Ai GROUP

Submission to the Universities Accord Panel

Discussion Paper

APRIL 2023

About Australian Industry Group

The Australian Industry Group (Ai Group®) is a peak national employer organisation representing traditional, innovative and emerging industry sectors. We are in our 150th year of acting on behalf of businesses across Australia.

Together with partner organisations we represent the interests of more than 60,000 businesses employing more than 1 million staff. Our members are small and large businesses in sectors including manufacturing, construction, engineering, retail, transport & logistics, labour hire, mining services, the defence industry, civil airlines and ICT.

Our vision is for *thriving industries and a prosperous community*. We offer our membership high quality services, strong advocacy and an effective voice at all levels of government underpinned by our respected position of policy leadership and political non-partisanship.

Australian Industry Group contact for this submission

Megan Lilly, Head of Education and Training
Telephone: 0418 102 119
Email: megan.lilly@aigroup.com.au

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1. Structuring the Accord to meet challenges, to overcome limitations of the current approach, to support diverse missions, and to attain long term targets

Opportunity for the Accord

1.1 Establish an enduring national representative forum through a governance approach that drives a new relationship paradigm between industry and universities.

As Australia continues to adapt to life in a technology-augmented world, human skills and capabilities are crucial to unlocking productivity gains and realising our potential. This means higher education is more important than ever and key to developing the human capital needed to meet the many challenges faced.

As part of an integrated tertiary education system, it develops the knowledge, skills and capabilities we need. It is also key to facilitating research to gain new insights and solve shared problems, often in collaborating with industry. Given this, universities, governments, industry and students themselves have a shared interest in the system's vitality and success. This should also be the starting point for the Accord process.

All stakeholders must acknowledge the need for widespread participation in higher education, and understand the complementary role knowledge, skills and capabilities will play in achieving our goals. It follows then that the policy, funding and governance framework supporting higher education in Australia must empower rather than limit and embrace rather than exclude. Higher education in Australia must be accessible, technology-enabled, outward facing, future facing and capable of evolution and change.

The Accord process is timely, coming at a key juncture in the evolution of higher education - in Australia and around the world. Concepts of teaching and learning, assessment, what constitutes an institution, a career and even an occupation are being challenged. These are the very bedrocks on which universities and other higher education providers are built. At the same time, more and more Australians need the capabilities and depth of knowledge to navigate an increasingly complex world.

The current policy and funding framework reflects the higher education system's history, built on enquiry-based learning, knowledge acquisition, exclusivity of access, institutional autonomy, the pursuit of excellence and an arm's length approach to industry. All these elements have created the world class system we have today. However, evolution is required.

Australia's higher education system should reflect the diverse, global, confident, sophisticated nation we have become. The system of the future should be capable of contributing to the global research community at the highest level, but also of providing the post-school educational pathways Australians need.

Setting new long-term targets that address overall participation in higher education into the future, and crucially participation by under-represented groups, will only be useful given a number of structural, governance and system changes backed by a bundle of inter-related initiatives.

The Accord presents a critical opportunity to establish a new paradigm for the relationship between the university and industry sectors. Accelerating changes to the world of work means the two sectors must be interconnected at all levels. Holding this view, Ai Group positions increased collaboration between industry and universities as an underlying theme in all its responses to the questions posed in the Accord Discussion Paper.

Opportunities for the Accord to drive a new relationship paradigm are apparent across and within individual businesses and universities, through university bodies and industry groups, and crucially, through a new governance approach. Establishing an enduring national representative forum that includes industry peak bodies, representatives of the higher education sector, governments and government agencies, will propel the closer relationships, drive the changes needed and oversee progress.

2. Changing current structures of institutions, regulation and funding in higher education to meet Australia's national challenges

Opportunities for the Accord

2.1 Establish a taskforce to build a cohesive and connected tertiary education system

2.2 Facilitate full implementation of the Noonan Review of the AQF

2.3 Establish an AQF governing body in accordance with the recommendations of the 2019 Noonan Review of the AQF

A number of features of the current policy and funding architecture in higher education hinder the evolution to a more innovative and productive economy.

Currently, there is a clear and deep distinction between the higher education and vocational education and training (VET) sectors. Despite good intentions and long held aspirations Australia does not have one cohesive tertiary system. This continues to hinder students in their efforts to acquire the combination of knowledge and skills they need for work. It also hinders employers in their efforts to navigate the system, as any attempts to combine skills-based and knowledge-based learning means ad hoc 'work arounds' and dealing with multiple providers who do not speak each other's language. There must be one national policy vision for a cohesive and connected tertiary system.

