

The Quest for Skills

Tackling shortages in a
disrupted world

SEPTEMBER 2021



Contents

1.	Delving into the current skill shortage environment	3
2.	The types of skill shortages reported by Ai Group members since Q3 2020	8
3.	Exploring the reported shortages.....	11
4.	A path forward.....	19

Delving into the
current skill shortage
environment

Ai Group members are reporting skill shortages as a key barrier to day-to-day operations and business growth. While companies are battling their own skill issues, these issues all form part of a larger technologically-driven global shift

Thematic drivers of change

Structural shifts in industries

- ▶ New business models and ways of working
- ▶ Experienced labour force with mismatched skills
- ▶ Sudden industry surges in demand for key skilled workers to facilitate transitions

The (rapidly) transforming digital economy

- ▶ New tasks in existing occupations – skill set shifts
- ▶ New occupations and blurred boundaries

Education and training enrolments and completions

- ▶ Insufficient training completions over the last decade to meet industry demand
- ▶ Declining workforce readiness of university graduates

Digital transformation will mean skill shortages are likely to remain as it marks a period of continual exponential growth, reducing the shelf life of skills



Technology is advancing at twice the speed, half the cost. This is giving rise to a period of exponential technology-led progress that doubles in output every decade.

"Rapid technological development makes skills depreciate faster than in the past while new technologies generate gaps in workers' skills and call for the acquisition of proper skills and lifelong learning."

Organisations, governments and education and training systems need to adapt to the rapid and continual technological development in order to remain fit for purpose.

Source: Asian Development Bank, Working Paper, 2020

Labour market participation is impacted by several factors and is closely tied to economic cycles, which affects existing skill shortages

Unlike previous Australian recessions, the 2020 recession resulted in a very steep and rapid rise in unemployment. After three months, the level of unemployment climbed to ~7.4% and then fell rapidly to return to parity with pre-recession unemployment levels after just 13 months.

During the rebound, the labour market has tightened, and quality candidates have become scarce.

As we navigate unsettled economic conditions, firms are increasingly struggling to attract applicants and are having difficulty finding candidates with the desired skills and experience. This has been exacerbated by international border closures that have prevented skilled migrants from entering Australia, thereby alleviating some of these shortages.

Results from the ABS Business Conditions and Sentiment Survey, June 2021

27%

of businesses are reporting difficulty finding suitable staff. Due to a range of factors, including:

74%

Lack of suitable applicants

66%

Applicants not having the required skills

32%

International border closures

Businesses experience different types of skill shortages. It is important to identify the type of shortage encountered by a business in order to develop proportionate solutions.



Rigid Shortages

- ▶ There are few people who have the essential technical skills who are not already using them and
- ▶ There is a long training time to develop the skills and/or
- ▶ The capacity of education and training organisations in the relevant field is fully utilised.



Flexible Shortages

- ▶ There are few people who have the essential technical skills who are not already using them but
- ▶ There is a short training time to develop the skills and/or
- ▶ The capacity of education and training organisations can be readily expanded



Skills Mismatch

- ▶ Skills mismatch is a discrepancy between the skills that are sought by employers and the skills that are possessed by individuals.
- ▶ This means that education and training are not providing the skills demanded in the labour market, or that the economy does not create jobs that correspond to the skills of individuals.



Quality Gaps

- ▶ There are sufficient people with the essential technical skills, not already using them, who are willing to apply for the vacancies,
- ▶ But lack some qualities that employers think are important.

Source: ILO 2020

The types of skill shortages reported by Ai Group members since Q3 2020

In October 2020, respondents to Ai Group's Skill Needs Survey* revealed that businesses were having difficulty finding skilled workers (particularly trades)

Skill requirements and level of difficulty in meeting skill needs



*115 companies responded representing 39,447 employees



Trades worker roles hardest to fill electricians, fitters and turners, boilermakers, fabricators, welders, machinists, sheet metal workers, toolmakers and diesel mechanics



Manager roles hardest to fill operations, production and project, supply chain, logistics, water, marketing and business development managers.



Engineer roles hardest to fill maintenance, mechanical, mechatronic, electronic, process, aerospace and sales engineers.



Digital roles hardest to fill 'digital experts', software engineers, RFID solutions architects and SAP business analysts.

