-16.3%	-15.7%	-31.6%	3.0%	2.3%	70.8%

**Figure 1: Numbers of permanent and temporary engineer migrants in Australia**



<sup>1</sup> Department of Home Affairs. Permanent Migration Program (Skilled & Family) Outcomes Snapshot – Annual Statistics, BP0068L Permanent Migration Program (Skilled & Family) Outcomes Snapshot – Annual Statistics 2013-14 to 2022-23 v100, 22 (March 2024)

<https://data.gov.au/data/dataset/096fd157-807c-4ba0-8c63-0754cae4ba35/resource/f0d43822-512e-4687-8bc3-fa59926306a7/download/bp0068-migration-and-child-outcome-since-2013-14-to-2023-06-30-masked-v100.xlsx>

<sup>2</sup> Briggs, P. 'The Australian Engineering Labour Market Overview Engineers Australia (August 2024)

<https://www.engineersaustralia.org.au/sites/default/files/2024-09/The-Engineering-Labour-Market-Overview-August-24.pdf>

Some engineers born overseas and working in Australia are here under different visa types not examined, including temporary graduate visas, partner visas and others. The figures presented here provide an indication of the overall dynamics of the supply of skilled migrant engineers to Australia.

## Engineering skills challenge

Engineers Australia would like to emphasise the challenges facing the engineering profession. Australia has experienced a structural shortage of engineers exacerbated by cyclical shortages of engineering skills every decade since the 1980s. This topic has been the focus of both a parliamentary inquiry and other government supported papers.

Analysis of the 2021 census data shows an increase of over 93,000 engineers in Australia's labour force between 2016 and 2021, with overseas-born engineers making up over 70 per cent of this total<sup>3</sup>. Australia continues to face a challenge in its engineering workforce supply, making migration an essential part of the pipeline to meet the demands of current and future projects over the short and medium term.

The engineering skills challenge in Australia has been highlighted by numerous reports by organisations competing for engineering skills across various sectors.

- Infrastructure Australia notes that labour remains the top capacity constraint for infrastructure delivery, with engineers and scientists continuing to experience the largest shortfalls<sup>4</sup>.
- Similarly, Jobs and Skills Australia includes Engineering Managers, Chemical and Materials Engineers, Civil Engineering Professionals, Electrical Engineers, Industrial, Mechanical and Production Engineers, Mining Engineers and other Engineering Professionals in the list of those which will be critical to at least one segment of the workforce required to achieve the Australian government's net-zero emissions target by 2050<sup>5</sup>.
- The Australian Government's Jobs and Skills Councils (JSCs) have also highlighted the skills challenges in engineering across the diverse portfolio of workforce plans. The JSCs bring together employers, unions and governments in a tripartite arrangement to find solutions to skills and workforce challenges.
  - For example, the Manufacturing Industry Skills Alliance highlight the demand growth for skills in core manufacturing occupations electrical engineering, systems engineering and mechanical engineering<sup>6</sup>.
  - Likewise, the Industry Skills Australia Maritime<sup>7</sup>, Rail<sup>8</sup> and Aviation<sup>9</sup> industries' workforce plans all include engineering among the occupations required to deliver on major projects and cite shortages across many engineering disciplines required for these workforces.

Furthermore, these industries also compete with the likes of major projects in Defence, such as the AUKUS agreement, which will require a significant engineering workforce to deliver over the coming decades. The impacts of engineering disciplines not being included in Queensland's State Nominated

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<sup>3</sup> Briggs, P. 'The Engineering Profession: A Statistical Overview Fifteenth Edition' *Engineers Australia* (November 2023) <https://www.engineersaustralia.org.au/publications/engineering-profession-statistical-overview-15th-edition>

<sup>4</sup> Infrastructure Australia 'Infrastructure Market Capacity 2023 Report' *Infrastructure Australia* (November 2023) <https://www.infrastructureaustralia.gov.au/publications/2023-infrastructure-market-capacity-report>

<sup>5</sup> Jobs and Skills Australia 'The Clean Energy Generation: Workforce needs for a net zero economy' *Jobs and Skills Australia* (October 2023) <https://www.jobsandskills.gov.au/publications/the-clean-energy-generation>

<sup>6</sup> Manufacturing Industry Skills Alliance '2023 Initial Workforce Plan' *Manufacturing Industry Skills Alliance* (Accessed 8 May 2024) [https://manufacturingalliance.org.au/wp-content/uploads/2024/02/Initial\\_Workforce\\_Plan\\_2023\\_excerpt.pdf](https://manufacturingalliance.org.au/wp-content/uploads/2024/02/Initial_Workforce_Plan_2023_excerpt.pdf)

<sup>7</sup> Industry Skills Australia Limited, Maritime Industry 'Maritime Industry 2023 Initial Workforce Plan' *Industry Skills Australia* (Accessed 8 May 2024) <https://www.industryskillsaustralia.org.au/initial-workforce-plans>

<sup>8</sup> Industry Skills Australia Limited, Rail Industry 'Rail Industry 2023 Initial Workforce Plan' *Industry Skills Australia* (Accessed 8 May 2024) <https://www.industryskillsaustralia.org.au/initial-workforce-plans>

<sup>9</sup> Industry Skills Australia Limited, Aviation Industry 'Aviation Industry 2023 Initial Workforce Plan' *Industry Skills Australia* (Accessed 8 May 2024) <https://www.industryskillsaustralia.org.au/initial-workforce-plans>

Skilled Migration program for 2025-26 could range from affecting delivery of major infrastructure, to achieving a clean energy transition.