We are also increasingly hindered by an outdated Australian Qualifications Framework (AQF). The current framework entrenches a hierarchical approach to learning, privileging the acquisition of knowledge over the acquisition of skills. Contemporary thinking on education and the economy acknowledges the need for a combination of knowledge, skills and capabilities, as well as the need to continue learning over a lifetime.

Implementing the recommendations of the Noonan review of the AQF is critical to building the tertiary education system Australia needs.

These issues are discussed further in ***Growing a culture of lifelong learning in Australia, creating a connected tertiary education system and the role of the AQF.***

Another element reinforcing this divide is the framework for student funding. The ecosystem of policies that determine and provide student funding across the tertiary system is dysfunctional. This has its roots in the structure of federation, with different levels of government having primary responsibility for the different sectors. However, the result is two distinct student funding frameworks which appear to have no consistency or logic when viewed as a whole. These arrangements distort student choices and serve to channel students towards higher education without considering vocational options. This only serves to further marginalise VET pathways.

Student funding - including direct funding, student subsidies, income-contingent loans and other incentives – must be equitable, and facilitate student choice among a range of high quality pathways.

We currently have structural barriers to movement between the two sectors, hindering young people from combining higher education and VET qualifications over a career. The AQF and student funding models lock in old ways of thinking, giving a better deal to a young person pursing a knowledge-based pathway than one pursuing a skills-based option, and prohibiting young people from combining the two. This is holding us back, and must change if we are to develop the workforce we need to meet the many challenges we face.

3. Ensuring graduates are entering the labour market with the relevant skills and knowledge they need for the workforce

Opportunities for the Accord

3.1 Establish a teaching and learning partnerships steering group which includes industry representation

3.2 Task the steering group to develop a framework to strengthen guidance for universities on best practice industry engagement and partnership principles and models.

3.3 Promote and incentivise innovative collaborative models covering multiple aspects of teaching and learning that facilitate new ways of embedding collaborative cultures in universities

Partnership cultures for teaching and learning

Authentic teaching and learning experiences and innovative teaching models and modes of delivery are highlighted by the Accord Discussion Paper when discussing a quality learning environment. While integrating new developments in educational practice and research will foster this, the relationships universities, teachers and students have with industry will cement it.

Increasingly industry is an essential partner to the quality of the learning environment that students experience. Indeed, increasingly industry must *be* the learning environment that students experience. Industry and universities must be intertwined to ensure graduates exit with the technical knowledge and generic skills needed. This is key to linking learning with current industry strategies and practice, knowledge and skill needs.

Universities should be encouraged and incentivised to involve industry in multiple aspects of the learning framework: co-design, co-development of content, co-delivery, co-credentialling and co-assessment, in addition to work integrated learning activities. Students, teachers and industry representatives all bring different perspectives which in combination result in relevant and richer learning experiences.

The Accord's aim must be for partnership cultures in both universities and industry that enable an enduring relevance of learning in complex current and future work environments.

In 2021, a representative from Ai Group member Varley outlined the regular two-way approaches made between the company and local universities, while also stating that dogged persistence is often needed to find the right person with whom to engage. Varley listed the factors they see as key to the success of industry-university partnerships which have been echoed by other Ai Group members:

- taking time to understand the different cultures of industry and university
- being clear about the role of each partner
- understanding the value of the partnership to the other partner
- while industry often operates an agile framework, it needs to be aware of longer timeframes that can exist in universities
- the motivation of the individuals involved is important: they need to possess willingness and persistence
- Universities need to be more engaging and make it easier for industry to approach them for potential partnerships. A barrier can arise when industry representatives do not know who to approach at a university or how to get involved.

Ai Group member, BAE Systems Australia, took an innovative approach to partnering in 2020 when it released an innovative call for partners to collaborate – aimed at both education and training providers and other companies. Their Request for Information was circulated broadly to seek interest in creating new initiatives that provide students at all levels with greater opportunities to understand their business, to gain opportunities for quality work experience and to grow the national talent pool.

BAE believes that taking a new approach to partnerships is critical to delivering current and future program commitments. It seeks to play a greater role in shaping industry-relevant curriculum and providing diverse job and work experience opportunities for young people to learn and grow. It wants to build strategic long-term alliances with universities who are willing to collaborate vertically and horizontally across the education and tertiary sector to create new and digitally-enabled educational programs and research expertise that align with future business requirements.

