



ENGINEERS
AUSTRALIA

Barriers to employment for migrant engineers

RESEARCH REPORT

OCTOBER 2021

Barriers to Employment for Migrant Engineers; Research Report

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Contents



1.	About Engineers Australia	5
	Contact details	5
2.	Executive summary	6
3.	Introduction	7
4.	The brief	8
	- In a nutshell	8
	Objectives	9
	- The overall goal	9
	Project plan	10
	Survey respondents	10
	- Qualitative respondents	10
5.	The migrant perspective	12
	The struggle	12
	Requirements to crack the market	13
	Barriers to employment	14
	Job market	15
	Getting a foot in the door	16
6.	How to crack the market	20
	Support services	20
	Getting qualifications recognised	22
	Knowing what to study	23
	Overcoming employer bias	23
	The role for industry bodies, including EA	25

7. The employer perspective **28**

The big picture **28**

A migrant talent pool **29**

The specific picture **30**

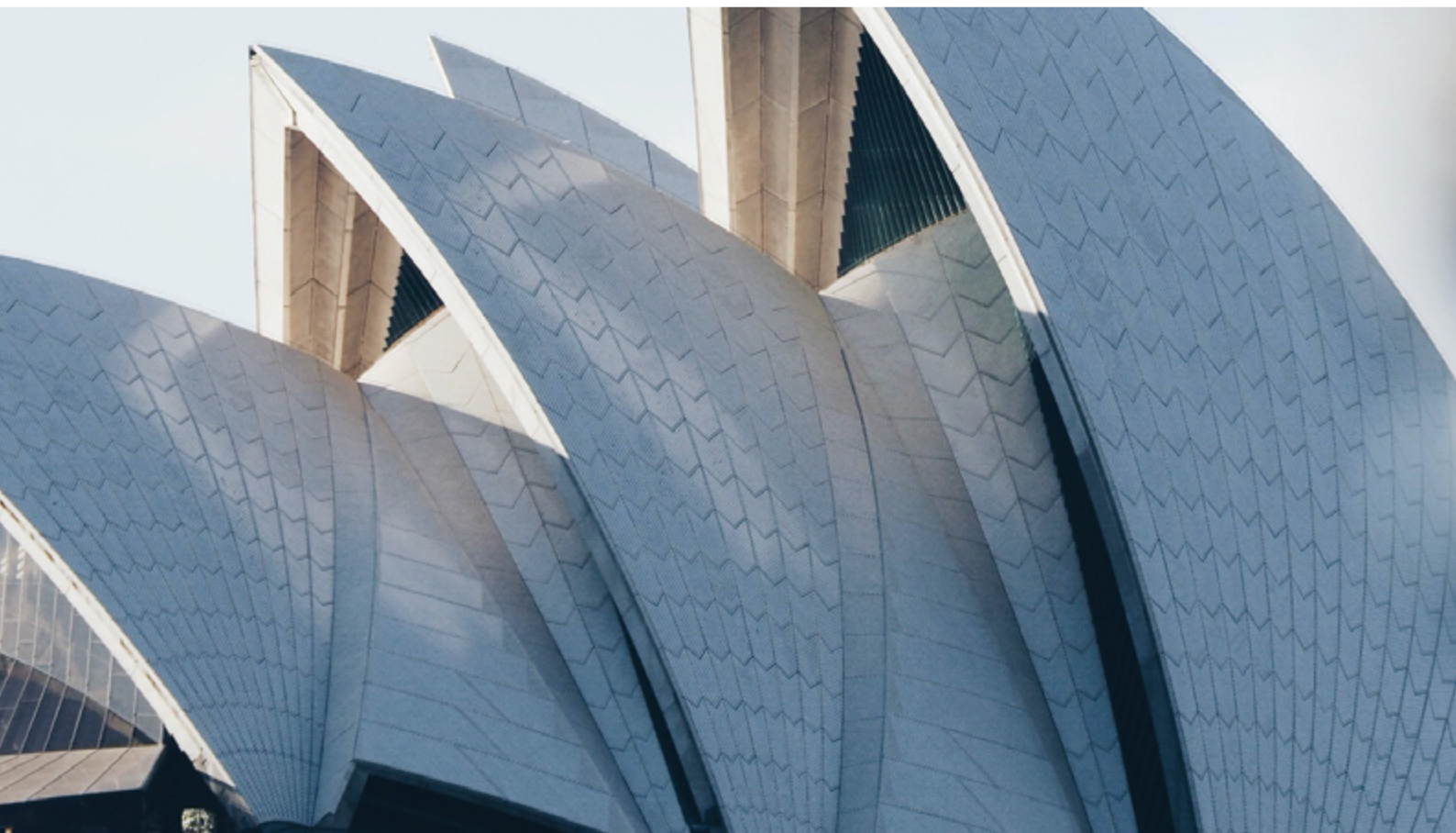
- Lack of local knowledge and experience **30**
- Perceived cultural differences in soft skills **31**
- Visa or working rights issues **34** Lack of 'local' guarantee **31**

Certification queries **32**

'Flight risk' concerns **32**

Hiring for senior-level roles **33**

8. Opportunity **34**



1 About Engineers Australia



With more than 100,000 individual members, Engineers Australia is the profession's peak body. We are the voice of the profession and exist to advance society through great engineering.

Founded in 1919 as the Institution of Engineers Australia, our work has supported the progress of our nation for more than a century.

We support engineers in the pivotal role they play in shaping the future of Australia: creating safe, successful, and sustainable communities.

More than 100,000 engineers choose to be members of Engineers Australia, the profession's peak body, including over 2,000 who are active volunteers.

Engineers Australia is a not-for-profit with the purpose of advancing the science and practice of engineering for the benefit of the community. As the voice of the profession, Engineers Australia publicly advocates for the importance of engineers and engineering in creating a sustainable, safe, and successful future for our nation.

With the support of our members and volunteers, we speak publicly for engineers in circles including government, business, media, education, and the broader community.

Engineers Australia takes an evidence-based approach that harnesses the collective technical and professional skills of engineering leaders in contributing to important decisions and debates.

We work to uphold the highest engineering standards through a wide range of advocacy activities, including speaking in the media, formulating government submissions, engaging with business leaders and parliamentarians, and contributing to technical standards.

Engineers Australia also facilitates knowledge-sharing, recognises excellence through awards, benchmarks engineers against international best practice for our Chartered credential, accredits universities, and works to ensure a robust and diverse pipeline of future engineers.

CONTACT DETAILS

For a discussion about the issues raised in this research report, please contact Justine Romanis, National Manager, Professional Diversity and STEM, at jromanis@engineersaustralia.org.au.

2 Executive Summary

Australia needs more skilled engineers to deliver on an ambitious infrastructure agenda. However, the Australian engineering profession is focussed on skills supply for two current reasons:

- International border closures during 2020-21 due to COVID-19
- The Federal Government's initiation of many new infrastructure projects.

Engineers Australia believes that supply could be addressed accessing the existing pool of overseas-born engineers who currently live within Australia. These engineers make up over 58% of Australia's engineering workforce but are significantly more likely than their Australian-born counterparts to be unemployed.

To find out why and identify how to overcome the barriers to employment these engineers face, Engineers Australia commissioned research into these questions. This research, led by independent, accredited agency Pollinate, involved:

- Quantitatively surveying 817 migrant engineers to obtain a broad overview of the migrant experience of seeking engineering employment in Australia
- Qualitatively interviewing eight migrant engineers, five migration agents, three recruiters and seven employers to obtain an in-depth, detailed view of the barriers to both hiring and being hired.

The research revealed that many overseas-born engineers do indeed struggle to find work in the industry. Many are unemployed or 'underemployed', i.e. in roles at a more junior level than their skills and experience warrant.

The research also identified seven barriers that employers and recruiters perceive to hiring overseas-born engineers. These range from a lack of local knowledge and experience to perceived differences in soft skills, and a lack of local people who can 'vouch' for these engineers. On a more individual level, barriers also encompass visa or sponsorship working rights issues, and concerns regarding international certification validity and perceived 'flight risks'.

Based on the research, Engineers Australia sees six key opportunities to address these barriers:

1. Positioning migrant engineers as a collective talent pool and talking to the size of the opportunity for employers
2. Providing credible, trusted information on employment pathways for migrant engineers
3. Increasing local networks by developing networking and sponsorship programs/ opportunities for migrant engineers
4. Coordinating initiatives to build local knowledge and experience of migrant engineers
5. Assisting humanitarian visa holders with their credentials assessment
6. 'Making it easy' for employers to access the talent pool.

The research revealed that many overseas-born engineers do indeed struggle to find work in the industry.

In taking advantage of these opportunities to address the barriers, Engineers Australia can help to ensure sufficient skilled engineers for the industry's planned projects, both now and into the future.

3 Introduction

As the governing body for the engineering profession, Engineers Australia is concerned regarding the reliable supply of skills for engineering, which has been affected by the 2020-21 international border closures and the initiation of many new infrastructure projects by the Federal Government.

Overseas-born engineers make up over 58% of the engineering workforce in Australia. However, overseas-born engineers have a higher rate of unemployment, take longer to find employment in engineering occupations, and are more likely to be underemployed than Australian-born engineers.

Additionally, overseas-born female engineers have almost three times the unemployment rate of Australian-born female engineers, in a profession already challenged with low female participation.

Engineers Australia has commissioned Pollinate, an independent, accredited research agency to conduct research into the question 'What are the barriers to employment for migrant engineers?'

The research looks at this question from both the employee and employer perspective, as part of our strategy to work with industry, government, and education providers to find practical solutions to these barriers.

