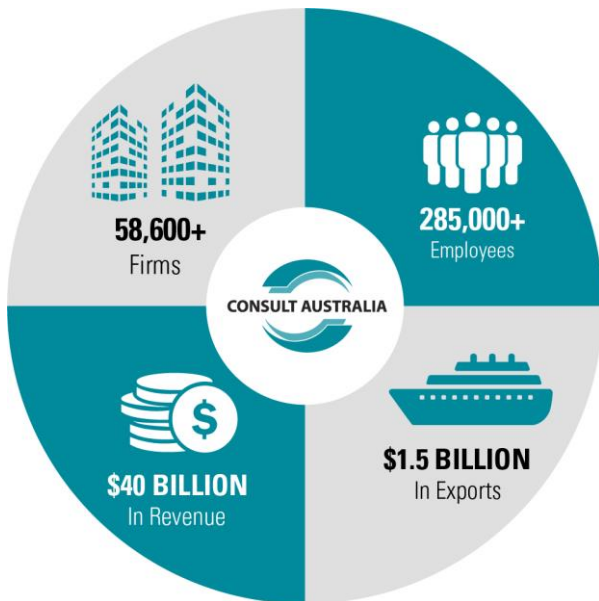




AUGUST 2022

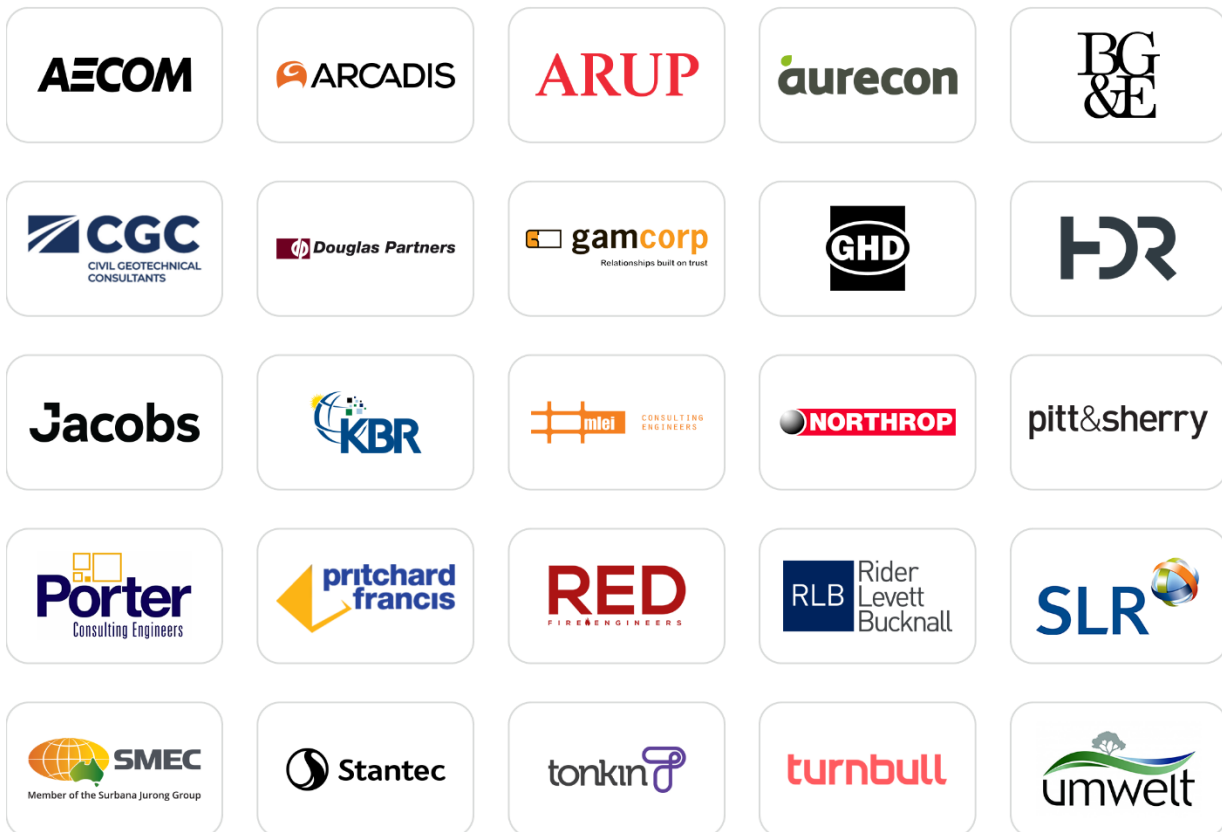
# THINKING SMARTER ABOUT SKILLS

# About Us



Consult Australia is the industry association representing consulting businesses in design, advisory and engineering, an industry comprised of over 58,600 businesses across Australia. This includes some of Australia’s top 500 companies and many small businesses (97%). Our members provide solutions for individual consumers through to major companies in the private sector and across all tiers of government. Our industry directly employs over 285,000 people in architectural, engineering and technical services and many more in advisory and business support. It is also a job creator for the Australian economy, the services we provide unlock many more jobs across the construction industry and the broader community.

## Our members include:



A full membership list is available at:  
<https://www.consultaustralia.com.au/home/about-us/members>

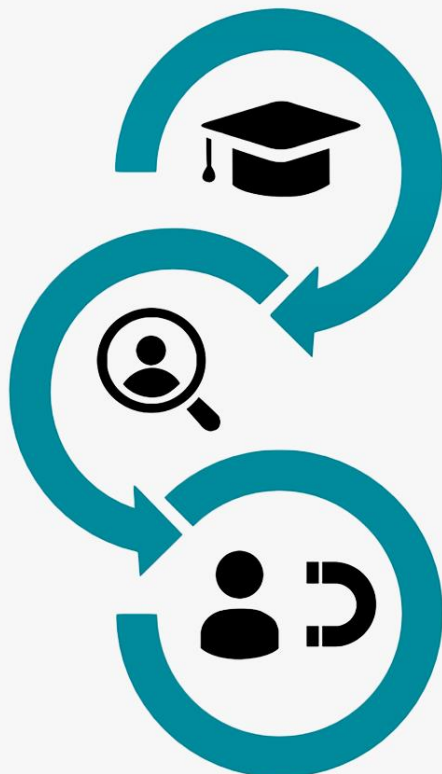
# Introduction

Our industry has been suffering from systemic skills shortages which have been prevalent since before the global pandemic and have only intensified as a result. We have frequently surveyed our members on skills shortages since 2013 and the results consistently show shortages across civil engineering and structural engineering, as well as other skills. While skills shortages are impacting all sectors that our members operate in, they are exacerbated by the record high government investment in infrastructure. However, many private sector projects in mining, building and construction are also in need of people.

The skills shortages in design, advisory, and engineering services are impacted by a multitude of factors; lack of graduates, global market barriers, business barriers, retention and attrition challenges, a lack of diversity, and cultural issues, all of which have an impact on the mental health and wellbeing of our people. There is a significant risk to our economic recovery, and we need to act now to create a healthy and sustainable industry for the future.

This **Thinking Smarter About Skills** paper sets out three key challenges that are impacting education, recruitment, and retention, as well as our proposed solutions. We need a range of initiatives to tackle the ongoing skills shortages in engineering, science, technology, and other related professions. The aim is to maintain world class design, advisory, and engineering services for Australia and boost productivity by job growth, high employment participation, and increased efficiency.

The challenge is multifaceted and there are different issues to consider as you look at the career timeline from education, to recruitment, and then retention. There are three key challenges explored in this paper.