Source: Ai Group, Skills Urgency Report 2021

In July 2021 Ai Group held a member forum* on skill shortages. This is what they said:



Rigid Shortages

- ▶ Experienced trades (welders, boilermakers, mechanics, process workers) are in short supply and experienced, skilled migrants are unavailable.
- ▶ Some apprentices are being poached by firms towards the end of their apprenticeships through offers of higher salaries and defined career pathways.
- ▶ This is increasing the perceived risk of taking on apprentices.
- ▶ States are targeting different skill levels and occupations for permanent residency, making relocation to those states attractive and leaving gaps in other states.
- ▶ It is challenging to find the right mix of skilled and experienced workers.



Flexible Shortages

- ▶ Unskilled labour (i.e. entry level process work) is in short supply and hard to find.
- ▶ The job market is tightening which is forcing some members to reconsider their recruitment requirements (levels of experience, credentials etc.).
- ▶ Previously there has been an abundance of choice, which led firms to ratchet up their requirements for roles. This is now being rolled back in order to fill positions with the smaller pool of skill and experience sets available.
- ▶ Skill shortages previously experienced in rural communities are now moving into cities as general labour shortages.

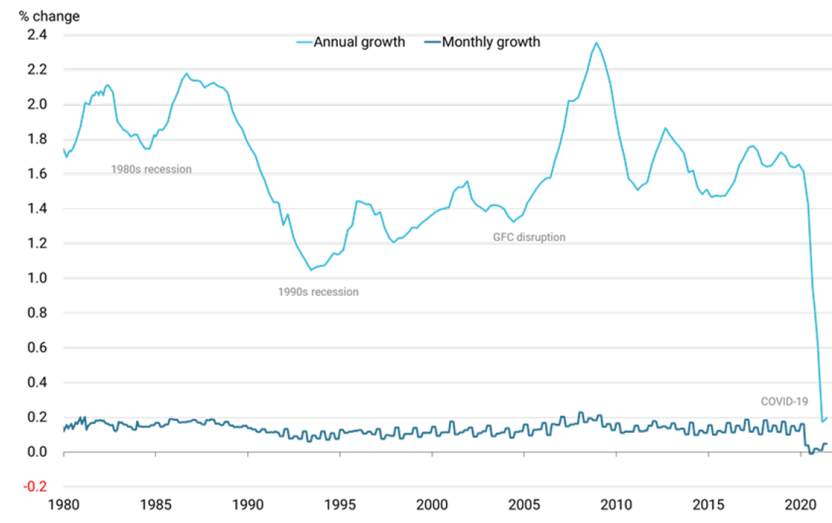
*45 member companies participated

Exploring the reported shortages

60% of forum participants reported rigid skill shortages and increasing difficulty in finding skilled or experienced applicants. This was exacerbated by:

- ▶ The total adult population (estimated civilian resident population aged 15+ years) population growth slowed to just 0.2% and 40,900 people over the year to June 2021.
- ▶ Members said the lack of available workforce and skilled foreign labour has led to an **increase in demand for local skilled workers and driven firms to compete, poach and pay premiums for key workers.**
- ▶ Members said specific skills are also in demand from **large government infrastructure projects.**

Australian population growth over the past 40 years, punctuated by economic and health disruptions.



Source: Ai Group 2021

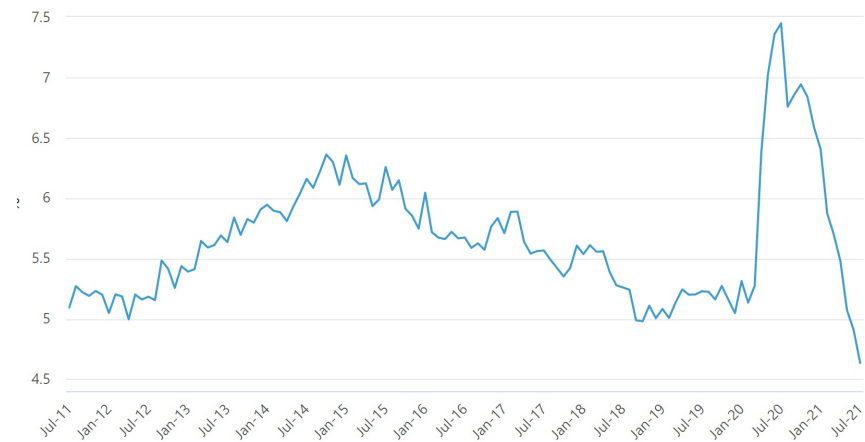
40% of forum participants reported that headhunting and competition for workers had intensified, which has resulted in above market premiums being paid to retain and attract staff