## Underemployment of migrant engineers

Ensuring the correct skills are targeted through Australia's migration program is essential to not exacerbate the current issue of underemployed migrant engineers already in Australia. Engineers Australia's 'Barriers to Employment for Migrant Engineers' research report<sup>10</sup> identified seven barriers to employment, leading to recommendations such as positioning migrant engineers as a collective talent pool and providing credible information on employment pathways, aimed at ensuring a sufficient supply of skilled engineers for future projects.

To address this issue, governments bear dual responsibilities: targeting the correct skills through the migration program, and supporting migrants to transition into employment in critical industries. Such efforts, as referenced in the Pathway to Diversity in STEM Review<sup>11</sup>, highlight a concerted push to create sustainable pathways to meaningful employment for migrant engineers. Continued collaboration between Engineers Australia, employers, and government partners is vital for the success of these endeavours.

## Benefits of retaining international students

International students who graduate locally are a cohort of engineers who could also be supported to facilitate an easier transition to a permanent migration visa. This cohort of engineers in Australia do not face as many barriers as migrant engineers, as they will already have some Australian experience (through work integrated learning) and would have started building local networks through their university course. Despite this, there are unconscious biases which will still go against them. However, programs such as *Professional Year* can support them in entering the Australian workforce.

## The multidisciplinary nature of engineering

Engineering is a multidisciplinary profession, so a prescriptive focus on individual disciplines or sectors may not resolve workforce issues; a more holistic approach should be taken to address these challenges.

Today's engineering challenges require a blend of knowledge that cuts across traditional disciplinary boundaries. For instance, implementing renewable energy solutions requires electrical engineers, environmental engineers, geotechnical engineers, control systems engineers and others to create effective, sustainable systems.

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<sup>10</sup> Romanis, J. 'Barriers to Employment for Migrant Engineers; Research Report' *Engineers Australia* (October 2021)  
<https://www.engineersaustralia.org.au/publications/barriers-employment-migrant-engineers>

<sup>11</sup> Department of Industry, Science and Resources, Australian Government 'Pathway to Diversity in STEM Review final recommendations report' *Department of Industry, Science and Resources, Australian Government* (13 February 2024)  
<https://www.industry.gov.au/publications/pathway-diversity-stem-review-final-recommendations-report>



An engineer's qualification discipline does not always align with the area of practice in which they gain competence, and the discipline does not restrict them to any one particular sector. Some engineers may progress their careers in the same industry they started in after graduating, but many move to other industries or sectors and can develop competencies in one or more areas of practice. For example, an engineer working in the biomedical field may have a background in mechanical engineering but apply those skills towards developing medical devices.

There are also many engineers leading multidisciplinary teams. They will not have the technical expertise of all disciplines represented on the project and so will rely on their broad knowledge across the sector and the discipline experts in the team to achieve the project objectives. Engineering occupations span various ANZSCO/OSCA categories due to the varied nature of engineering disciplines. The whole engineering team is required to achieve the best results:

- Engineering Associate requires an advanced diploma (2-year degree).
- Engineering Technologist requires a bachelor's in science engineering (3-year degree).
- Professional Engineer requires a bachelor's in engineering (4-year degree).

## The need for experienced engineers

Ensuring that the correct skills are targeted to enable experienced engineers to migrate to Australia can alleviate workforce challenges. Supplementing domestic talent pools with seasoned professionals who possess honed expertise and can mentor younger engineers can help address skills challenges and foster innovation within the industry. Experienced engineers can also contribute to the timely delivery of critical infrastructure projects, bolstering economic growth and sustainability.

In engineering, gaining experience through practice is critical to an engineer's ability to practice competently. An engineer's value is not only in the deep understanding of theoretical principles but also in their ability to draw on practical insights and tacit knowledge gained through years of hands-on work on diverse projects and with different teams. Seasoned professionals bring a nuanced perspective to problem-solving, risk assessment, and innovation that would not be present in inexperienced engineers.

To mitigate the risk of adverse outcomes in engineering projects, it is standard practice that experienced engineering professionals have oversight of projects undertaken by more junior engineers. This is because engineering often involves making decisions with long-term implications under conditions of uncertainty and in the absence of complete information. Attempts to substitute experienced capability with headcount will likely lead to inefficiencies and potentially increase the risk of not meeting project objectives, including timeframes, health and safety outcomes and costs.

Engineers Australia values the opportunity to contribute to the consultation on Queensland's 2025-26 State Nominated Skilled Migration program. Our commitment to addressing the complex challenges facing the engineering profession, particularly regarding workforce shortages and skills development, remains steadfast.