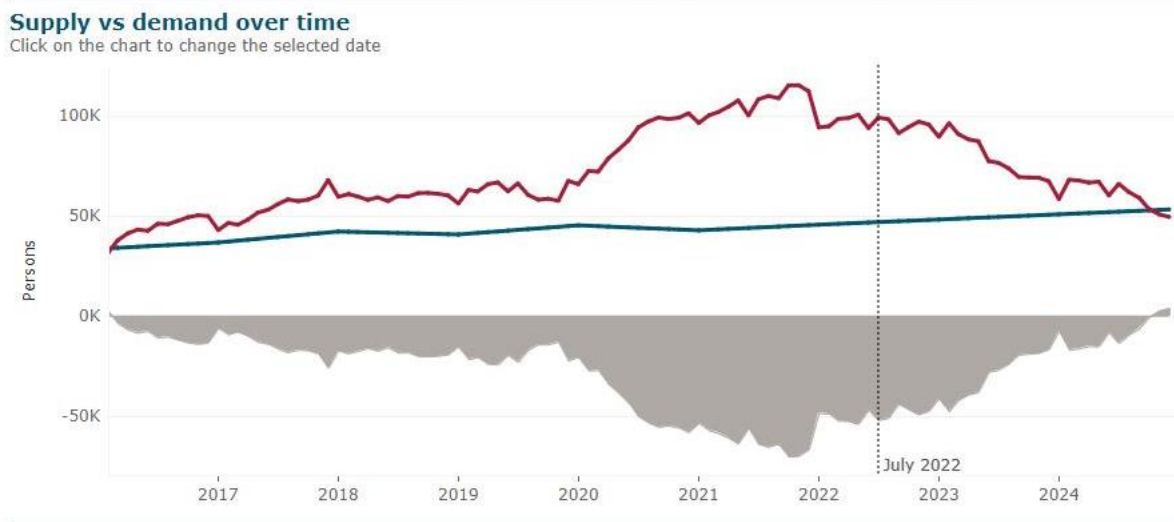
At almost all levels there is **low participation in STEM education** with concerning drop-out rates at the tertiary level. This roadblock causes a constrained market at the next level.

At recruitment, in addition to the education roadblock, businesses face the fact that **access to local and global talent is constrained**.

Retaining staff is a significant challenge with **attrition rates rising** through people not only moving jobs but leaving the industry.

# Demand, challenges and solutions

Infrastructure Australia helpfully set out the demand for certain infrastructure jobs in its [2021 Infrastructure Market Capacity Report](#), including an interactive dashboard on public infrastructure workforce supply. The [Infrastructure Australia - Public Infrastructure Workforce Supply Dashboard](#) estimates there is a current net deficit of 52,100 engineers, scientists and architects needed to meet the demand from public infrastructure projects (see below).<sup>1</sup>



This group includes architects, building surveyors, civil engineers, draftspersons, electrical engineers, electronic engineers, engineering managers, environmental professionals, geologists, geophysicists, and hydrogeologists, geotech engineers, IT professionals/engineers, land surveyors, landscape architects, maintenance planners, materials engineers, mechanical engineers, production engineers, quantity surveyors, structural engineers, telecommunications engineers, and others.

While it appears that the demand is decreasing, and the supply is slightly increasing, there are two things worth mentioning here.

Firstly, Infrastructure Australia have recognised that *'the visibility of forward infrastructure spending is limited by available data.'*<sup>2</sup> Consult Australia recognises that changing dynamics can impact the current and future pipeline, therefore the predictions made in 2021 for the July 2022 capacity may not be accurate.