- ▶ Members said in order to source skilled workers, businesses have taken to headhunting and offering lucrative salaries to attract talent.
- ▶ At the same time, businesses are needing to lift salaries in order to retain talent and prevent poaching.
- ▶ Members said that government projects are attracting top talent and salary premiums, at above market rates.

These actions are partly driven by a lack of access to the global talent pool via skilled migration and decade low unemployment rates – both of which have restricted the supply of labour.

Source: AI Group CET and ABS 2021

Seasonally Adjusted Unemployment Rate.
10 years to July 2021



The unemployment rate (4.6%) has fallen to decade lows. It is restricting the supply of workers and driving up wages for skilled workers.

30% of forum participants reported that taking on apprentices to bolster the pipeline of skills can be a solution, albeit a number of years too late, as many are needing the skills immediately

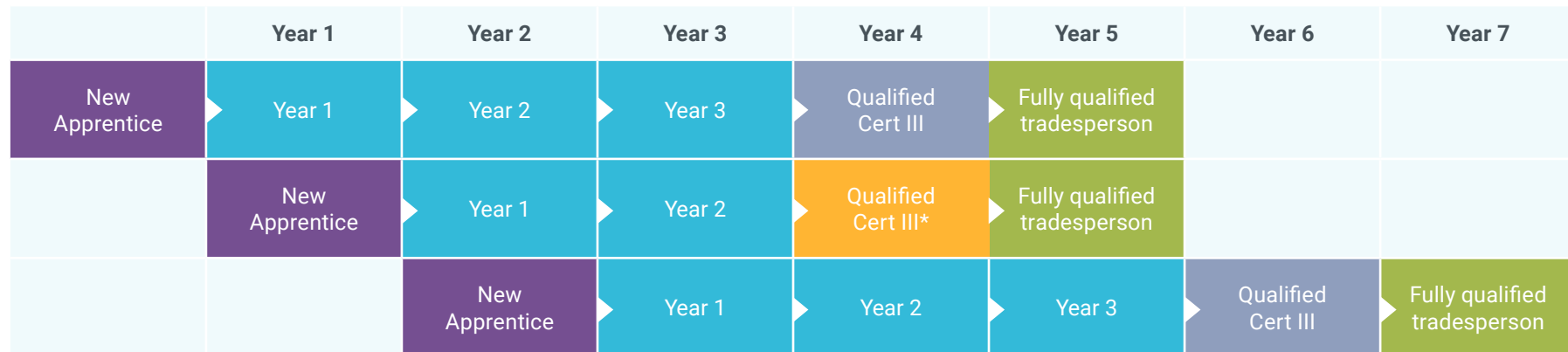
While employers see the value in taking on apprentices, forum participants reported difficulty sourcing and retaining their apprenticeship pipeline.

Of those firms reporting the benefits of apprentices, a number reported that some apprentices are exiting their

businesses (prior to completion or soon after), chasing pay rises and alternative career pathways.

In the current conditions, businesses are burdened by the risk of losing apprentices to competitors before they are qualified and experienced.