The findings outlined in this report show that migrant engineers are keen to work in the profession, and feel they bring a diverse range of benefits to Australian employers. They are challenged, however, with not only securing employment in engineering roles, but also in finding employment that represents their level of experience (underemployed). Humanitarian visa holders tend to struggle more than skilled migrant visa holders.

Overseas-born engineers have a higher rate of unemployment

This research also identifies seven main barriers from the employer and recruiter perspective to overcome, most notably around the concept of 'local' - whether it be local experience, networks, or contacts. There is also the perceived issue of the value of overseas experience and the greater investment in, or risk associated with, migrant engineers.

Engineers Australia has the opportunity, through this research, to address these barriers as the voice of the profession, and to champion the benefits of employing migrant engineers. This paper outlines several ways the peak professional body can provide support based on the outcomes of this research and how we will work with industry, government, and the education sector to co-design solutions.

From 2007, the top 10 countries supplying overseas born engineers to Australia are: India (23,217), China (9,594), Philippines (6,950), England (4,682), Iran 4,570), Malaysia (2,707), Sri Lanka (2,762), South Africa (2,672), Pakistan (2,451) and Bangladesh (1,805). All migrant groups in the top 10 have higher unemployment rates than Australia born engineers, but for those from India, China, Iran, Malaysia, Pakistan and Bangladesh the differences are stark. The only source countries that come within one percentage point of the Australian born rate are England and South Africa.

The participants interviewed as part the research mention India and China in their quoted responses, which perpetuates the thought that along with unemployment rate data, there is more to unconscious/conscious bias depending on the country of origin.

This research is not designed to address societal or personal biases, whether conscious or unconscious. It has been undertaken to identify those barriers that Engineers Australia can practically solve to enhance the employment and therefore diversity, experience, and breadth of the engineering profession in Australia.

4 The brief

There is a large problem looming for the Australian engineering profession.

The 2020-21 border closures have resulted in very few new engineers migrating to Australia. However, several Australian Governments have initiated numerous important infrastructure commitments, which will require a significant number of engineers.

Engineers Australia has identified a potential solution to the shortfall in engineers facing Australia: utilising the significant number of overseas-born engineers already in Australia, who have been unable to find employment in engineering in Australia.

To explore the viability of this solution, Engineers Australia commissioned Pollinate, an independent, accredited market and social research consultancy, to conduct research to answer the question:



What are the barriers to employment for migrant engineers?

In a nutshell. Engineers Australia is seeking to identify the barriers to employment for overseas-born engineers, understand the practical issues and work with stakeholders on solutions to increase employment outcomes for overseas-born engineers in Australia.

OBJECTIVES

The project sought to explore, understand, and validate the perspectives, opinions, and experiences from a wide range of people, including engineers on skilled migrant and humanitarian visas, recruiters, and employers within the engineering profession. These will be used to inform recommendations on how to increase migrant intake within the Australian engineering industry.

This project and report address the following three objectives:

1. The migrant perspective: understand the migrant engineer experience, looking at a sample of migrant engineers including humanitarian visa holders
2. The recruiter perspective: identify the barriers in place among recruiters, and possible triggers and incentives, by conducting anonymous interviews with recruiters
3. The employer perspective: identify the barriers in place to getting migrant engineers hired among companies that employ engineers, and possible triggers and incentives.

“A critical focus of this research was to understand from both employer and (potential) employee perspectives the practical barriers that we can work with industry and government to overcome, delivering increased employment outcomes for migrant engineers in Australia”

Justine Romanis
National Manager,
Professional Diversity and
STEM Engineers Australia



THE OVERALL GOAL

Deliver clear, evidence-based recommendations to create solutions that will engage migrant engineers in the workforce.

PROJECT PLAN

This report outlines the plan for the research over four stages:

Stage 1	Stage 2	Stage 3	Stage 4
In-depth migrant/refugee interviews	Recruiter's view	Employer's view	Triggers, barriers, and solutions
<ul style="list-style-type: none"> • Understand the skilled migrant/humanitarian refugee experience • Identify both similarities and differences in the migrant and refugee employment journey. 	<ul style="list-style-type: none"> • Identify the barriers in place among recruiters, and possible triggers, by conducting anonymous interviews with recruiters within the engineering profession. 	<ul style="list-style-type: none"> • Identify the barriers in place to hiring overseas-born engineers among engineering employers, and the triggers and possible incentives. 	<ul style="list-style-type: none"> • Identify the barriers, triggers, and incentives that will address the issues to gainful employment of overseas-born engineers.



SURVEY RESPONDENTS

The project involved quantitative measurement and qualitative understanding.

QUANTITATIVE RESPONDENTS

A 10-minute online survey was conducted with people who held a formal engineering qualification. The sample of engineers was obtained from the Engineers Australia and Community Corporate member databases.

In total, a sample of 817 migrant engineers completed the online survey.

These were split into:

- 775 skilled visa holders (95%)
- 42 humanitarian visa holders (5%).

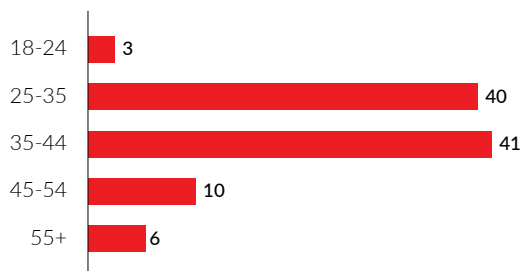
Figure 1 shows the demographics of these respondents. The majority (83%) were male. 81% were aged between 25 and 44 years. Nine in 10 only had an engineering qualification, but one in 10 also had an additional IT qualification. Respondents came from a range of countries, with India, the US, and China being the most common.

Respondent Demographics

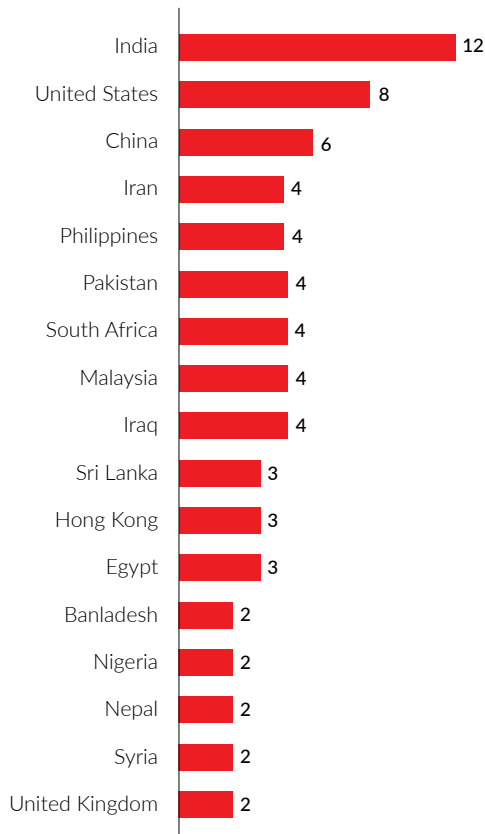
Gender (%)



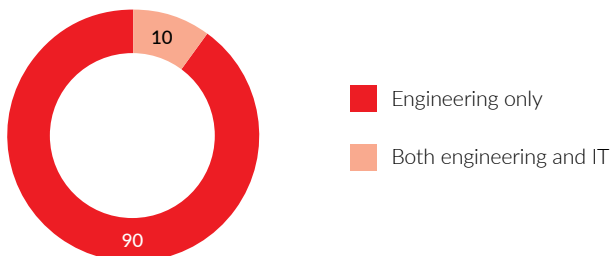
Age (%)



Country of birth (%)



Formal qualification (%)



Migrant type (%)

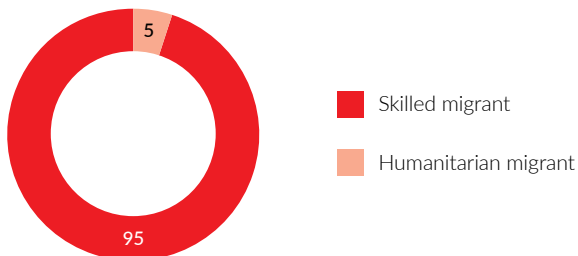


Figure 1: Demographics of survey respondents

Note: Based on these sample sizes, the margin of error (MoE) for the total sample is ±3.4%, for skilled visa holders ±3.5%, and for humanitarian visa holders ±15.1%.

QUALITATIVE RESPONDENTS

In-depth interviews were conducted with a total of 23 migrants and employers.

8 migrant engineers	15 employers and recruiters
<ul style="list-style-type: none"> • n= 2 post-student visa holders • n= 3 skilled visa holders • n= 3 humanitarian visa holders 	<ul style="list-style-type: none"> • n= 5 migration agents • n= 3 recruiters • n= 7 employers
<p>Main focus/reasons for including:</p> <ul style="list-style-type: none"> • Need to 'walk in their shoes' in order to understand the issues migrant engineers face in pursuing employment • Insight into cultural competence and other hard-to-identify barriers. 	<p>Main focus/reasons for including:</p> <ul style="list-style-type: none"> • The view from walking in the employer's shoes • Challenges and risks for employers • Explore issues that sit 'under the radar' as well as structural issues (i.e. legislation).



4 The migrant perspective

One of the main aspects to understand is the migrant perspective of the Australian engineering job market: how (easily) they found a job, the barriers they faced, and the support they received.

THE STRUGGLE

Migrant engineers find it hard to get into the Australian job market, with nearly half of those trying to break into an engineering role struggling to get a job at all (see Figure 2). Those employed in a non-engineering role are instead turning to industries like construction (14%) and professional services (12%).