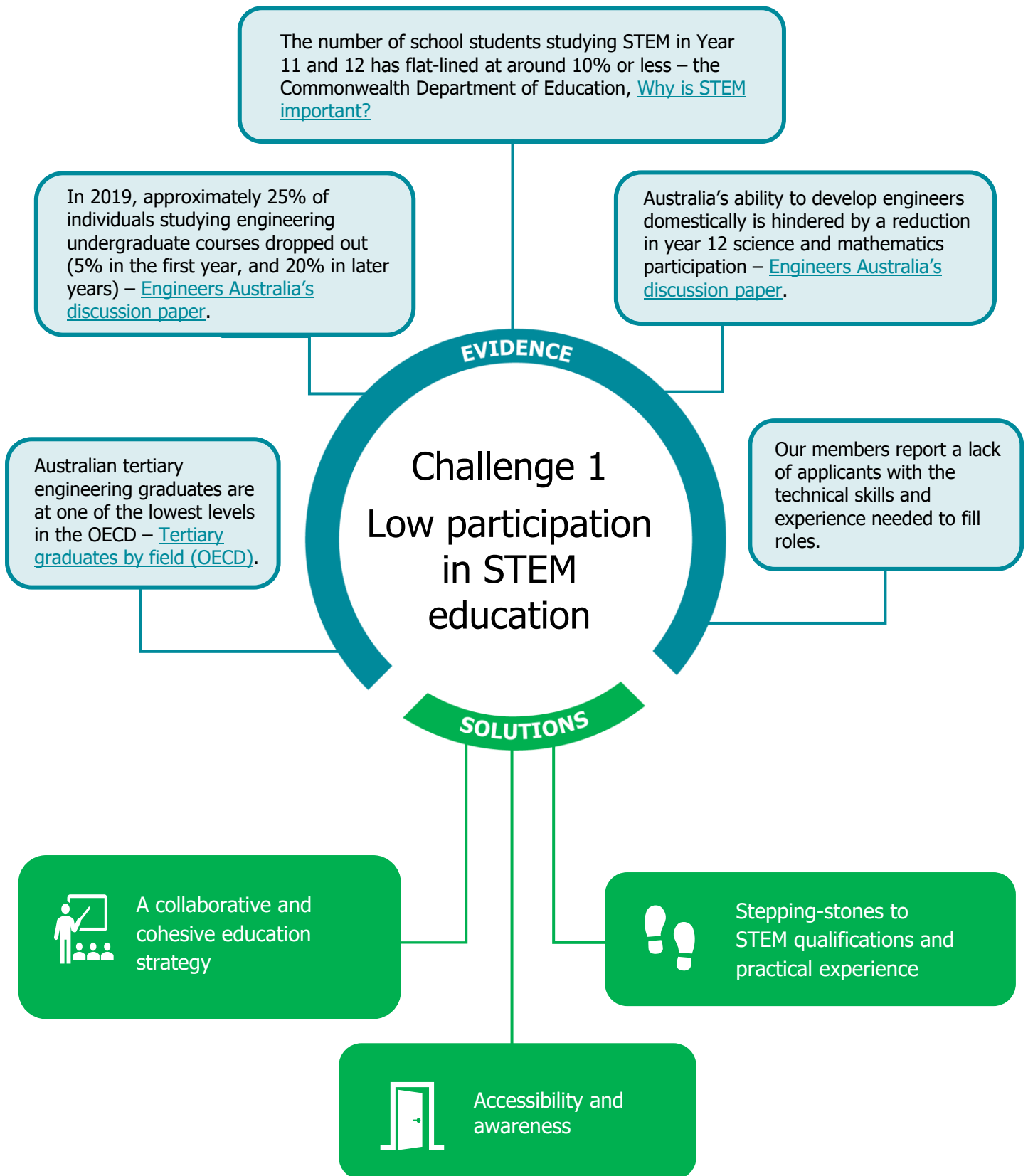
Secondly, Infrastructure Australia's estimations do not currently include private project demand such as in mining other projects outside of infrastructure. Given this, we anticipate that the gravity of the skills shortages is more severe than recorded, and we note that based on member feedback, the strain on people resources has not improved since the publication of Infrastructure Australia's report.

## Why does this matter?

Without design, there is no construction. Consultants provide critical advisory, design, and engineering services to governments, major private sector clients, through to domestic house builds and renovations. The skills shortages experienced by consulting businesses therefore have far reaching implications for Australia's economy, environment, and standard of living. It is vital to implement policies across government and industry to address these skills shortages. This paper will explore how we can work together in an ecosystemic way to **Think Smarter About Skills**.

<sup>1</sup> As at July 2022.

<sup>2</sup> Infrastructure Australia, [Public Infrastructure Workforce Supply Dashboard](#).





## Accessibility and Awareness

We need to open doors to allow greater participation in STEM education, by increasing accessibility and awareness of STEM career pathways for diverse cohorts across Australia. Improving access to STEM education starts with investment and promotion of education opportunities. We need government to partner with industry across Australia to increase access and awareness of STEM career pathways.

Noting that consulting engineering is for example, a traditionally male dominated profession, initiatives such as the Women in STEM Ambassador and STEM Superstars are helpful in raising the profile of women to shift the dial on gender stereotypes. However, these initiatives have placed little emphasis on promotion of women in engineering and there has been no discernible increase in the take up of engineering studies by women. Increasing the profile of women with engineering or technology qualifications working in design, advisory, and engineering careers (i.e. an equal focus to those working in maths and science) will help promote female participation in our industry, reducing the barriers identified in the [Women in STEM Decadal Plan](#) (including stereotyping, bias, lack of role models, etc).

In addition, limited education options in remote and regional areas were highlighted by Infrastructure Australia in its [Market Capacity Report](#). Increasing the accessibility for STEM education in regional and remote areas would enable people from more diverse backgrounds to participate. For example, Consult Australia supports the [NSW Government Infrastructure Traineeship](#) which is a 2-year program that focuses on boosting the professional experience of Year 12 school leavers from regional and metro areas. Over the 12 months, trainees spend 8 months with a government agency, 8 months with a consulting business and 8 months with a construction business. This provides trainees with a holistic view of infrastructure projects making them a valuable asset to all parties in the ecosystem.