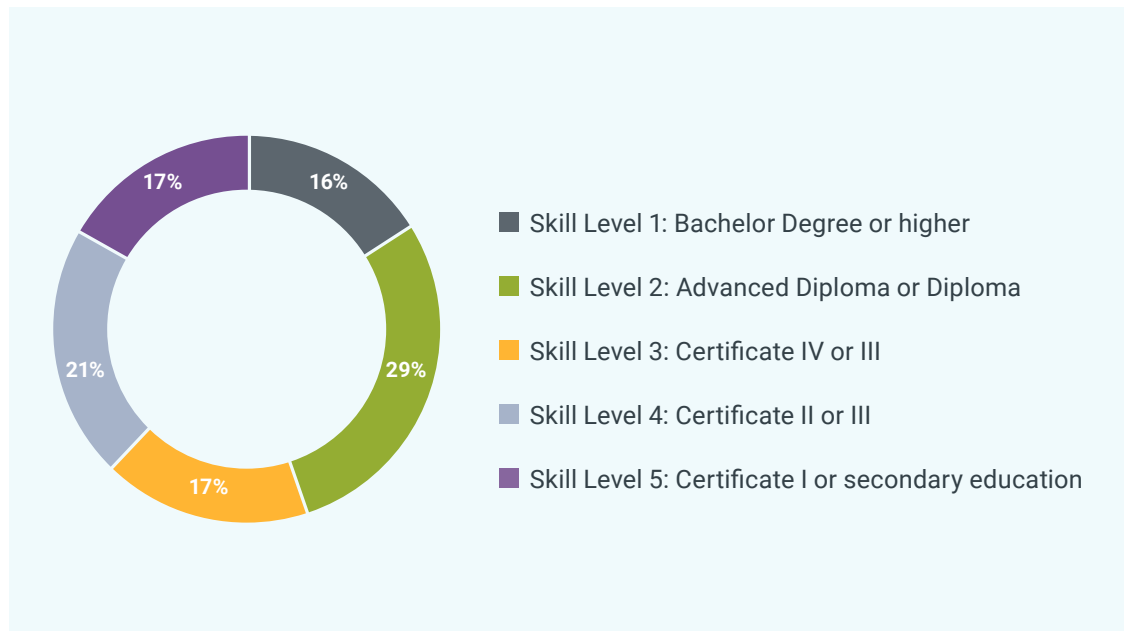
Example Apprenticeship Pipeline



* Competency progression can allow for earlier apprenticeship completion

Projected job growth and skill demand over the next five years to 2025 suggests little relief from skill shortages

Workforce composition expected in 2025



Compiled using Labour Market Information Portal (Skills Projections 5 years to Nov 2025)

Qualification Requirements

- ▶ 83% of jobs will require some form of post-school education
- ▶ Professional careers expected to add 439,525 jobs (↑ 13.2%)
Community and Personal Care workers expected to add 186,396 jobs (↑ 14.6%)
- ▶ A number skills in these industries (i.e., Engineers and Personal Care Workers) are in national shortage and are projected to experience strong demand over the next 5 years...

In the absence of skilled migration, Ai Group members report concerns in accessing skills in key growth occupations in nationwide shortage to 2025

Key occupations in demand and their expected growth	NSC Projected employment growth – five years to November 2025	
	Total added	% Growth
Professionals	439,525	13.2%
Accountants, Corporate Services Manager, Auditors	75,414	9.5%
Design, Engineering, Science and Transport Professionals	60,983	12.1%
Architects, Designers, Planners and Surveyors	22,958	13.8%
Engineering Professionals – Civil, Geotechnical, Structural, Transport, Electrical, Mechanical, Mining, Petroleum	27,012	13.7%
ICT Professionals –ICT, Security Specialists, ICT Program Managers	92,625	26.6%
Technicians and Trades Workers	96,269	5.4%
Engineering, ICT and Science Technicians – Civil Engineering Technicians, Electrical Engineering Technicians	32,760	11.2%
Electrotechnology and Telecommunications Trades Workers – Cablers, Cable Jointers, Telecommunications Technicians	18,498	6.9%
Food Trades Workers – Meat Inspectors, Agricultural Technicians	17,899	9.9%
Community and Personal Service Workers	186,396	14.6%
Health and Welfare Support Workers – Nursing Support Officers	19,846	13.9%
Carers and Aides – Aged or Disabled Carers	87,911	15.9%
Machinery Operators and Drivers	36,136	4.4%
Road and Rail Drivers – Train Drivers	29,721	7.9%

Compiled using Skills Priority List 2021 and Labour Market Information Portal (Industry Projections 5 years to Nov 2025)

There is a need to fuel national growth and productivity through the development of both local skills and skilled migration for high skill workers

Without a concerted effort to expand the pipeline of skilled workers moving through education, training and development pathways that foster skill development and re-skilling, there will not be a sufficient level of local skills available in the marketplace.

Skilled migration has represented an increasing proportion of Australia's population growth as our economy has sought to source the best global talent to fill short and long-term skills shortages.

Current pressures that businesses are experiencing have been eased by the Government's extension of work rights for many on-shore visa holders, by adding new skills to priority migration lists and by providing exemptions for critical skills to enter Australia.