47%
Of those actively seeking a job as an engineer are currently unemployed

Industry of employment (%)

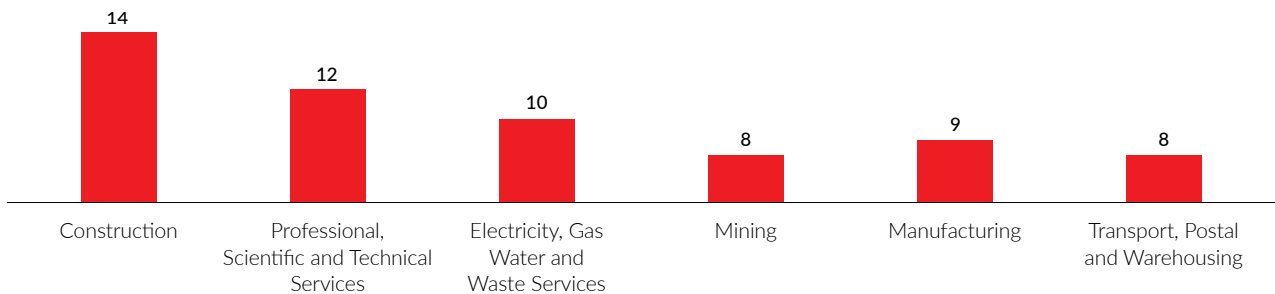
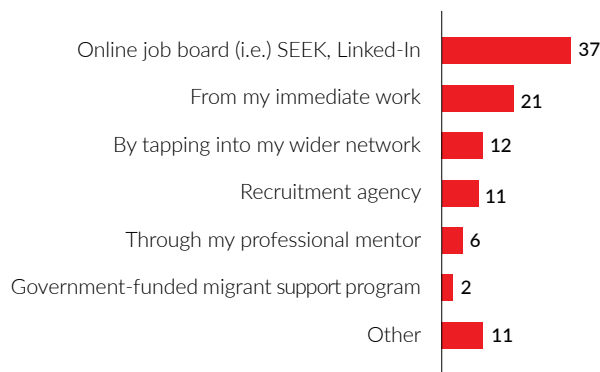


Figure 2: Percentage of survey respondents employed in each industry. A10 - In what industry are you currently employed? Base: Those who are currently employed and actively seeking engineering job in AU n=117

Job Source (%)



Migrant engineers look for job opportunities across a range of sources.

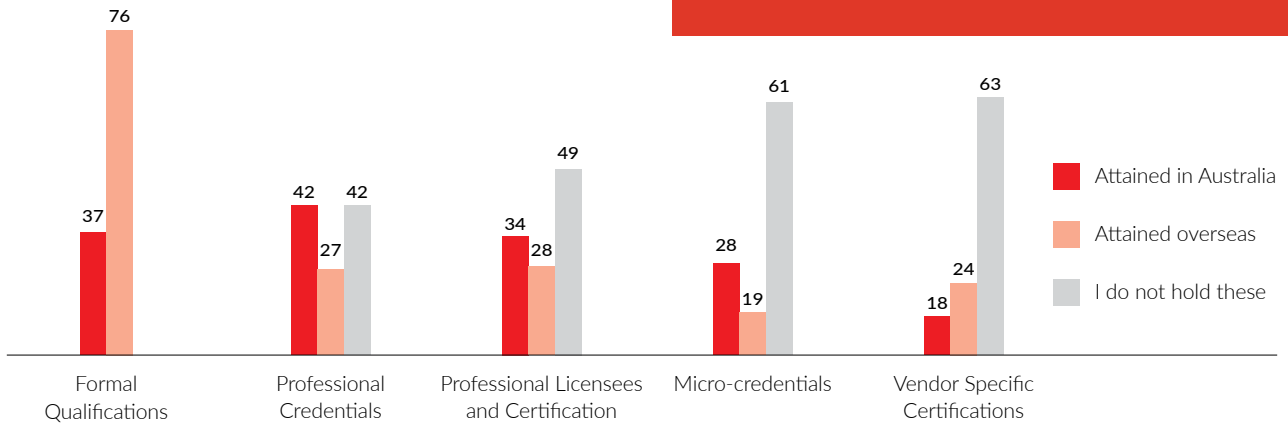
One in three turn to their immediate or wider network (see Figure 3), and a similar number (37%) look at online job boards such as SEEK and LinkedIn. Only one in 10 go to a recruitment agency.

Other responses include internal transfer from overseas office, networking events, contacting companies directly, and being headhunted.

Figure 3: How survey respondents search for job opportunities. C2. How did you learn about this opportunity? Base: Working as an Engineer in Australia n=454

REQUIREMENTS TO CRACK THE MARKET

Qualifications (%)



Indications are that local experience and networks are required to step into engineering in Australia: overseas experience and qualifications are not sufficient.

Figure 4: Percentage of qualification types held by survey respondents, and where each qualification was attained. E1. How did you learn about this opportunity? Base: Working as an Engineer in Australia n=454

Most (76%) migrant engineers have overseas formal qualifications (see Figure 4). Many gain more when they are in Australia. 42% attain professional credentials, one in three acquire professional licences and certifications in Australia, and some also gain micro-credentials and vendor-specific certifications. Generally, the numbers attaining these overseas are lower.

Almost everyone agrees that formal qualifications are recognised (see Figure 5). There is much less agreement that professional credentials and certifications are recognised. Job seekers are more uncertain than those employed that their professional credentials are recognised in Australia.

“When I arrived in Australia, it was hard to find a job. It’s different technology, different standards.

So, after I got recognised as an engineer, I also wanted to improve knowledge of the Australian system, and studied a certificate in building and construction.”

Humanitarian visa holder

Overseas qualifications are recognised in AU (%) - Among those with overseas qualifications

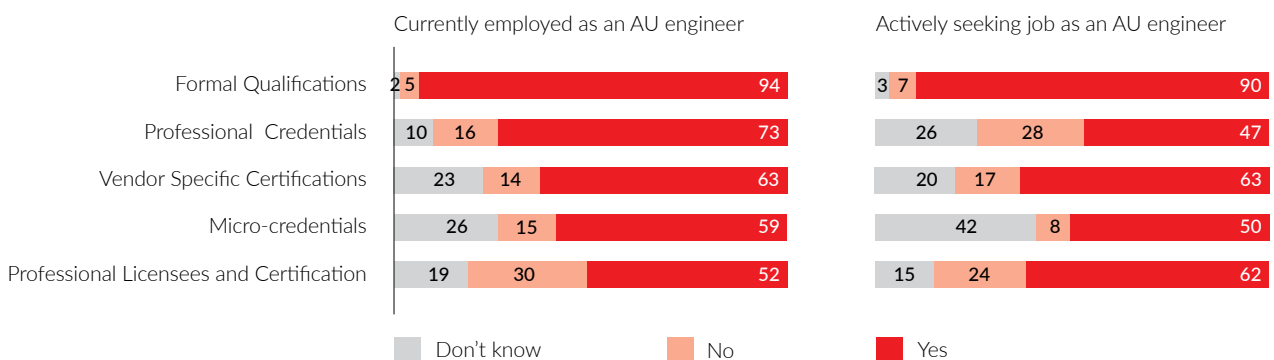


Figure 5: Percentage of survey respondents who feel that various qualification types are recognised in Australia. E1. Do you hold any of the following? Base: Total n=817

Qualifications attained in AU (%)

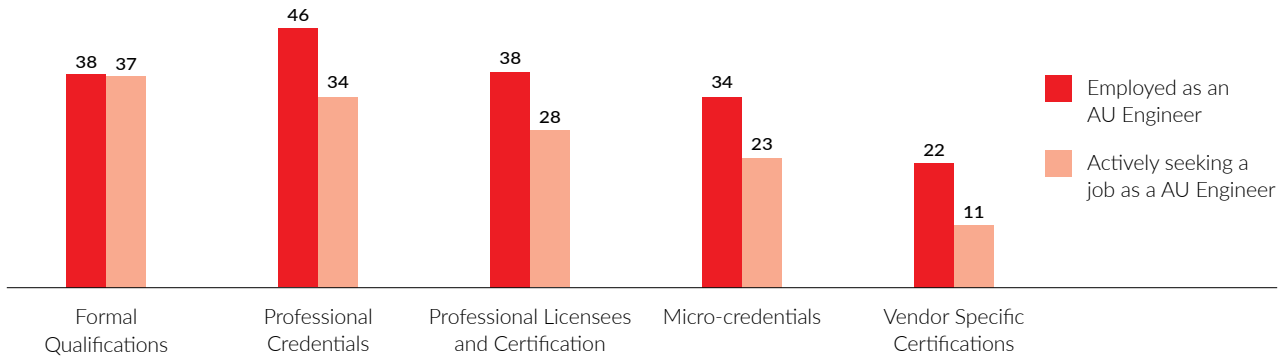


Figure 6: Percentage of employed vs job-seeking respondents who have attained various qualification types while in Australia. E1. Do you hold any of the following? Base: Total n=817

Additionally, those working in Australia are more likely to have attained their professional qualifications, licences, certifications, and credentials within Australia (see Figure 6). Those seeking a job are less likely to have attained any of these in Australia. This indicates that those ‘acting local’ are more likely to be successful in the engineering job hunt.

For some, Engineers Australia’s Competency Demonstration Report is why they chose to come to Australia. They look to their Engineers Australia approval as a demonstration of belonging.

BARRIERS TO EMPLOYMENT

Migrant engineers believe that the biggest barriers to employment in the Australian engineering profession are ‘local’ (see Figure 7). This could be the lack of work experience locally, or the lack of local networks or local references.