## A collaborative and cohesive education strategy

We need a collaborative and cohesive education strategy, with industry, educators, and government working in partnership. Having participated in the 2021 Summit on Securing the Future of Australia's Engineering Workforce with the Group of Eight university deans, Consult Australia understands the complexity of addressing the current education crisis and the diminished engineering (and related) workforce.

We stand committed to help the government and universities to address this, and we endorse the following urgent recommendations:

- A new model for funding engineering education that addresses necessary recurrent per student funding, research costs, and infrastructure and equipment costs in engineering.
- National Priority Places for Engineering which is a model for increasing the engineering workforce pipeline with competitive funding for additional engineering places at universities framed by collaboration between industry, universities, and government.
- A national industry, university and government engineering council that identifies immediate and strategic needs in the national engineering workforce, mechanisms for enhancing industry-university collaboration in engineering education, and that sets the annual guidelines for the National Priority Places for Engineering.



## Stepping-stones to STEM qualifications and practical experience

We need to prioritise stepping-stones to STEM qualifications and practical experience to upskill people. We also need to improve the uptake of Australian STEM education both domestically and internationally, particularly in light of the pandemic as we anticipate there will be a significant gap in graduates available in the next 7 or so years.<sup>3</sup>

Our members report that mid-level to senior-level candidates are the most difficult to find. Given this, we require continued support for higher education and flexible courses that can provide skilled migrants and mid-level candidates an opportunity to upskill, who are not adequately familiar with the relevant Australian codes and standards applicable to their fields of practice. Further, we need to create opportunities that connect people, and target diversity inclusion, whether it be networking opportunities or marketing campaigns that showcase careers.

Consult Australia welcomes the opportunity to collaborate with governments on stepping-stones to STEM qualifications and practical experience. This could include a new practical post-bachelor graduate course for engineers focussed on understanding and applying Australian Standards and the Building Code of Australia/National Construction Code. These elements have been identified by various jurisdictions as shortfalls in knowledge of currently practicing engineers.

This course could be developed by a national industry, university, and government engineering council. Consult Australia sees this course as being comparable to the practical course required for legal graduates to be admitted as an Australian lawyer.

The benefits of short programs in this context include but are not limited to an opportunity for:

- applicants to upskill who have the knowledge required but need further technical skills training
- candidates to upskill in a short period of time which in turn would provide an efficient pipeline of increased talent
- school leavers to undertake STEM subjects they did not undertake during their schooling but require as a prerequisite for STEM degrees and careers
- industry to work with the Australian Government to build short programs that meet the needs of the profession by ensuring practical experience is part of the program – this could also help bridge the gap for many engineers who are degree qualified and have international experience but struggle to meet local work requirements.

Read Consult Australia's paper, [Australia's STEM Education Challenges](#) for a deeper dive on STEM.

---

<sup>3</sup> Based on [Engineers Australia's reports](#) that it takes a professional engineer 10 years or more to complete professional education and training, as well as recognition that the pandemic started in 2019.







## Diversity and Inclusion

For industry to thrive, people need to be able to bring their whole selves to work, and organisations need to champion diversity and inclusion. This includes increasing visibility of opportunities within diverse communities, creating accessible networking opportunities, checking for conscious and unconscious bias, and calling out behaviours. The advantages of diverse workforces are well documented and include improved communications, better teamwork and problem solving.

As highlighted above, women and migrants are underrepresented in the consulting sector. Aboriginal and Torres Strait Islander people are also significantly underrepresented. We also know that policies that seek to improve diversity in the industry often fail to include transgender, gender non-conforming, or non-binary people.

Since 2012, Consult Australia members have focussed on gender disparity in the consulting sector by committing to our [Champions of Change](#) initiative. The [Consult Australia Champions of Change 2021 progress report](#) reported that *'the under-representation of women in leadership, 'boys' club' culture and perceived bias in talent processes are reasons commonly cited by women for leaving STEM industries.'* In 2021, the Consult Australia Champions for Change Group achieved or moved closer to gender balance across 54.7% of leadership categories. Recognising the need for continued improvement, members developed a toolkit to support female leadership and promoted non-gendered parental leave.