However, until international borders open, barriers to returning residents and new arrivals are acting as a major constraint on the ability of businesses to move beyond recovery and explore opportunities for expansion.

COVID-19 border closures have signaled that skilled migration can be an important short-term supplement but cannot be a single solution to pursue.

In order to have the right skill mix to fuel our growing economy, the workforce composition of Australia must be addressed

A study of the European Union workforce suggests that the ideal skill composition of the modern workforce will be drawn from:

35%

university level skills

65%

VET sector level skills

The European Union study suggests that career pathways need to be reconsidered, tertiary education needs to deliver for industry requirements, and the workforce readiness of graduates needs to improve.

Equally, Australia needs to review its commencements and completion rates to ensure that the projected workforce composition needed by industry exist locally.

Greater levels of tertiary attainment are needed by school leavers and adults at every stage of their career.

Source: López and Ibáñez 2021

Educational attainment of 25-64 year-olds in Australia 2019:

48%

Tertiary level skills

20%

Vocational skills

32%

Secondary school level skills

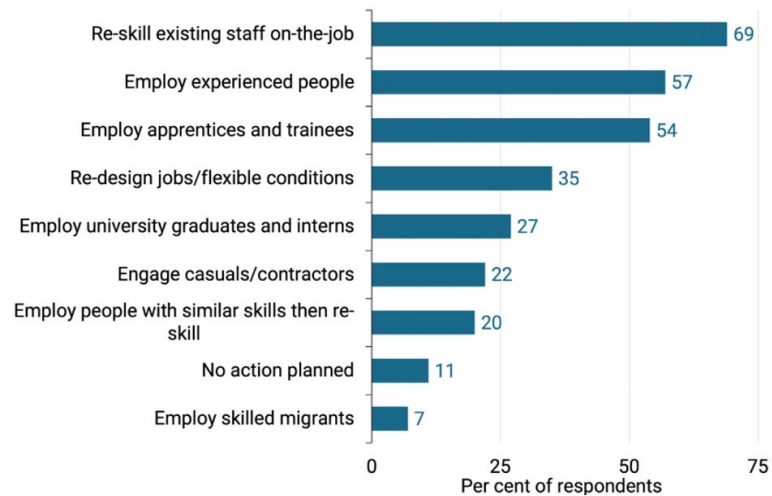
Source: OECD 2020

A path forward

No silver bullets...

In October/November of 2020, employers reported to Ai Group* the strategies they would use to meet skill needs over the next 12 months.

While the majority intended to re-skill their existing employees, over half also intended to employ experienced people. Many of these experienced people cannot be found, bringing other strategies into focus.