They are less likely to think that the barriers are the unavailability of jobs or their English proficiency.

One in four think that jobs are restricted to Australian citizens and residents, and one in five think their visa restricts them from some job opportunities.

“[Local experience] is a subconscious bias at the moment, and I think there’s got to be an active effort for employers to look at CVs on merit.”

Recruiter

“Engineers Australia is the only body to belong to. We came here based on their approval.”

Skilled visa holder

Biggest barriers (%)



Figure 7: Most frequently perceived barriers to employment amongst survey respondents. C3. What do you think have been your biggest barriers to seeking work as an engineer in Australia? Base: Employed or actively seeking a job in AU - n+ 230-377

JOB MARKET

“I got my first job through people I know who are also from Iraq. This is how I got my local experience.”

Humanitarian visa holder

Biggest Barriers (Crossover, column %)

	No Local experience in Australia	I feel that my International experience is not valid in Australia	No local networks or industry connections in Australia to find job opportunities	No local references in Australia to use when applying for jobs
No local experience in Australia	100	71	72	77
I feel that my International experience is not valid in Australia	55	100	56	53
No local networks or industry connections in Australia to find job opportunities	53	52	100	64
No local references in Australia to use when applying for jobs	47	42	53	100

Figure 8: Frequency of intersection of multiple barriers to employment amongst survey respondents. C3. What do you think have been your biggest barriers to seeking work as an engineer in Australia? Base: Employed or actively seeking a job in AU - n= 230-377

Note that these barriers do not exist in isolation: migrant engineers state they are facing multiple barriers (see Figure 8). It is not just a lack of Australian experience. They also feel held back due to their international experience not being valued and/ or because they do not have local connections and referees.

“I was lucky my professor connected me. Otherwise, I wouldn’t have been able to get that placement. That’s how I got local experience.”

Post-student visa holder

The importance of local experience or networks is not just a perception: some recruiters admit that there can be a preference for local experience, and that this is likely to impact on migrant engineers’ job opportunities. It is not always a conscious bias, but there is a feeling that more could be done to encourage recruiters and employers to look at the CVs more broadly, including qualifications and overseas experience.

Local networks seem to be a gateway to local experience and employment. As the quotes on the left indicate, migrant engineers gained their local experience through who they knew. The connection could have been through education or through a shared country of origin.

GETTING A FOOT IN THE DOOR

Of those who are employed as engineers in Australia, two in three feel they are at the right level, based on their experience.

However, one in three migrant engineers feel that, based on their experience, they should be in a more senior role (see Figure 9).

Not being in a senior position is not always a negative. Some see junior positions as an opportunity to develop 'local' skills with lower risk and lower project responsibility.

They can use the role as a chance to familiarise themselves with Australian standards, software, materials, and equipment. They can also use the opportunity to improve their English language skills and familiarise themselves with the Australian working culture.

The risk is low, as they are not expected to be able to sign off on projects, and there is a feeling of 'permission' to make minor mistakes or get small things wrong. It is also a lower risk for the employer, as there is someone more senior available to help and guide the migrant employees.

Less senior positions are felt to be stepping stones for 'cracking the job market' and getting a foot in the door. They provide a chance to build up significant local experience, and an opportunity to show employers their skillset and knowledge.

Employed at the right level (%)

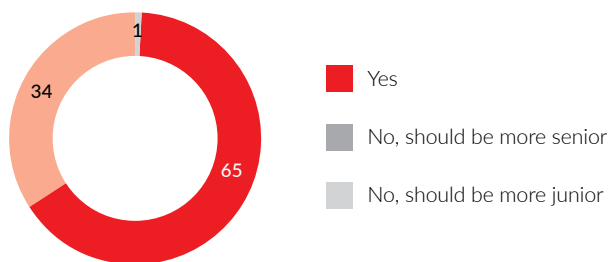


Figure 9: Percentage of survey respondents who believe they are employed at the right level. B2. Do you believe that you are employed at the right level based on your industry experience? Base: Employed as engineers in Australia - Total n=454

“They’re saying, ‘You’re overqualified. We are looking for entry-level. Then I reply, “Okay, I am accepting entry level’ because I just want to show my experience – but no response.”

Humanitarian visa holder



However, starting out in more junior roles is not as relevant for the one in three who believe they're underemployed. They have the same amount of local experience as those who think they are employed at the right level. The difference is in their international experience: those who think they are underemployed have significantly more international engineering experience than those who believe they are employed at the right level (see Figures 10 and 11).

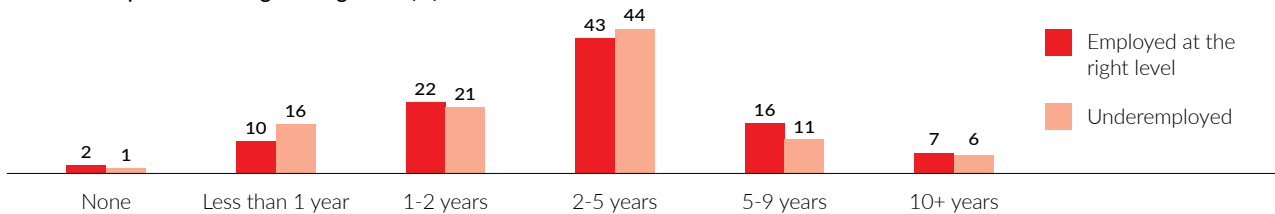
In addition, those who think they are underemployed are much more likely to feel like their international experience is not valued.

This lack of recognition of international experience is coupled with a sense that knowing the little details within the local industry matters more than international experience in Australia.

“They don’t care about your overseas experience. They only believe in Australian experience. It’s understandable because the engineering here is a little different, but the concept is the same. At the end of the day, we are engineers, but it’s some of the details here that make the difference.”

Skilled visa holder

Paid work experience in engineering in AU (%)



Paid work experience in engineering internationally (%)

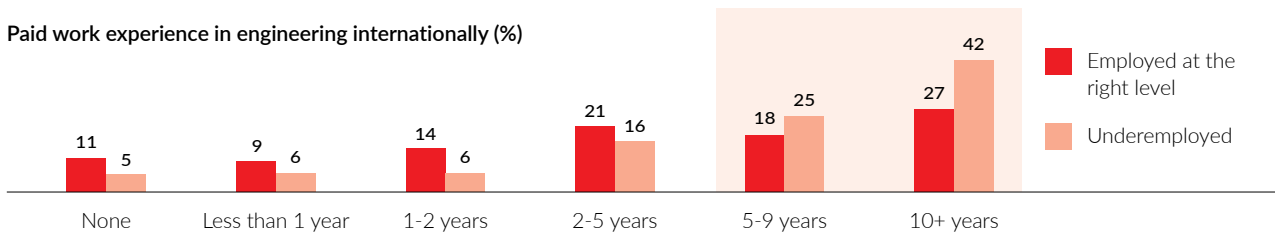


Figure 10 (top): Percentage of survey respondents who believe they are employed at the right level, broken down by length of work experience in Australia. A7a. How many years of paid work experience have you had Engineering? Australia Base: Those who believe they're a employed at the right level n=294

Figure 11 (bottom): Percentage of survey respondents who believe they are employed at the right level, broken down by length of work experience internationally. B2. Do you believe that you are employed at the right level based on your industry experience? Those who believe they're underemployed n=156

35%

Those who believe they're employed at the right level say their **international experience isn't valued**

62%

Those who believe they're underemployed say their **international experience isn't valued**

Humanitarian visa holders, in particular, are struggling to get a foot in the door. They are much less likely to be employed as engineers in Australia, with only 29% currently employed compared to 57% of skilled visa holders (see Figure 12). It is not for the lack of trying, with over half (52%) actively seeking compared to only 26% on a skilled visa.

Humanitarian visa holders who are employed take longer than skilled visa holders to find a job. See Figure 13, which shows how long it takes to get a job among those who have achieved getting a job within the Australian industry: within 3 months, more than a third (37%) of skilled visa holders who have a job found their job, compared to only one in 20 (5%) of humanitarian visa holders.

Even after 12 months, less than half (46%) of humanitarian visa holders who have a job in the Australian market were employed in the Australian engineering industry, compared to three quarters (74%) of the skilled visa holders who have a job in the Australian market. It takes more than 2 years for humanitarian visa holders to catch up with their skilled visa counterparts.