The Request For Information asked interested parties about new courses they were developing that are also preparing students for the

future of work and asked about specific events or activities planned with which BAE could be involved.

This model provides direction for the Accord to support innovative approaches to collaboration between sectors. Such collaborative activity now needs to be widespread, including providing support to smaller-sized companies to recognise the benefit of, and establish relationships with, larger employers and providers through multi-stakeholder initiatives. These alliances would guide the learning in higher education, explore new skilling models, and help to build learning into the everyday business of companies.

Principles for developing partnerships

The future of university-business interactions is heavily contingent on building stronger trust-based relationships through a step change increase in the capacity and capability for engagement.[1] More universities, and more staff within universities, need to reach out. Guidance for universities in developing strong and successful partnerships with industry will emphasise they are established over time and based on mutual trust, benefit and communication.

Building sustainable industry-university engagement is a major undertaking. Universities need to understand how industry, and different companies, operate. Key elements in a successful partnership include planning not only what will be done but how it will be done effectively. Industry partners need to be aware of how the university operates, and the support individual academics have through university strategy and its executive management team.

It is important that a key person/coordinator is appointed as the main university contact and this individual will have links to senior management. While a partnership may be formed by an individual academic who undertakes the activity with the industry partner, it is important for that partner to view the relationship as existing in equal part with the university as an organisation, with relationships fostered by the academic with others in the university.

Successful industry-university partnerships tend to be well planned with effective strategies applied to each stage of the partnership lifecycle: attraction/selection, engagement/formation, development/functioning, maturity/management, exit/re-invention.

[1] A Vision For University-Business Engagement in Australia, Howard in University Industry Innovation Network(UIIN), 2021

The Accord must facilitate new ways of embedding collaborative cultures for knowledge and skills development, providing a lever for Australia's future success - an aspiration held by the Review of University-Industry Collaboration in Teaching and Learning.[2] Led by a **teaching and learning partnerships steering group with representation from government**, providers, accreditation bodies and industry, a framework providing best practice for the relevant sectors and bodies to work together throughout all stages can be developed. The framework could include guidance on establishing specific strategies for accreditation bodies to engage organisations in mandatory placements, such as supporting supervisors.

[2] Review of University-Industry Collaboration in Teaching and Learning, Bean, M. and Dawkins, P., Department of Education, Skills and Employment, 2021

4. Ensuring enough students are studying courses that align with the changing needs of the economy and society

Opportunities for the Accord

4.1 Establish a key Accord role in guiding the ongoing data collection and analysis of Australia's skill needs

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4.4 Identify and remove barriers to the provision of shorter education and training options for industry and existing workers

Ai Group's latest skills survey, released in November 2022, shows businesses experience continued difficulties in meeting their skill requirements.[3] An ongoing pipeline of quality workers, with the right skills, in volumes that industry needs is a great challenge and requires several structural reforms and new strategies to ensure university education is relevant, flexible and connected to workforce needs.

New research by Ai Group has found that graduates holding bachelor's degrees report strong employment outcomes at 25, however 36% are working in jobs below the skill level aligned with their qualification.[4] Those with postgraduate degrees had higher levels of employment, skill alignment and satisfaction. The highest level of employment, skills alignment and satisfaction was reported by 25 year-olds with apprentice/trainee qualifications.

Achieving the right volume of graduates with the right level of skills needed by the workforce requires a long-term commitment to examining current, emerging and future workforce needs. Current workforce pressures exist from greater demand for higher-level, flexible skills, especially in key STEM areas. Australia needs a larger degree-qualified engineering, technical and digital workforce as well as a VET-qualified workforce in skilled trades, traditional industry and utilities.[5]

[3] 2022 Skills Survey: Listening to Australian businesses on skills and workforce needs, Australian Industry Group, 2022.
[4] First steps on the ladder: exploring young Australian's pathways from education and training into work, Australian Industry Group, to be released in April 2023.
[5] State of Australia's Skills 2021: now and into the future, National Skills Commission, 2021

Projections showing large shortages of tech-based professionals in coming years are well publicised [6] as are shortages of engineers. The Australian Academy of Technological Sciences and Engineering recognises Australia 'currently lacks the capacity and critical capabilities to be able to deliver on our tech-powered, human-driven potential now and into the future.'[7] New knowledge and skills are needed for the clean transformation, looming just as large as the digital transformation. Ai Group's 2022 skills survey found that 24 per cent of businesses already have either emerging or increased skill needs as a result of the transition to the clean economy, with Ai Group members reporting skills shortages across a number of the existing, evolving and emerging clean occupations.