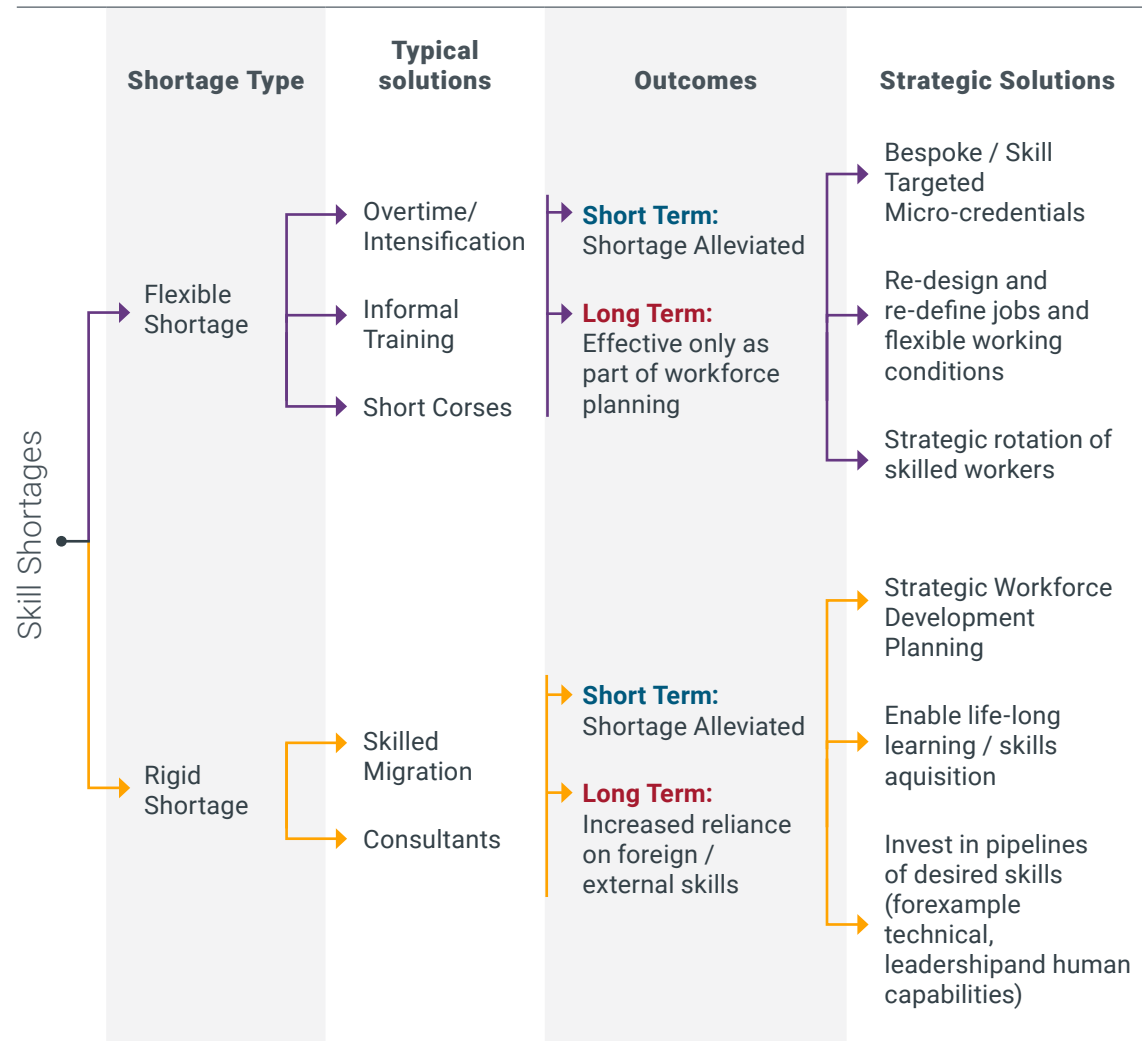
With disruption continuing, employers are adopting additional strategies to find the skills they need, and finding different ways to develop their workforces, including:

- ▶ **Offshoring:** employing workers who remain located overseas – usually knowledge workers
- ▶ **Virtual work integrated learning:** increased activity around online student placements and discrete projects

*115 companies responded representing 39,447 employees; source: Ai Group, Skills Urgency Report 2021

The strategies employers adopt to solve their skill shortages differ according to the type of shortage: flexible or rigid.

There are a number of typical solutions which provide short term relief but may not assist in creating beneficial strategic, long-term outcomes for companies.



Source: Ai Group, CET 2021

While it can be necessary for businesses to apply short term solutions to meet their skill shortages, ideally these should sit alongside longer-term, strategic solutions. A key-longer term strategy for companies is the development of a dynamic workforce development framework



Begin strategic workforce development planning to predict tasks that will be automated, and up-skill affected workers to *newly identified* task areas



Intelligently select and encourage employees to participate in training modules or programs



Promote development and buy in of the workforce training programs through leadership endorsement



Develop bespoke micro-credentials and/or digital learning pathways to foster a workplace learning culture

Varley is an example of one company applying strategic solutions to counter skill shortages and increase the pipeline of workers entering its advanced military manufacturing business. A large part of Varley's success stems from the investment in its employees and in securing high quality trainees, tradespeople and professionals.

Over the years, Varley has tried a wide range of strategies that have helped the company to identify what does and doesn't work for skill development

Successful strategies include:

- ▶ preparing school leavers for trades and engineering roles. The results are particularly good when partnering with schools that run targeted programs for students to enter trades pathways
- ▶ participating in pilot programs that link Varley to new talent and skill development practices, e.g. P-Tech, STEMships
- ▶ Summer internships for graduates as an important tool for training and securing permanent employment of new hires. This strategy is particularly useful for T, Law, Commerce, Accounting and HR roles
- ▶ collaborating with various referral service providers who can structure, for example, 15-week feeder programs for 17-30 year olds that have 'fallen through the cracks'.V



Varley is one of Australia's oldest advanced engineering and manufacturing companies offering a diverse range of products and services.