Currently employed as an engineer in Australia (%)

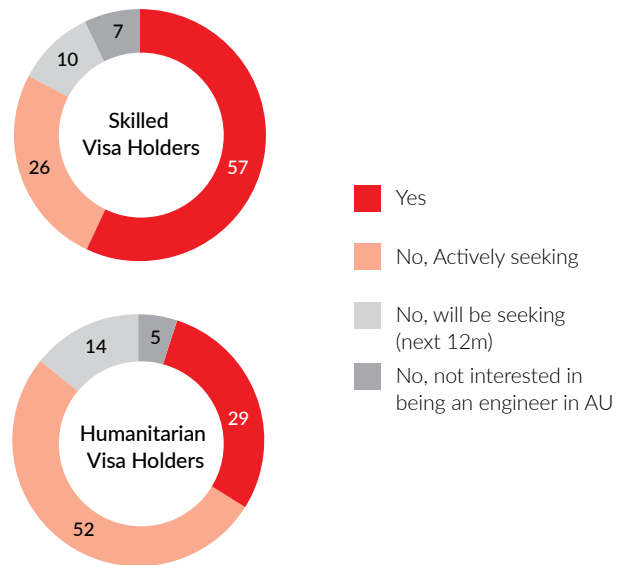


Figure 12: Employment status of survey respondents on different visa types. A9. You mentioned earlier that you hold formal Engineering qualifications. Are you currently employed as an engineer in Australia. Base: Skilled visa holder n=775. Humanitarian visa holder n=42

Time to find a job (Cumulative %)

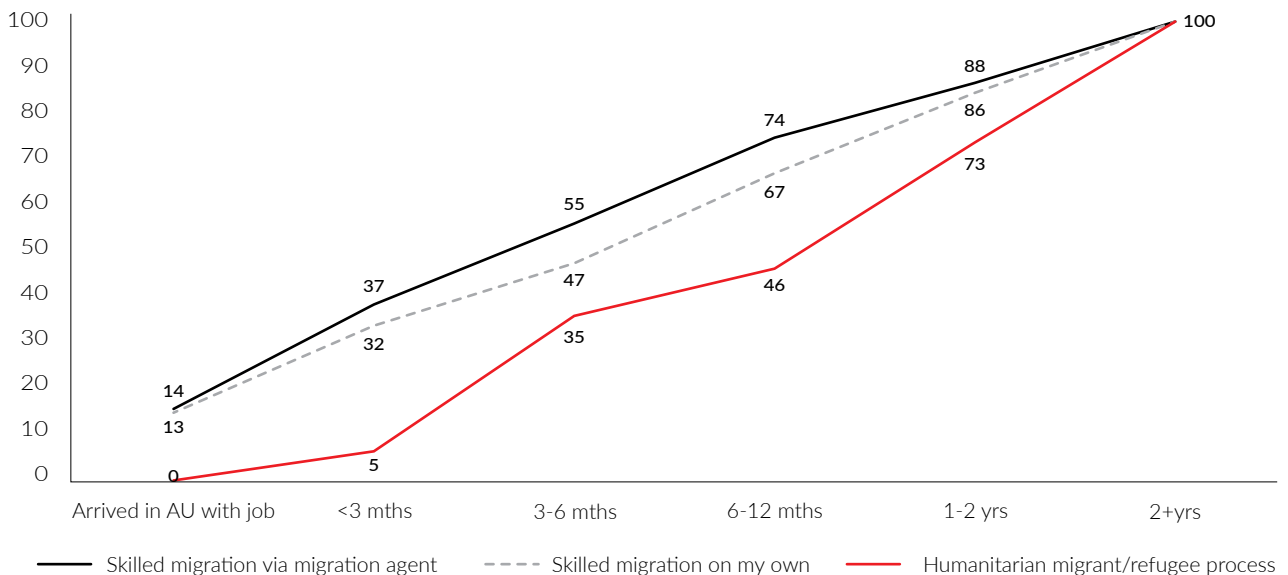


Figure 13: Time taken to find a job, broken down by visa type held. C1. From when you first started your job search, how long did it take for you to find a job as an engineer in Australia? How long has it been since you first started your search for a job as an engineer? Base: Employed or actively seeking a job in AU - Skilled migration via migration agent n=338, Skilled visa holder on my own n=244, Humanitarian visa holder process n=37

This disparity in finding a job in the engineering profession is despite respondents having similar international experience (see Figure 14).

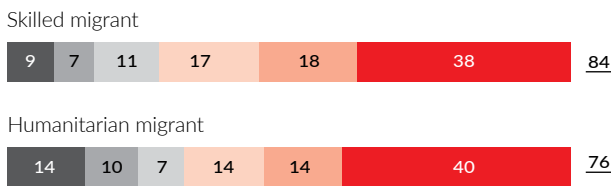
The difference is in their local experience: humanitarian visa holders are not getting the necessary local experience required to crack the market. Nearly six in 10 on a humanitarian visa have not had any paid work experience (see Figure 15).

Humanitarian visa holders feel they face more barriers than skilled migrants (see Figure 16).

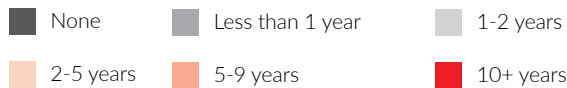
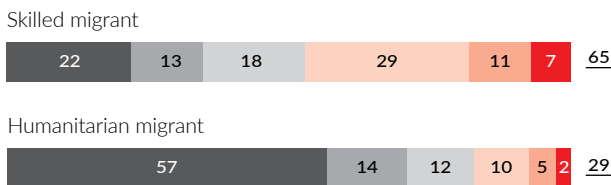
The top barriers for both are the lack of local experience, international experience not being recognised, and not having local networks or referees.

However, humanitarian visa holders are more likely those on skilled visas to see their level of English and their qualifications not being obtained or recognised in Australia as additional barriers.

Paid work experience in engineering internationally (%)



Paid work experience in engineering in AU (%)



00 NET At least 1 year

Figure 14 (Top): Time taken to find a job, broken down by visa type held and length of international work experience. 7B. How many years of paid experience have you had in Engineering? Internationally. Base: Skilled visa holders n=775, Humanitarian visa holders n=42

Figure 15: (Bottom) Time taken to find a job, broken down by visa type held and length of Australian work experience. A7a. How many years of paid experience have you had in Engineering? In Australia. Base: Skilled visa holders n=775, Humanitarian visa holders n=42

Biggest barriers (%)

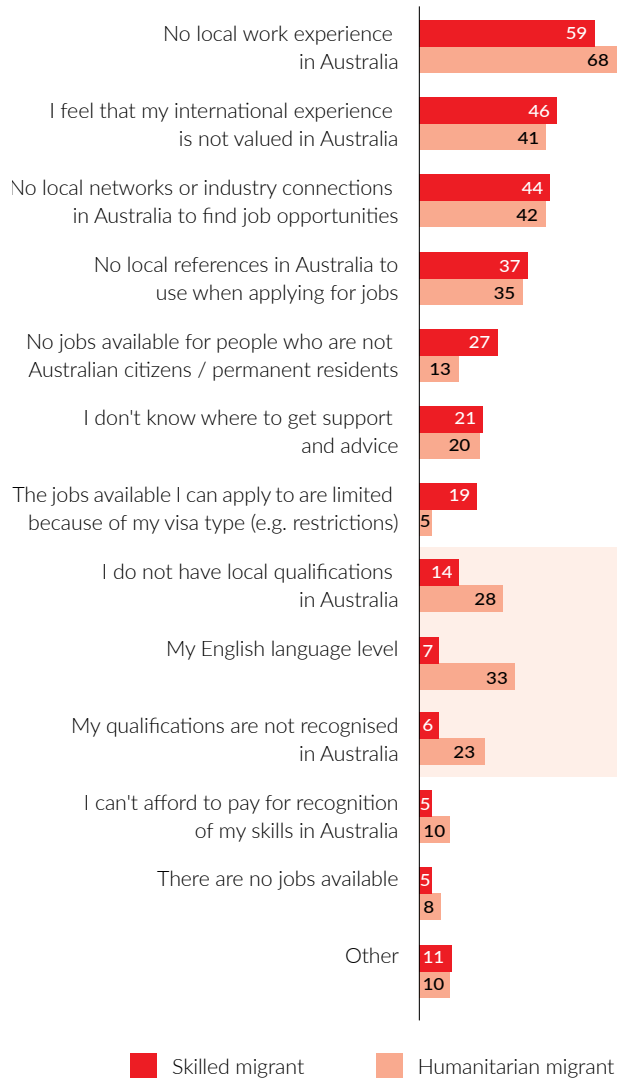


Figure 16: Perceived biggest barriers to employment of migrant engineers on different visa types. C3. What do you think have been your biggest barriers to seeking work as an engineer in Australia? Base: Skilled visa holders n=659, humanitarian visa holders n=34

“The hardest thing is finding good advice. There’s lots of bad advice being given. We need someone to give us good advice from people who know what they’re talking about.”

Humanitarian visa holders

5 How to crack the market

A range of measures have been identified that can help migrant engineers to crack the job market in Australia.

SUPPORT SERVICES

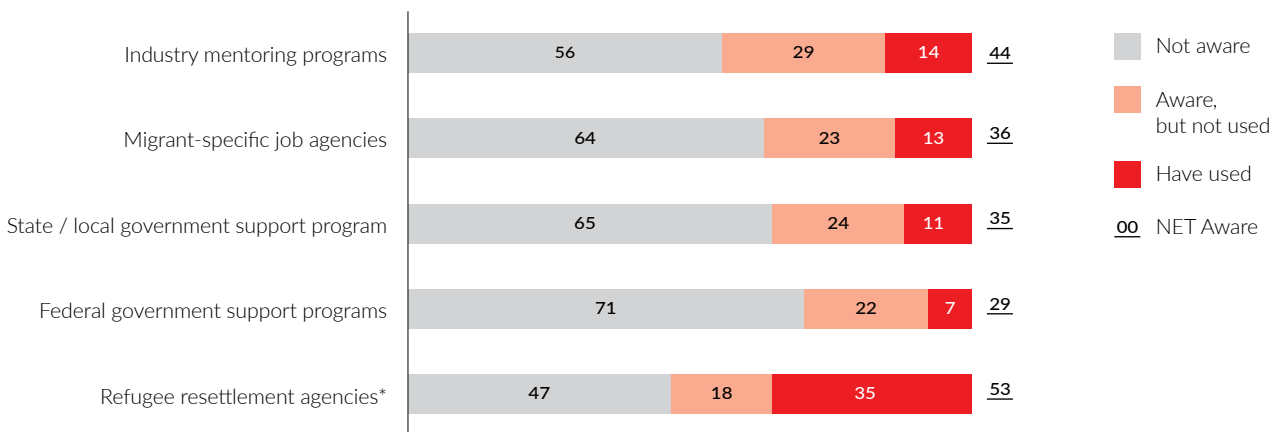
Migrant engineers face many barriers when it comes to navigating the engineering job market in Australia. While support services can help them overcome these barriers, they are currently lacking, with many migrant engineers not being aware of the services available.