Transformations are whole-of-company, causing skill needs to be multi-layered. Industry needs deep, technical skills but also transferable skills. The ILO Global framework on core skills[8] categorises core skills for the 21st century as cognitive and metacognitive skills; basic digital skills; basic skills for green jobs; and social and emotional.

Timely data on the state of Australia's skills landscape is promised through the new Jobs and Skills Australia. **This JSA function must continue to identify emerging skills** and occupations, demand and supply to drive effective policy settings for student intakes and migration.

This work will be most effective for Australian industry when combined with further work on a comprehensive and accessible **skills classification system**, and the implementation of a revised **Australian Qualifications Framework.**

Achieving the right skills equation can only be deeply effective alongside a **coherent and connected tertiary education system** with structures that facilitate student movement between the sectors.

These system issues are discussed further in **Growing a culture of lifelong learning in Australia, creating a connected tertiary education system and the role of the AQF).**

Barriers to the right skills caused by disconnectness of two tertiary education sectors

[6] For example: Roadmap to Deliver One Million Tech Jobs, Technology Council of Australia, October 2021.
[7] Our STEM skilled future: An education roadmap for an innovative workforce, Australian Academy of Technological Sciences and Engineering, 2022.
[8] Global framework on core skills for life and work in the 21st century, ILO, July, 2021.

At present, barriers arise because of the entrenched divisions inherent in our tertiary education sector. As an example, Ai Group has been experiencing challenges for five years in implementing its government-funded pilot higher apprenticeship and degree apprenticeship programs due to the disconnectedness of the VET and higher education sectors. Delivery issues have arisen where programs involve a combination of competency-based learning through a VET Diploma and a curriculum-based model of an Associate Degree. Places are funded differently for learners moving through the two sectors, and current legislation provides a barrier to the employment-based learning model in higher education, with declaration of apprenticeships and the use of national training contracts restricted to VET qualifications.

Collaborating to design and deliver the right courses

Another vital improvement needed to ensure enough students study the right courses, is to change the overall mindset on university-industry collaboration (discussed further in **Ensuring graduates are entering the labour market with the relevant skills and knowledge they need for the workforce**). Notwithstanding the many effective and successful partnerships, the norm in universities should be to embed collaborative cultures for knowledge and skills development. It is recognised that employers need to be willing to collaborate, and commitment from industry associations to raise awareness and guide involvement is vital.

Greater cultures of collaboration could be supported by a stronger system of metropolitan and regional hubs. As exemplars for collaborative industry-education cooperation, hubs should be well-funded and expanded across the business landscape, encouraging involvement by smaller-sized companies. Hub models encourage multi-partner innovative spaces to develop industry-student-provider engagement models.

Regional centres will strongly benefit from support to establish greater cultures of collaboration and hubs between tertiary education providers and local industries that co-create skill ecosystems. While initiatives already exist in Australia, more are needed. Funding and support for these initiatives can range from financial regional incentives, education vouchers, training grants and scholarships and general tax deductions.

Developing shorter forms of education and training

The new world of work provides opportunities for universities to integrate shorter education and training options that will serve the re-skilling and upskilling needs of industry into the future.

Building closer engagement between universities and industry will be conducive to shorter forms of training, including micro-credentials, that are increasingly needed by industry for existing workers.[9]

Ai Group's research shows that short courses are the most used form of education and training by employers, ahead of formal qualifications, conferences and microcredentials. Yet universities are the least used provider for short courses and microcredentials.[10] Funding to universities must remove barriers to provision and encourage an increase in the delivery and integration of shorter training options specific to re-skilling and upskilling needs, by engaging with industry.

[9] Australian CEO Survey, Australian Industry Group, 2023

[10] 2022 Skills Survey: Listening to Australian businesses on skills and workforce needs, Australian Industry Group, 2022

5. Developing high quality general learning capabilities across all age groups and industries

Opportunities for the Accord

5.1 stablish on-going process, with industry, to review generic capabilities required in tertiary education

5.2 Establish a teaching and learning partnerships steering group which includes industry representation (see **'Promoting a quality learning environment'**)

5.3 Provide leadership on WIL, using the renewed National Strategy on Work Integrated Learning as the key guide (see **'Embedding work-integrated learning in higher education**')

A lack of generic skills in new graduates was considered a pressing issue by Ai Group members at an education and training consultative forum in February 2023. Employers reported that, while technical capabilities are trusted, graduates often fall short on the 'human qualities' needed to interact and operate effectively in their businesses. They expressed a need for graduates to have a basic understanding of business operations along with an ability to interact and a willingness to learn and adapt.