Current manufacturing projects include custom emergency services, health, education and rescue vehicles, defence ambulances and arms storage facilities, industrial and recreational electric vehicles, power plant restorations and rail maintenance works.

Moving forward, one of the pressures on businesses as skill shortages increase, is to raise wages. It is essential that these increases are linked to boosts in productivity and output of workers.

Businesses more likely to succeed will be those that invest in continual skill renewal to counteract the depreciation in old skills as new technology, processes and activities reform workplace activity.

Avoid Static Skill Obsolescence



Skills acquired atrophy due to insufficient use



Lack of opportunity to learn new skills on the job



Repetitive and unvaried work

Embrace Dynamic Skill Obsolescence



Rapidly changing work activities



Complex and varied work



Businesses & employees motivated to learn and ride the next 'wave' of technological disruption

Source: Gracia Santoso, 2015

While this report exposes the complexities that cause barriers to alleviating skill shortages, employers can consider a range of options according to the type of shortage (flexible/rigid). In summary these options include:

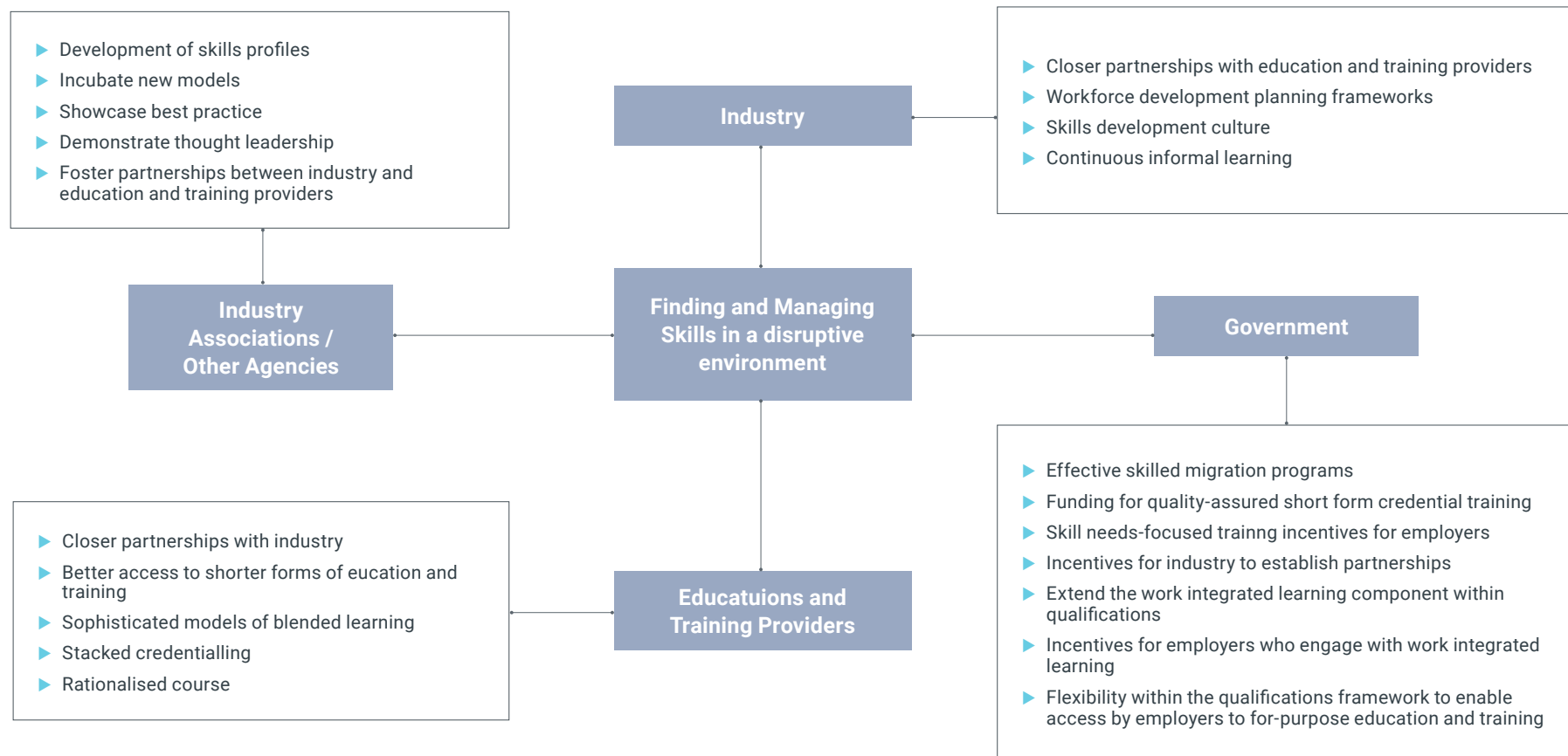
Short-term strategies

- ▶ Creating flexible working conditions
- ▶ Embracing dynamic skill obsolescence through changing and varied work activities
- ▶ Re-designing and re-defining jobs
- ▶ Strategically rotating skilled workers to effectively target and construct teams for roles/agile projects
- ▶ Offshoring and business process outsourcing
- ▶ Participating in pilot government programs that link businesses to talent
- ▶ Providing internships for students nearing graduation
- ▶ Participating in virtual/on-site work integrated learning programs

Longer-term strategies – to commence now

- ▶ Beginning to develop a strategic workforce development plan
- ▶ Developing bespoke micro-credentials to re-skill/up-skill existing employees
- ▶ Creating digital learning pathways to foster a workplace learning culture - gamification, social learning, micro-learning, mobile learning
- ▶ Enabling life-long learning and skill acquisition by providing multiple options and resources for employees to connect with: JIT content; peer learning and regular groups; coaching
- ▶ Investing in pipelines of the needed skills of employees
- ▶ Developing new/closer partnerships with education and training organisations to ensure desired skills are built into courses and there is close access to students/graduates
- ▶ Recognise abilities achieved outside formal learning for new and existing workers

However employers' actions need to be supported by others in the skill ecosystem. The ongoing disruptive environment calls for action by all: governments, education and training providers, industry associations.