Over half of migrant engineers are not aware of current support initiatives (see Figure 17). Lack of awareness is highest for Federal Government support services, with less than one in three (29%) being aware of such services. Awareness of state/local government support programs and migrant-specific job agencies are similarly low, with just over a third of migrant engineers aware of these. Awareness is highest for industry mentoring programs, but even then, more than half of migrant engineers employed or looking for work are not aware of such programs.

“I received a lot of bad advice. I was told to study IT. I did that. I wasted 18 months – a lot of time and money – with the decision, and I still haven’t got a job. I just feel really lost.”

Humanitarian visa holder

Support services - awareness and use (%)



*Among humanitarian migrants only

Figure 17: Awareness of support services available amongst all survey respondents. D1. When it comes to looking for a job as an engineer in Australia, have you ever used any of the following support services? Base: Employed or actively seeking a job in AU - Total n=680, Humanitarian visa holder n=34

GETTING QUALIFICATIONS RECOGNISED

Based on employer preferences for 'local', the sooner international engineers can obtain local credentials, the better.

Undertaking further study requires significant investment of time and money. Migrant engineers need to know if their investment will pay off, and that they are appropriately filling a gap in their knowledge before committing.

Studying is not seen to be something most migrant engineers can embark on as soon as they arrive (see Figure 19). Very few get Australian credentials within the first year. Most wait for three years or more.

“Studying was a choice I had when I first arrived, but I didn’t know what was needed. Now it’s too late. I’ve been here for two years. I can’t wait another three years to restudy again.”

Skilled visa holder

“It’s a big decision. It takes a lot of time and money that is very important to me. I would need to know it will benefit me in the end. It’s not an easy decision to make.”

Humanitarian visa holder

Qualifications attained in Australia by How many years been in Australia (%)

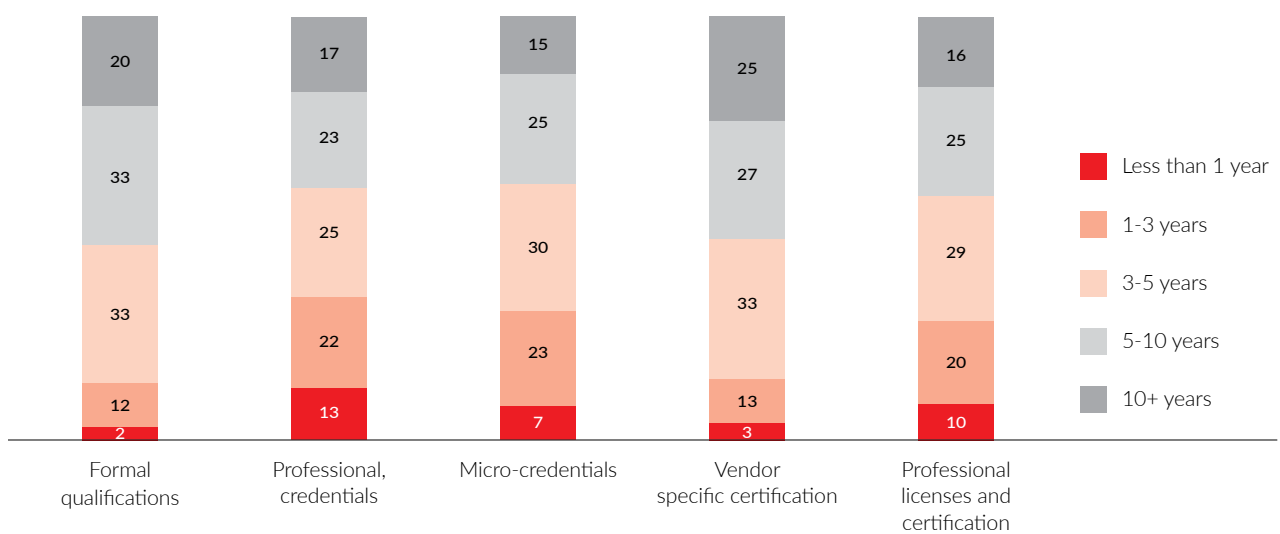


Figure 19: Percentage of respondents who have attained qualifications in Australia, broken down by how long they had been in Australia. E1. Do you hold any of the following? A3. How many years have you been in Australia? Base: n=55-178

KNOWING WHAT TO STUDY

Some skilled migrants come prepared to study, but there is a lack of ‘knowing what they should study’ to fill the gaps in their knowledge.

OVERCOMING EMPLOYER BIAS

Promoting the benefits of a diversity of experience and backgrounds can help to overcome employer bias towards locals.

Migrant engineers view their unique knowledge to be an asset, allowing them to provide a valuable skillset and fresh perspective on the business.

One in three migrant engineers say they bring specific skills and knowledge to employers (see Figure 20). A similar number say their unique perspective is a benefit, while another third also mention their rich and different industry experience

Other benefits that were rated highly were being flexible, hardworking/passionate, and contributing to a diverse culture and workplace.

There is evidence that strength of diversity within companies leads to a more resilient business. This idea has been supported by research across academic papers, global consultancies, and small business mentor organisations.

Unique benefits as an engineer with overseas experience/ qualifications (Coded OE%)



Figure 20: Perceived benefits that survey respondents could offer employers as migrant engineers. C4. Thinking about your own experiences, what unique benefits do you feel you have brought to your employer as an engineer with overseas experience/ qualifications. Base: Employed or actively seeking a job in AU n=637

“If I knew before what areas I needed to upskill in, I could study at TAFE. I had no issue to study again if it opened the market for me. I came prepared for that.”

Skilled visa holder



...diversity of board resources and the number of women on boards affect firms' corporate social responsibility (CSR) ratings, and how, in turn, CSR influences corporate reputation...CSR ratings had a positive impact on reputation and mediated the relationship between the number of women on the board and corporate reputation.¹

Increasing the diversity of leadership teams leads to more and better innovation and improved financial performance. In both developing and developed economies, companies with above-average diversity on their leadership teams report a greater payoff from innovation and higher margins.²

Examples of research supporting this include:

- The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation
- How Diverse Leadership Teams Boost Innovation
- How Diversity Drives Business Success³

Migrant engineers represent an opportunity for local engineering organisations to have a unique selling point. The quotes below are migrant engineers explaining the unique benefits they bring to employers, in terms of specific skills, knowledge, and rich industry experiences. These quotes summarise common themes from the research: migrant engineers feel that they bring an expertise not always present in Australia, and that their much broader overseas experience could benefit Australian engineers.

Unique benefits as an engineer with overseas experience/qualifications

Specific Skills / knowledge	Rich / different industry experience
<ul style="list-style-type: none"> • I was well-recognised as a domain expert (substantiation automation technologies) among stakeholders groups based in European countries via global services division (corporate development)... • As a mechanical engineer in building services, with a specialised degree in HVAC, I brought skills that, in my knowledge, were not taught in such a specialised matter in Australia (no specialised HVAC, only general mechanical). The industry appears to have shortage of engineers as well. From a sustainability perspective, I could also bring with me some knowledge on how to build energy efficient buildings, a subject matter on which France and other European countries have been at the forefront of Process Safety Experience that is very hard to find in Australia • Designing the most robust water treatment and recycling system customised to fulfill the potato washing requirements... 	<ul style="list-style-type: none"> • ...I noted from arriving and working in Australia that Europe is at least 5 years advanced in technology progression. I found Australian engineers in general had less system/ concept knowledge compared to those in Europe... • My experience is in one of the world's largest oil and gas exploration and production companies. The experience I have is broad and can add value to Australian oil and gas companies. I have combined experience from American, British, Austrian, Japanese, Italian, Spanish and Dutch oil and gas companies. • I have worked in far more bigger projects from initial planning and execution and handovers. Most of the Australian standards are what I followed overseas... • Having worked in heavy civil construction overseas I have different experiences and am used to different approaches which can be applied to works in Australia and often provide unique solutions that may have otherwise been missed. Additionally, there are many new engineers in Australia who I am able to help coach with strategies to get jobs completed safely and with high quality.

C4. Thinking about your own experiences, what unique benefits do you feel you have brought to your employer as an engineer with overseas experience/qualifications.

1 Bear, S., Rahman, N. & Post, C. *The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation. J Bus Ethics* 97, 207-221 (2010).
 2 <https://www.bcg.com/en-us/publications/2018/how-diverse-leadership-teams-boost-innovation> (accessed 02 October 2021)
 3 <https://www.score.org/resource/infographic-how-diversity-drives-business-success> (accessed 02 October 2021)

THE ROLE FOR INDUSTRY BODIES, INCLUDING EA

There is strong interest in industry programs that help migrant engineers get local connections and experience (see Figure 21)

Gaining local exposure via networking and mentoring is seen as key to improving the employment journey of migrant engineers, as is recognition of overseas qualifications.

This can be achieved via support services and programs. One in four respondents believe these would also help the employment process.

Conversely, help with resumés, interview preparation, or English courses are less top of mind when it comes to how the employment process can be improved.

When it comes to improving the employment journey for migrant engineers, Engineers Australia has an opportunity to play a role in providing solutions. This is through facilitating connections, being a source of reliable information and advice for navigating the job market, and having programs to introduce migrant engineers to the job market.

“Engineers Australia is the only body I belong to. We came here based on their approval...We can’t find work and are really suffering. Unfortunately, we feel that no one cares.”