In 2022, Ai Group asked Australian businesses if the need for generic capabilities had changed in their organisations in the last 12 months. Employers indicated an increased need for these skills in all occupational categories. There is no doubt that employers understand the importance of these skills and value them in their workforce.

The increased need for generic skills partly reflects the effect of digital transformation, where people are more often performing tasks that involve problem solving, navigating and communicating. Business transformations are whole-of-company causing skill needs to be multi-layered. Industry needs deep, technical skills but also transferable skills (e.g. collaboration, risk and change management, digital literacy, data analytics). To create well-rounded, valuable workers these capabilities need to be cultivated alongside technical skills and knowledge.

Generic skills often include critical and analytical thinking, problem solving, adaptability and communication, however employers can

include a broader range of capabilities under the term as indicated above through Ai Group's consultative forum. Further, the ILO Global framework on core skills for the 21st century[11] recognises that social and emotional skills, are a subset of an individual's abilities, attributes and characteristics important for individual success and social functioning. The OECD cites skills such as co-operation, empathy, and tolerance as key to achieve sustainable development goals and to effectively participate and contribute towards building democratic institutions. The tertiary education sector would benefit from an ongoing process that ensures future-oriented generic capabilities are reviewed with industry to provide guidance to higher education and VET in teaching and learning. The incorporation of these generic capabilities should be encouraged in all disciplines.

Higher education has a central role to play in developing high quality generic learning capabilities for application across all industry areas. Widespread co-design, co-development and co-delivery of courses (discussed further in ***Ensuring graduates are entering the labour market with the relevant skills and knowledge they need for the workforce***) will facilitate development of generic capabilities so valued by employers, as will more work-based and work-integrated learning (discussed further in ***Embedding work-integrated learning in higher education***).

It is interesting that Ai Group's 2023 research[12] into youth pathways to employment has found that apprenticeships and post-graduate degrees had the strongest employment outcomes at age 25, given these pathways potentially offer more opportunities for generic skills development within work environments.

For existing workers facing an increasing need to develop their generic skills within changing work environments, the higher education system has an opportunity to provide greater flexibility in offerings and improved access to shorter forms of education and training for all age groups (discussed further in ***Ensuring enough students are studying courses that align with the changing needs of the economy and society***).

Enhanced partnerships (discussed further in ***Ensuring graduates are entering the labour market with the relevant skills and knowledge they need for the workforce***) will help to ensure that available training

[11] Global framework on core skills for life and work in the 21st century, ILO, July, 2021.
[12] First steps on the ladder: exploring young Australian's pathways from education and training into work, Australian Industry Group, to be released in April 2023.

meets the needs of local employers and are updated or developed where required. With industry, universities will be better able to co-design flexible training solutions that can respond to local and emerging needs and be implemented quickly.

6. Embedding work-integrated learning in higher education

Opportunities for the Accord

6.1 Provide leadership on WIL, using the renewed National Strategy on Work Integrated Learning as the key guide.

6.2 Commit to establishing a national WIL infrastructure formed using the renewed National Strategy as the template and guide for all partners

6.3 Engender the principle to integrate work-integrated learning into all university courses as a core learning practice in qualifications.

6.4 Monitor National WIL progress through a representative group of Strategy partners, including government

6.5 As outlined in the Strategy, establish:
-national promotion and communication of WIL types and benefits to all parties
-national funding schemes that encourage and support increased participation by companies and students, and which consider specific groups
-guidelines and standards for WIL activities and partnering, utilising extensive existing ACEN resources
-comprehensive reporting and monitoring of WIL nationally
-industry association aggregator opportunities in managing WIL promotion and engagements

WIL suits today's workplaces. It allows students to be immersed in real work environments, bolstering the development of professional and specialist skills, and the developing capacity to learn as they work. It helps to develop the capabilities crucial for lifelong learning. It allows employers to identify and nurture student talent early and employ students after graduation. The latest national QILT Graduate Outcomes Survey cemented the benefit of work-based WIL for students as they engage with industry and community partners on real-life tasks and projects and gain valuable insights combining theory and practice.

Research on the changing workplace is showing there is an evolution to the nature of work. It speculates that the way people work is changing in an unprecedented way, suggesting skill development needs a different approach moving forward: where learning is not separate from doing, where we must immerse learning in work environments.