While the initiative is deliberately focussed on gender diversity, members have seen wider positive impacts on cultural behaviour beyond gender. Promoting diversity and inclusion commitments is important to address the conscious and unconscious bias that may be attributing to employment trends. Consult Australia encourages other industry stakeholder groups to develop a Champions of Change program via the [Champions of Change Institute](#).



## A migration system that is accessible and easy to navigate

We need a migration system that is accessible and easy to navigate, which embeds the recommendations of the final report on [Temporary Migration](#) and the final report into the [Inquiry into Australia's Skilled Migration Program](#). Historical reliance on global talent by our sector was impacted by the border closures during the pandemic. This has created pressure on an already complex migration system that is difficult to access.

We need a streamlined migration program to ease the burden on business and applicants, with changes including:

- increasing the age threshold for applicants
- lowering the salary threshold for visa types such as the global talent program, and streamlining the visa application process
- establishing an industry liaison officer to assist consulting businesses to navigate the skilled migration program
- reducing red tape by making exemptions for labour market testing in certain circumstances
- removing the need to pay the Skilling Australia Fund levy twice for the same applicant or a subsequent visa
- providing permanent pathways for employer sponsored visas, including the short-term stream of the temporary skills shortages visa, increasing permanent annual migration levels, and improving visa accessibility for short-term roles.

To read more about Consult Australia's advocacy on Australia's Skilled Migration System, read [part 1](#) and [part 2](#) of our submission to the Inquiry into Australia's Skilled Migration Program.



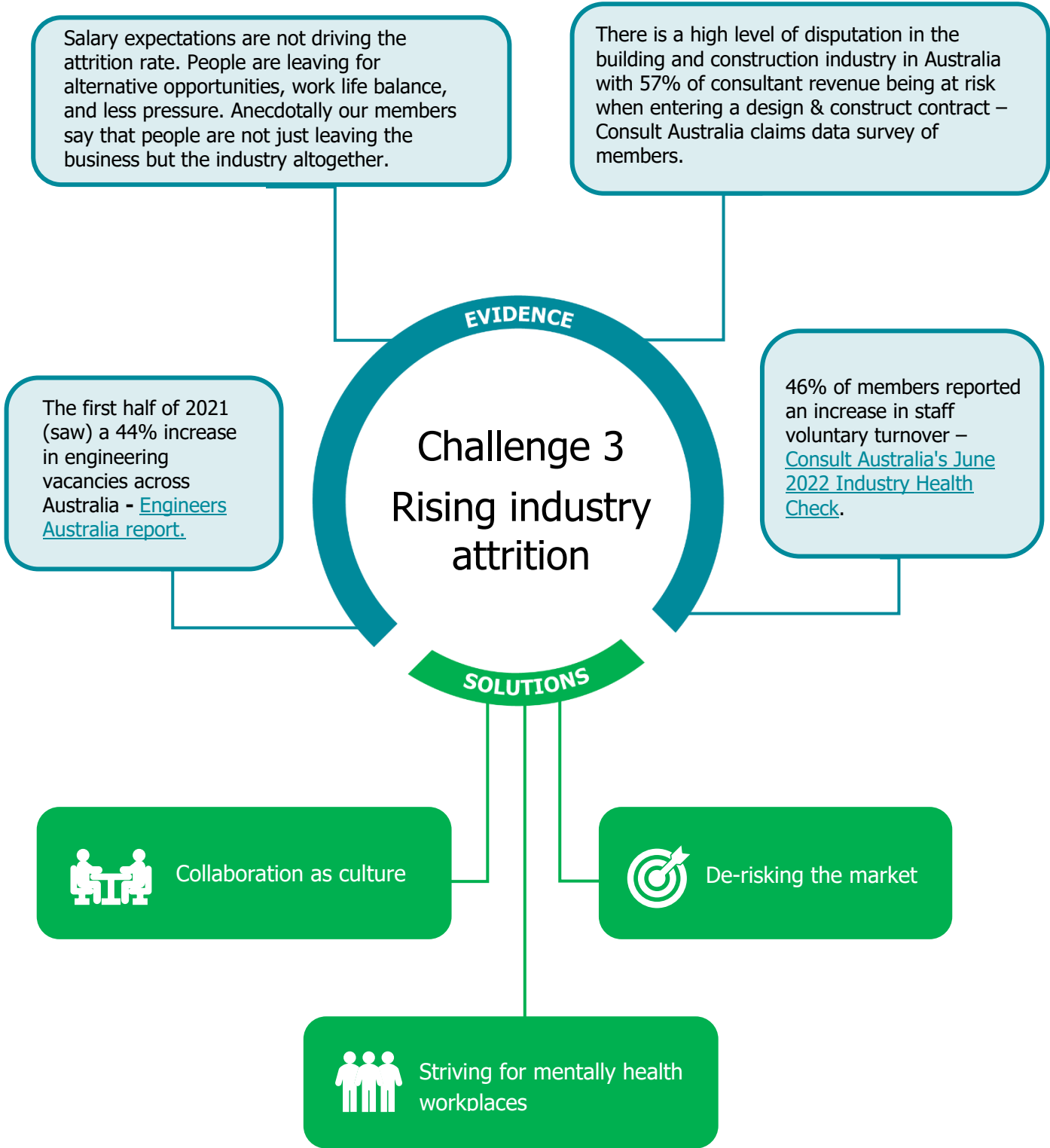
## Flexible and receptive skills recognition