Acknowledging some actions are achievable only in the longer term, the support of others in the skill ecosystem is necessary to add to employers' own activities in building business sustainability and growth in Australia

Governments

- ▶ Implement reviewed, effective skilled migration programs
- ▶ Introduce policy that shapes the needed qualification levels of the workforce
- ▶ Increase funding for quality-assured short form credentialled training aligned to labour market information, building in timely access for industry
- ▶ Provide apprentice wage commencement support on a permanent basis
- ▶ Provide skill needs-focused training incentives for employers – at entry level and for rapid upskilling of existing workers
- ▶ Introduce incentives for industry to establish partnerships with education and training providers for collaboration on models, content, delivery and co-location
- ▶ Extend the work integrated learning component within qualifications and pilot broader/higher models of work-based learning
- ▶ Provide incentives for employers who engage with students through work integrated learning
- ▶ Establish flexibility within the qualifications framework to enable access by employers to fit for purpose education and training
- ▶ Using data, promote awareness to individuals of job opportunities in occupations experiencing skill shortages

Industry associations and other agencies

- ▶ Facilitate development of skills profiles to assist businesses with their specific skill development and redeployment
- ▶ Incubate new models, showcase best practice and demonstrate thought leadership
- ▶ Foster partnerships between industry and education and training providers with support from governments
- ▶ House digital platforms that connect industry with students and education and training providers
- ▶ Promote awareness to businesses of emerging skill shortages in various occupations to inform strategic workplace planning

Education and training providers

- ▶ Develop and implement closer, innovative industry partnership models to enable the alignment of outcomes with industry's needs, such as multi-partner hubs/co-working spaces
- ▶ Provide rationalised courses that have clear pathways and industry relevance
- ▶ Create improved awareness of, and access to, shorter forms of education and training offered
- ▶ Continue to develop and apply sophisticated and blended models of learning delivery - learning immersed in disruptive, agile environments; digital platforms
- ▶ Enable stacked credentialling of single units/short forms of education and training

Questions or more information?

Contact the Centre for Education and Training

Email: cet@aigroup.com.au

Website: cet.aigroup.com.au

Read our recent skills report: *Skills Urgency Report 2021*

Subscribe to our newsletter

Join our member network