WIL has been demonstrated to provide benefits to all partners: it can lead to increased linkages between industry, universities and communities, and research engagements and innovation. While there are many examples of employers partnering in a variety of WIL activities, and there is recognition among employers of the benefits, there are significant barriers from the employer's point of view. These include time involved preparing for, supervising and mentoring students and administrative costs, and they which are a greater barrier for smaller companies.

For greater employment engagement, the wide range of innovative WIL models that allow for variable depths of involvement need to be promoted and accessible to them, and funding must be available to support involvement.

Universities have varying levels of involvement in WIL activities, through individual faculties and through dedicated WIL coordinators, supported by the Australian Collaborative Education Network. The National Priorities and Industry Linkages Fund has added some measures, however a much more comprehensive WIL system is needed in Australia which recognises some of the international exemplars, in particular Canadian initiatives.

The power of cross-sectoral collaborative relationships is apparent in the unique partnerships created through the 2015 National Strategy on Work Integrated Learning in University Education. The partners – Universities Australia, the Australian Collaborative Education Network, the Australian Chamber of Commerce and Industry, the Business Council of Australia along with Ai Group – have continued to monitor its progress.

The Strategy has driven linkages between universities and industries for students, researchers, and professionals. It has had a positive impact on universities in lifting capability and increased attention to WIL, increased research collaboration opportunities, access to new talent for industry, and fostered new working relationships.

However recognising the significant changes in learning and work since 2015, Ai Group and its partners have developed a renewed draft strategy, focussing on the emerging and future landscape.

The Strategy recognises the complexity of WIL and that quality WIL requires partnerships between universities, students, industry, and government. It seeks to build these by establishing a national WIL framework that develops innovative, high-quality, responsive and

sustainable WIL opportunities and experiences. The strategy addresses detailed commitments by all partners in curriculum design, planning and delivery, governance and management, and reporting. It encourages industry to embrace new ways of preparing students for work environments by re-considering work-team structures and it recognises that supports are required for industry involvement. It aims for better communication of WIL to industry, to improve access to WIL activities within universities, and for support with supervision and mentoring.

The Accord provides an opportunity for leadership on WIL, using the renewed Strategy as the guide. For government the Strategy canvasses university funding arrangements; tax incentives to ensure Australia's businesses (particularly small to medium enterprise) are able to effectively and equitably engage with WIL programs and also share in the benefits and outcomes; wage subsidies for employment based WIL, such as degree apprenticeships; and partnership opportunities to support WIL.

It includes relevant department and agency support for resources that boost the provision of WIL programs between universities, industry and communities. It calls on government to oversee the collection and reporting of WIL data that allows for progress, value and quality to be monitored and measured for impact on student outcomes, workforce development and innovations in WIL. The types of data to be collected, analysed and reported is suggested.

Supporting a national WIL infrastructure will require sustainable funding. The Strategy outlines a number of programs and measures for students, universities and industry, based on effective international models, that could be introduced. Canada has long been a leader in cooperative education and provides good funding model exemplars, as does the UK.

For industry, options include incentive schemes, wage subsidies and/or training vouchers, support for infrastructure designed to facilitate and grow WIL, such as think tanks and brokering centres; incentives for putting in place and developing staff to support WIL; priority schemes for SMEs and regional businesses and for industries with acute skill gaps; and funding for peak bodies to administer grant schemes and to develop sector-wide measures with government for participation, quality and outcomes in WIL.

Another model for funding was released in 2020 by the Mitchell Institute. It detailed a proposal for a National Job Cadet Program[13] using existing infrastructure for employer incentives and wage subsidies to incentivise employers with training costs met by the interns and cadets through FEE-HELP. Subsequent to that proposal the Women in STEM Cadetship and Advanced Apprenticeship Program have delivered some support.

Ai Group's own experience managing two successful, ongoing WIL programs - the South Australian Defence Industry Scholarships Program and the Victorian Defence Science Institute's Scholarship Program - has provided broad insights and learnings into student and university needs as well as companies' engagement, requirements and feedback on the value of WIL to their businesses. These programs have demonstrated the benefit of funding an aggregator/coordinator to bring students, universities and companies together and support their involvement.