It is vital that occupations in our industry are recognised within skills lists such as the Australian Bureau of Statistics and Australian New Zealand Standard Classifications of Occupations (ANZSCO) to have policy settings capture all relevant occupations that are essential to the Australian economy. Occupations such as Data Engineers/BIM Manager, Energy Efficiency Engineers, Rail Engineer, Fire Engineer, Bushfire Consultant, Human Factors Consultant are largely the result of emerging industry developments in technology and digitalisation. These occupations are critical skills for our industry, which require ANZSCO recognition to achieve momentum in policy settings.

With technology rapidly improving and changing, and the future of work creating many new job types, we believe ANZSCO needs to be regularly reviewed and monitored to allow emerging occupations to be appropriately captured.

We need a national workforce plan that streamlines state and federal government approaches to address the skills challenges in education, employment, and skilled migration. Additionally, the federal government should invest in the development of accepted definitions of acute and persistent skills shortages with a list of these to replace the existing priority migration skilled occupation list.

To read more about Consult Australia's advocacy on skills lists, read our [submission](#) to the Australian Bureau of Statistics Australian and New Zealand Standard Classifications of Occupations (ANZSCO) targeted review.





## Collaboration as culture

Collaboration as culture is a commitment by everyone to shift away from disputation and embed a positive collaborative culture at every stage of a project and in all interactions, underpinned by communication. The aim is to reduce the imbalance between contracting parties within the contract and provide a more collaborative, productive environment with all parties focussed on successful project delivery. Having a collaborative culture could also dramatically reduce the disputation in the market and improve workplace wellbeing.

The industry is becoming increasingly confrontational. Contracts are being drafted in ways that pass risk unfairly down the supply chain, often to the party less able to manage the risk. We see this play out in contracts drafted for consultants, which contain inappropriate clauses that are not suited for professional services, for example: unlimited liabilities, broad indemnities and warranties, excessive insurance requirements etc. With contracts of this nature and unreasonable risk transfer, it is understandable why consultants are deterred from investigating innovative solutions to client problems in favour of opting for more conservative designs to limit their risk exposure.

The enforced need for conservatism is impacting job satisfaction and is a factor in industry attrition. Many consultants are inspired by the opportunity to produce creative designs and advanced solutions to the challenges of the day and the future. When the appetite to do so is quashed by increasing disputes, claims, and insurance costs, the nature of the role shifts dramatically. This is why it is so important to embed collaboration as culture. We need to foster environments that encourage innovation, as well as protect and respect the wellbeing of the people behind the design.

We need to challenge the status quo and realise industry potential to thrive by setting the tone from the top and adopting the principles outlined in our [Model Client Policy](#), focussing on [Uplifting Productivity](#) and implementing the recommendations in [Infrastructure Australia's 2021 Plan](#) to embrace collaboration as culture.



## Striving for mentally healthy workplaces

We need to [strive for mentally healthy workplaces](#), creating safe environments that build confidence and acceptance, supporting employees through their mental health challenges, and promoting ways in which people can mentally thrive. We can do this by encouraging leaders to set the tone from the top. Leaders can address stigmas, as well as encourage a culture of sharing and seeking support by breaking down barriers and normalising mental illness. By making people feel like they can bring their whole selves to work, we can create environments where people can thrive and even find solace from external impacts on their mental health within their workplace. This can positively impact on the desire to stay in the industry.