Skilled visa holder

“They [EA] can do gatherings or meetings of people – fellow migrant engineers, employers, local engineers. Someone who can introduce us to someone else and someone else, so you can know things from your field. They don’t have to be huge events: they could be arranged just based on suburbs, just so we can get to know each other.”

Humanitarian visa holder

What would improve the process of finding a job as an AU Engineer? (Coded OE%)



Figure 21: Level of interest in possible solutions for improving the employment journey of migrant engineers. E3. Thinking about your own experiences, what do you think would help improve the process of finding a job as an Engineer in Australia? Base: Employed or actively seeking a job in AU n=637

Migrant engineers see local experience and networking opportunities as the top two pathways into the profession in Australia. The quotes below are suggestions of how these could look.

What would improve the process of finding a job as an AU engineer?

Local internships / experience	Networking / mentoring
<ul style="list-style-type: none"> • ... Some support programs / initiatives should be carried out by Engineers Australia to bridge the gap between international and local experience of new immigrant engineers. • Government support program for encouraging engineering firms to employ refugee engineers in at least short-term programs to prove themselves and gain local experience. • More supporting programs for engineers without local work experience, such as volunteering programs to test out and train the candidates with local exposure 	<ul style="list-style-type: none"> • Having a service from EA that link new arrivals to mentors or contacts in the industry who can assess and guide new arrivals on local market requirements. Possibly also a CV review service or tips through webinars or similar. • I think there needs to be more opportunities for industry internships to build a local network and get work experience that will be recognized in Australia... • The engineering body must deliberately coach and mentor newly arrived migrants and companies must be educated on the value of overseas experience.

E3. Thinking about your own experiences, what do you think would help improve the process of finding a job as an Engineer in Australia?

In particular, there is further opportunity for Engineers Australia to offer support programs that help migrant engineers to gain local experience through volunteering, internships, or short-term placements. Networking suggestions include linking new migrants to mentors who provide coaching and guidance. Other ideas include an online CV reviews and webinars that provide help and tips.

Support services are strongly desired, but – as seen earlier in this section – the current options are not well-known and do not consistently deliver.

What would improve the process of finding a job as an AU engineer?

Local internships / experience
<ul style="list-style-type: none"> • There should be an onboarding program for overseas-trained engineers. The program should include English language improvement, technical support and lots of other initiatives that can assist the individuals in a smooth onboarding process. • Work adaptation programs in order to adapt to local Australian standards • Support structures to help integrate overseas engineers within the local engineering community and the ability for overseas engineers to showcase their experience by means of a forum or technical knowledge sharing session.

In addition to aiding migrant engineers to find local experience and connections, some respondents suggest support services that include on-boarding programs covering:

- English language improvement
- Technical support
- Knowledge sharing
- Integration with the local engineering community
- Adaptation to Australian standards

E3. Thinking about your own experiences, what do you think would help improve the process of finding a job as an Engineer in Australia?

Finally, the recognition of existing overseas qualifications and experience would also be a positive step, and is an area where migrant engineers see Engineers Australia operating.

What would improve the process of finding a job as an AU engineer?

Recognition of overseas qualifications	Recognition of overseas experience
<ul style="list-style-type: none"> • I have a Professional Engineering (PE) License from a State in the USA. This is not recognised for any value in Australia and does not provide me with a pathway to get CPEng or RPEQ (even though it is virtually the same set of experience requirements to get a PE License in the USA) • I am a Chartered Engineering Technologist and have been asked exactly what our role is. It seems that employers are not well familiar with technologists and where we fit in. It is clear on the EA website, but not in the industry. Not sure how this can be improved. • Engineers Australia needs to establish a professional certification exam similar to PE and PEng exams available in the USA and Canada... • Easing recognition of overseas degrees 	<ul style="list-style-type: none"> • Adaptation courses which would be provided by EA and mandatorily recognized by employers. Currently local engineer with 3 years of experience has an advantage against an immigrant engineer with 15 years of experience and the real amount of Australia specific knowledge is the matter of 1 week MAX to learn. • ...I worked for major clients abroad including Dubai Airports but it was not taken into consideration • Overseas engineers undergo a rigorous professional documentation for assessment of their qualification and work experience with Engineers Australia. They receive their professional qualification based on ANZ codes. Employers must consider this fact that these are skilled migrants and have been granted skilled visa... • Assessment should focus on what an individual knows not focusing only on local experience inside Australia

E3. Thinking about your own experiences, what do you think would help improve the process of finding a job as an Engineer in Australia?



6 The employer perspective

The research included a qualitative exploration into the barriers to employers hiring migrant engineers. These findings will be shared in this section.

THE BIG PICTURE

According to recruiters interviewed for this research, many Australian companies have not only unconscious, but also active conscious biases towards hiring migrant engineers.

However, employers and recruiters perceive a worsening skills shortage, which has resulted in hard-to-fill positions for upcoming projects and somewhat inflated wage requests relative to what employers would normally pay. Despite this, it appears that employers continue to prefer to fight over a diminished pool of 'local' talent.

Larger firms have the resources to push through a skills shortage themselves. They can afford to hire for projects anticipated to occur up to a year into the future. They can also repurpose employees from other projects or sites. Additionally, larger companies have access to a pool of top graduates each year. One employer gave the example of taking on 120 graduates a year – from over 3,000 applicants.

Hiring migrant engineers could be a solution to the profession's skills requirements. However, there are two overarching barriers within the employer space:

1. Employers aren't invested in fixing the profession's skills supply issue. They don't take a long-term, whole-of-profession, strategic perspective.
2. Employers don't know enough about the pool of migrant engineers to consider them a solution. It is not seen as a collective talent pool that they can access easily.

“There's still a subconscious bias towards local experience.”

Recruiter

“I had an interview that was going well. They liked my experience. When asked where I worked on these projects, they stopped the interview and said, 'Sorry, we're looking for people with local experience only.'”

Skilled visa holder

“I'll get clients that tell me, 'no Indians'. They put it on the recruiter, as they can't write it themselves.”

Recruiter

“We tell people to anglicise their name on their CV, then they'll get seen.”

Recruiter

“It's about whether they're the right person for the job with the specific skills I need, not where they're from.”

Employer

A MIGRANT TALENT POOL

From a company perspective, there is support for a collective talent pool of migrant engineers. Some employers say it is a 'no-brainer', and others imagine that a commercial case could easily be made for a talent pool.

However, the challenge exists that employers aren't motivated to create this pool themselves or to create a business case advocating for it.

There is a clear need for a 'custodian of the profession' to position and prepare migrant engineers as a solution to Australia's skills shortage. This presents an opportunity for Engineers Australia to develop a strategic, profession-wide oversight of the skills shortage issue and position migrant engineers as a potential solution by making it easy for employers to access a talent pool of qualified migrant engineers.



“I think we have to start exploring options and a solution, because if you said there was 1,000 headcount sitting on the sidelines because they don't have full rights, that's pretty tantalising.”

Employer

“There's still a commercial model to be made, and I'd happily explore that with any entity.”

Employer

“We've got to bite the bullet, to train these people, get them up and give them the local experience and then work towards and sponsor them to get the accreditation... It starts here. It's got to start somewhere, doesn't it?”

Employer

SUMMARY

Migrant engineers aren't hired as a solution to skills requirements, as employers aren't invested in taking a profession-wide perspective in addressing skills supply challenges.

IMPLICATION

There is a clear role and opportunity for Engineers Australia to take the strategic lead.

THE SPECIFIC PICTURE

Migrant engineers are currently seen by employers as requiring more investment and more risk when compared to local engineers. There is an existing perception that employers need to invest more time and money to get migrant engineers familiarised with the Australian engineering landscape. There is also a greater perceived risk with migrant engineers, with perceived flight risk ranked highly.

There are seven specific barriers to hiring migrant engineers that must be addressed:

1. A lack of local knowledge and experience
2. Perceived cultural differences in soft skills
3. Visa or sponsorship working rights issues
4. A lack of people who can 'vouch' for them locally
5. Certification queries
6. 'Flight risk' concerns
7. Tendency to hire 'networks' at senior-level roles.

"All employers want someone who's worked for the competition, and unfortunately, that's not these guys."

Employer

LACK OF LOCAL KNOWLEDGE AND EXPERIENCE

Perhaps the most cited reason among companies for not hiring migrant engineers is a lack of local knowledge. Specifically, this refers to knowledge around local standards and exposure to the company's software and equipment, as well as local connections for varying processes. There is an underlying sense that the standards where these engineers are from aren't up to scratch, which presents a risk for the Australian company.

Many employers also prefer experience in 'Tier 1' companies, which migrant engineers rarely have. It is often easier for engineers with Tier 1 experience to get jobs, as they are more likely to have used internationally recognised software or the software used by the hiring company.

There is also a preference to 'import' engineers who have worked on similar projects overseas.

"So when they've finished the Californian highspeed rail, they move on to the next job."

Employer

"If someone has experience doing a specific kind of project overseas, you can fill in the gaps when it comes to Australian standards..."