[13] Dawkins, P., Hurley, P., & Lloyd, D. (2020). Averting an Escalating Labour Market Crisis for Young People in Australia: A Proposed National Job Cadet Program. Mitchell Institute, Victoria University. Melbourne

7. Growing a culture of lifelong learning in Australia, creating a connected tertiary education system and the role of the AQF

Opportunities for the Accord

7.1 Facilitate full implementation of the Noonan Review of the AQF

7.2 Develop and implement the Australian Skills Classification

7.3 Establish an AQF governing body in accordance with the recommendations of the 2019 Noonan Review of the AQF.

A connected tertiary sector with lifelong learning at its heart

Over the past decade there has been a growing realisation that the Australian post-compulsory education and training system is deeply and structurally flowed and no longer fit for the future. This is not to suggest that all that has gone before is problematic nor that all that exists now is inadequate. Rather, it is an understanding that looking into the future helps clarify that continuing in the same trajectory, with the same structures and approaches will take us further from our preferred future. However, choices can be made, and directions pursued to transition to a high performing, coherent and cohesive tertiary sector – with lifelong learning at its core. A compelling and clear vision will need to be articulated and bold decisions will need to me made. Anything less is settling for mediocrity.

Australia had evolved from a country that had mass secondary education to one that has mass tertiary education. With the advent of the Bradley Review, that lead to the uncapping of higher education places at university and the continual development of vocational qualifications across a broad range of occupations, the era of mass tertiary education had arrived. This is quite an achievement, something previous generations would not have dared dream about.

Structural Reforms

Understanding the central influence people's capabilities have on productivity and recognising that our education and training sectors are the primary developers of knowledge and skills, Ai Group calls for more holistic approaches to education and training to positively

impact Australia's skill levels and workforce resilience. Lasting change can only occur if the embrace of several overdue structural reforms.

A fully implemented, revised Australian Qualifications Framework

A new Australian Qualifications Framework will better serve modern industry, jobs and skills for the future. It will also enable the emergence of a world-leading, flexible and adaptable education and training system and is an essential element within the Government's roadmap. While some work has commenced, full implementation of the overdue reforms from the Noonan Review will provide a modern qualifications framework fit for current and future education and training needs. They allow for more flexibility in the way we combine the teaching of skills and knowledge, and a deeper understanding of the importance of context and application in education and training. Full implementation of the proposed framework will better connect the tertiary education sectors and be adaptable by industry and individuals.

Qualification frameworks are important. They are the primary policy architecture of education and training systems. They organise and frame how qualifications are developed and assembled. They help establish relativities between and across qualifications. They are an organising framework for how individuals and industry intersect with education and training and indeed how the education and training system configures and codifies what it seeks to provide.

CEDEFOP note that: National qualifications frameworks (NQFs) **help to make qualifications easier to understand and compare**. They can also encourage countries to rethink and reform national policy and practice on education, training and lifelong learning.

The OECD in their definition take the understanding of qualification frameworks a step further, explicitly articulating the link between the labour market and a qualifications framework.

All qualifications frameworks, however, **establish a basis for improving the quality, accessibility, linkages and public or labour market recognition of qualifications within a country and internationally**.

Qualification frameworks, however, are much more than this. Qualifications frameworks, at their best, enable the current and future needs of the labour market to be met. They provide the architecture for suites of qualifications, including shorter form credentials, to actively develop the skills and knowledge base of the

country. They are not benign, and they are far more than a regulatory tool for the purposes of alignment and compliance.

A well-designed framework is enabling. Qualifications of all forms are able to be designed and developed in accordance of the needs of both the economy and civic society. An enabling framework, compared with the current rigid and hierarchical framework, is better able to perform its vital function of fit-for-purpose qualifications for the modern and transforming economy.

Qualifications and the world of work

While the world of work has changed dramatically, individuals entering work have correspondingly different expectations, needs and potentially a complex, multifaceted journey to navigate. When the original qualifications framework architecture was designed (1995) the internet was in its infancy, and post-it notes a handy new innovation. The 2011 revision to the Australian Qualifications Framework occurred as smart phones became ubiquitous, and emails took over our lives. We are now in a world of digitalisation, Industry 4.0 and the challenges of AI abound. The requirements of our fast-moving world with an unknown future will require the rethinking of many of our systems and structures, most especially those that enable learning. The skills and capabilities required to enter and stay in the workforce in the 2020s and beyond are different than in the 1990s. While some skills remain constant, many new ones have been added and the balance has shifted and continues to shift. No longer are we developing qualifications for a world where your entry qualification is designed set you up for the remainder of your working life. Nor will qualifications only be acquired in a linear, hierarchical manner. A qualifications framework needs to enable this future.

What does this mean for a qualification's framework?