Part of thinking smarter about skills involves thinking about how we utilise talent in our industry. Our members report that experienced technical professionals often find themselves spending more time on non-value-add processes, rather than value-add technical outputs – for example, see our joint paper with the Australian Constructors Association on [Multiple Design Reviews](#). Thinking about ways to best utilise available talent could help to alleviate part of the skills shortages and improve job satisfaction. Simultaneously, de-risking the market and reducing the culture of disputation will help to free up experienced professionals to attend to technical outputs rather than complex contract management (see more on de-risking below).

Striving for mentally healthy workplaces should be an ongoing business practice with a focus on continual improvement. Differentially, striving for a mentally healthy industry requires input from all in the eco-system. We need a holistic approach that incorporates in-house cultural change and extends the same behaviours out to every interaction with every person, regardless of their role.



## De-risking the market

Australia's building and construction sector is now considered one of the highest risk industries in the world for professional indemnity (PI) insurance. Our small business members advise that PI insurance premiums are one of their largest business expenses and year on year premiums are increasing while coverage amounts decrease – irrespective of claim history. Affordability is the key issue for the majority, but for some availability is the challenge. Some small business and sole traders are facing forced business closure and early retirement based because they are unable to source adequate PI insurance cover.

Additionally, high levels of disputation and the 'master, servant' approach in procurement and contracting impacts on skills retention and the wellbeing of both the employees directly involved and morale across the business. By de-risking the market, we can improve the culture of industry and increase the overall productivity. De-risking means reducing the level of disputation and unnecessary avenues for claims. Consult Australia sees the following three solutions as priorities:

- **Proportionate liability:** amending the civil liability laws to guarantee prohibition of contracting out of proportionate liability in professional services contracts (in-line with the current civil liability law in QLD) – requiring commitment by state and territory governments
- **Australian Consumer Law:**
  - limiting misleading or deceptive conduct provisions to protect consumers and small businesses, not sophisticated business parties in business-to-business contracts
  - strengthen unfair contract terms protections so all government contracts are covered
- **Commonwealth's Centre of Procurement Excellence (CoPE):** continued funding of this initiative to upskill and professionalise the commercial and legal skills of those in government with procurement responsibility.

Our [Professional Indemnity Insurance Market Update \(September 2021\)](#), [Model Client Policy](#), [Uplifting Productivity Report](#), and [Infrastructure Australia's 2021 Plan](#), highlight the need for action to de-risk the market.

## Call to action

We note the work of other bodies that support the issues explored in this paper. The Australian Chamber of Commerce and Industry (ACCI) released its *Overcoming Australia's Labour and Skills Shortages* paper in March 2022, discussing opportunities to support skills, workforce participation, and migration. Many of the points raised in Consult Australia's advocacy are supported in ACCI's paper, in particular the section on migration. ACCI's paper is a great overview of business issues, while our *Thinking Smarter About Skills* paper delves more into the issues impacting consultancy businesses.

Engineers Australia has also recently released a discussion paper, *Engineering skills – supply and demand*, which provides a broad view of the situation Australia is facing in relation to the supply and demand for engineering skills. The paper discusses STEM education, migrant engineering supply, as well as current and future demand for engineering skills. Consult Australia supports the work of Engineers Australia. In contrast to that work, our *Thinking Smarter About Skills* paper considers the issues impacting across different disciplines relied on by our members (in addition to engineering), from technology to environmental assessment and quantity surveying for example.

Our industry needs a healthy ecosystem of consultants, contractors, and suppliers to sustain itself and deliver great project outcomes for the people of Australia. This will take the cooperation of the entire ecosystem to address the challenges we have identified and introduce the solutions we have proposed.

# Contact us

Consult Australia welcomes the opportunity to collaborate with industry, government, and education bodies to realise our identified solutions. We would welcome any opportunity to further discuss the issues raised in this report. To do so, please contact:

**Nicola Grayson**  
Chief Executive

[nicola@consulaustralia.com.au](mailto:nicola@consulaustralia.com.au)

**Kristy Eulenstein**  
Head of Policy and Government  
Relations

[kristy@consulaustralia.com.au](mailto:kristy@consulaustralia.com.au)

**Teone Tobin**  
Senior Policy Advisor

[teone@consulaustralia.com.au](mailto:teone@consulaustralia.com.au)