Employer



PERCEIVED CULTURAL DIFFERENCES IN SOFT SKILLS

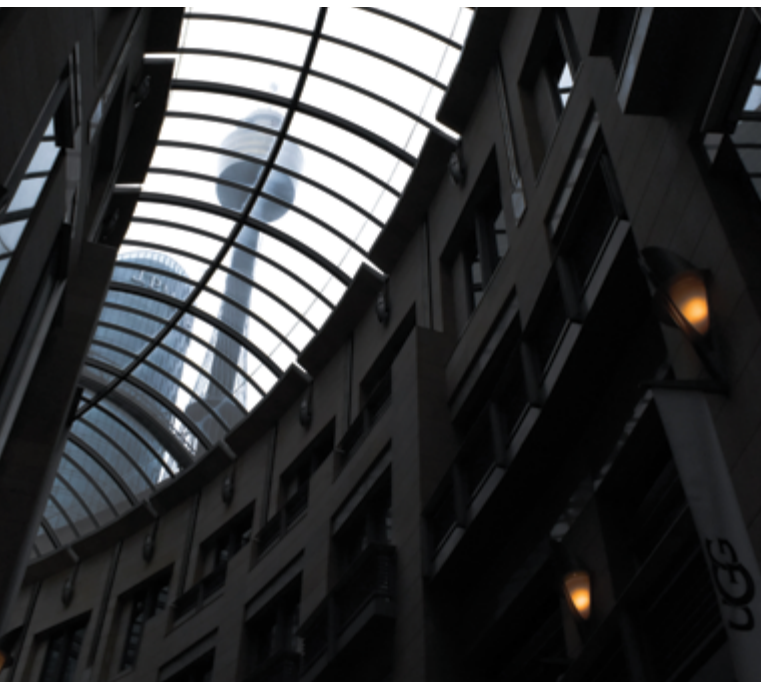
There is a sense that cultural soft skills and language are (or can be) lost in translation, which requires an investment in time to overcome. It is seen to present an additional risk when it comes to managing relationships within the team as well as clients and suppliers.

Recruiters and employers interviewed for this project mainly spoke to concerns about language. By nature of trade, engineering relies on accuracy and precision, with serious consequences when miscommunications occur, from project delays to health and safety risks. In more senior roles, especially, there is not much room for mistakes or misinterpretation.

Engineering in Australia is also seen to have a marked focus on teamwork, with companies preferring to employ individuals they feel confident will get along with the team, clients, and other stakeholders.

“Strong written and spoken English skills are important. Engineering relies on precision and accuracy, otherwise it can pose a health and safety risk.”

Employer



VISA OR WORKING RIGHTS ISSUES

Navigating the world of visas and sponsorship is felt to be time-consuming and expensive. It is seen as complex, inconsistent, and ever-changing, given the complexity – perceived or otherwise – of the Australian immigration system.

Due to the time and effort required to understand and navigate the system, many companies instead prefer to avoid the system entirely.

The engineering profession is fairly small, and employers often choose to rely on feedback from their own networks rather than the candidate's referees when hiring new employees. This presents a barrier, as migrant engineers don't have local track records or locals to 'vouch' for them.

“It's not easy to engage someone without working rights. There's lots of regulations around what they can and can't do when it comes to visas, and the regulations are constantly changing. It's a headache and hard to keep up.”

Recruiter

“I eventually got connected with [organisation] where I was introduced to someone. This is how I got my first contract job, which got extended three times. Now I've been employed on a permanent basis.”

Humanitarian visa holder

“The industry is small. People move around, and any potential employer is going to know someone who worked at that company to do their background checks and due diligence.”

Employer



CERTIFICATION QUERIES

There is existing uncertainty around whether overseas certifications are relevant to engineering in Australia when those certifications are acquired from countries with seemingly disparate systems.

Some employers have also expressed reservations about the legitimacy of non-Australian qualifications.

“Certification in India is often taken with a pinch of salt.”

Recruiter

‘FLIGHT RISK’ CONCERNS

Employers spoke of their uncertainty around migrant engineers’ commitment to staying in Australia, particularly considering uncertain international travel restrictions under COVID-19.

Some also reported instances of employees taking leave for long periods overseas to tend to family. Because of this, employers can be even more reluctant to employ migrant engineers.

“Certainty in living arrangements is a concern. It’s difficult to know how long visas will last, what visa they’re on, and if sponsorship is required. Then, how committed are they to the role? To the company? And even Australia?”

Employer

“Unfortunately, there are some stories of extended vacations for family reasons, so they’re gone for six months, which can be quite pressing for some industries and can tarnish their reputation.”

Recruiter

HIRING FOR SENIOR-LEVEL ROLES

When looking to fill senior positions, companies are, in effect, recruiting networks. In addition to skills and experience, the network a senior-level individual has can bring immense value to the company.

Networks are useful in helping the company to find and recruit other engineers and can also help to establish and strengthen supplier relationships. As migrant engineer candidates often lack these networks, some employers prefer to hire local when it comes to filling senior-level roles.

“For more senior roles, it doesn’t really work because you’re also hoping they have contacts, networks and a team behind them as well.”

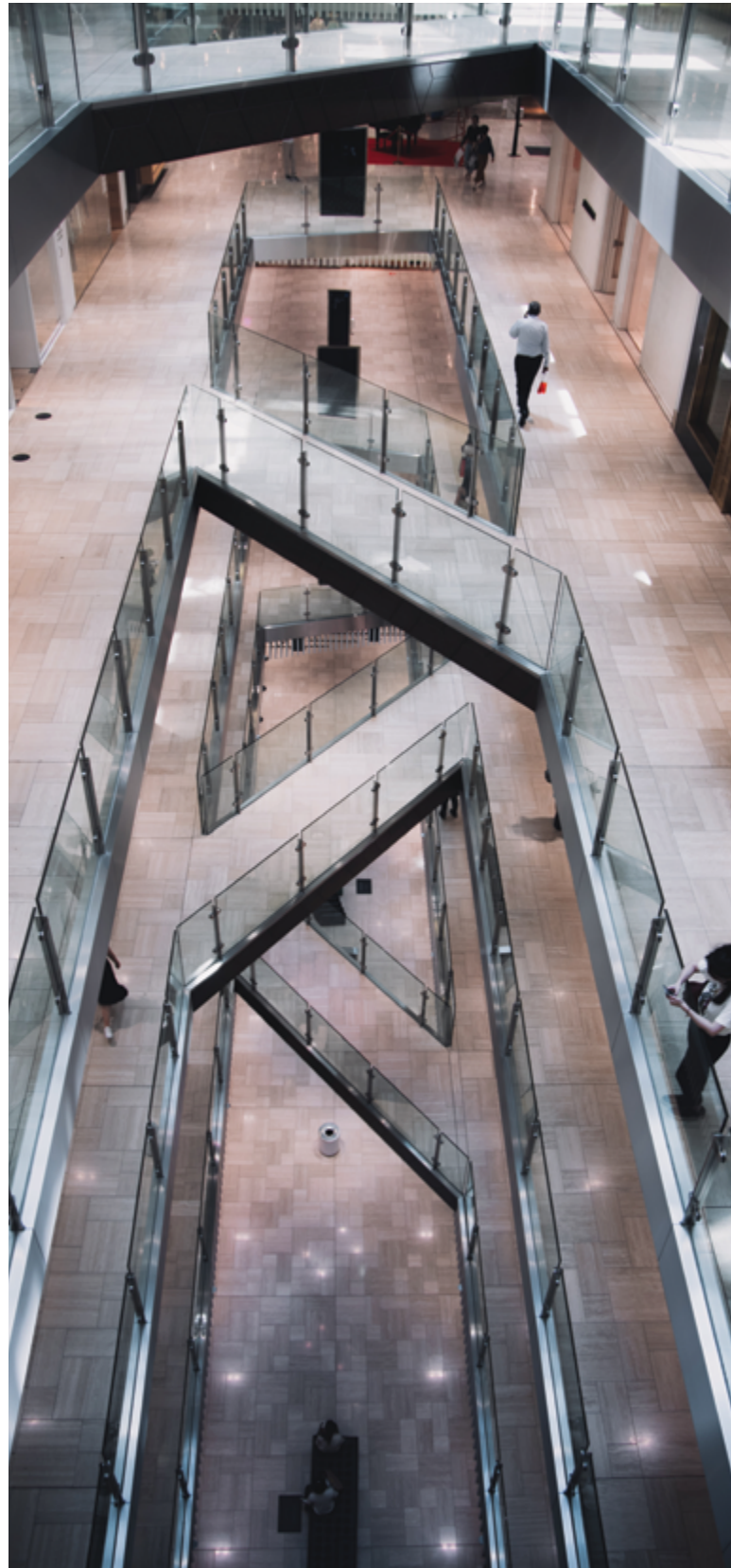
Recruiter

“They don’t come with a team. They don’t come with a network, suppliers, local practices and contacts in government. They are some of the main challenges.”

Recruiter

“The industry is very networked. It’s about who you know and that adds a lot of value to employers and companies.”

Employer



7 Opportunity



POSITION MIGRANT ENGINEERS AS A TALENT POOL FOR ENGINEERING REQUIREMENTS IN AUSTRALIA

Migrant engineers are an untapped resource that can help Australia to address skills supply requirements in the engineering profession. While migrant engineers can bring their unique skills and experience into the role, many employers remain wary when it comes to employing migrant engineers, as they are seen to need more investment and bring more risk.

Employers also have a focus on finding the best candidate for the company or project and prefer to follow established hiring and onboarding processes that currently favour local candidates.

While some employers have expressed interest in hiring qualified migrant engineers, there is uncertainty around how to access this talent pool.

There is an opportunity for Engineers Australia to take leadership and position migrant engineers as a solution to the skills supply needs by addressing the following:

1. Position migrant engineers as a collective talent pool and talk to the size of the opportunity for employers
2. Provide credible, trusted information on employment pathways for migrant engineers
3. Increase local networks by developing networking and sponsorship programs/opportunities for migrant engineers
4. Coordinate initiatives to build local knowledge and experience of migrant engineers
5. Assist humanitarian visa holders with credentials assessment
6. 'Make it easy' for employers to access the talent pool.

In taking advantage of these opportunities to address the barriers, Engineers Australia can help to ensure we maximise the supply of sufficient skilled engineers for the industry's planned projects, both now and into the future.



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