Traditionally qualification frameworks have tended to be rigid. Individual qualifications have been developed and aligned to explicitly described levels. This is usually neat and convenient. Each qualification has its place. Under these such arrangements the levels in qualification frameworks describe knowledge, skills and their application all at the same level. While this is also neat and convenient, it does not reflect the reality of our continually transforming economy and community. Furthermore, it never did. Describing skills, knowledge and application as tied to each other and fixed to a level is an artificial alignment then placed into an artificial construct. The relationship between knowledge, skills and their

application has always been dynamic, with variable relationships between knowledge and skills that combine into application.

The existing AQF has ten levels. Theoretically each level is separately described. The knowledge, skills and application are described ten times in a hierarchical manner. Upon closer examination it becomes apparent that it is indeed difficult to describe knowledge, skills and their application at 10 levels. Overlaps between levels exist and the attempted distinctions are insignificant. The Terms of Reference of the AQF Review recognised this by including the following reference to be considered:

'similarities and optimal points of differentiation of VET and higher education qualifications, particularly at Levels 5, 6, and 8.'

The AQF Review Report stated: 'Its ten-level structure is duplicated but not consistently expressed, too rigid and overly hierarchical, with artificial and arbitrary distinctions between levels. This results in poor differentiation between some qualification types, and descriptions of skills and knowledge that do not reflect existing leading practice, let alone meet future requirements.

Considerable research including international investigation, lead to the review proposing eight bands for knowledge and six bands for skills. This proposal recognises the need to have genuinely distinguishable bands. This also reflects a complex but important relationship between skills and knowledge. In the current AQF knowledge is privileged over skills. Is that really to model that we choose to continue with? What about a world where knowledge and skills are equally valued and the relationship between them is understood in term of the realities and complexities of learning and the world of work. All jobs require knowledge and skills and their application. Similarly, all jobs at an assigned level/band require a unique and authentic blend of knowledge and skills and their application.

The implementation of a revised AQF will require careful guidance and oversight. The Review recommended the establishment of an AQF governance body. This is a necessary first step to ensure the best possible outcome.

A comprehensive and accessible skills classification system

A fully developed Australian Skills Classification has the potential to provide a single taxonomy to effectively and coherently describe skills. This taxonomy can underpin the new qualifications framework to help industry identify transferrable skills between jobs, workforce skills gaps, identify training needs, and through shared understandings of skill descriptors, assist employers to work with education and training providers. It will need to be well-supported to incorporate regular updates that reflect the fluid nature of workplace skills.

This proposed skills taxonomy also creates the common language for the tertiary education and training system, an important consideration in evolving towards a coherent and connected tertiary system.

A better-connected tertiary education system

The necessary changes discussed above will only be deeply effective alongside a coherent and connected tertiary education system with structures that facilitate student movement between the sectors. The establishment of such a long-term policy view for tertiary education is another overdue reform driven by new and changing skills and skill levels. Industry increasingly requires skills development that straddles both the VET and higher education sectors as combinations of skill sets shift and incorporate higher level skills. The University Accord process is a rare and important reform opportunity that can make significant recommendations to build towards a tertiary system.

At present, barriers arise because of the entrenched divisions inherent in our tertiary education system. Ai Group has been experiencing difficulties for five years in implementing its government-funded pilot higher apprenticeship and degree apprenticeship programs due to the disconnectedness of the VET and higher education sectors. Delivery issues have arisen where programs involve a combination of competency-based learning through a VET Diploma and a curriculum-based model of an Associate Degree. Places are funded differently for learners moving through the two sectors, and current legislation provides a barrier to the employment-based learning model in higher education, with declaration of apprenticeships and the use of national training contracts restricted to VET qualifications.

There are a number of ways in which common policies could operate across both VET and higher education. Public funding for the tertiary education system should be at a level that enables quality outcomes across VET and higher education, and be equitable across the sectors

and between levels of government. It must be sufficient to deliver access and equity principles, practices and programs and must appropriately support both public and private VET providers.

These changes will encourage closer partnerships between the VET and higher education sectors. This should include the exploration of and support for more innovative tertiary education institutes that mix vocational and higher education. One example is the NSW Institute of Applied Technology, which aims to fully integrate VET and higher education in a cohesive tertiary curriculum that has access to industry representatives and that can accommodate employers involved in the delivery of their own proprietary training.

8. Improving pathways between VET and higher education and integrating successful linkages between VET and higher education

Opportunities for the Accord

8.1 Facilitate improved alignment between VET and higher education courses, as a result of VET qualification reforms

8.2 Address funding discrepencies between sectors relating to the same qualifications

8.3 Consult with industry to examine career trajectories and build education pathways across the tertiary education sector

8.4 Allocate funds for outreach staff in universities to establish and address SMEs' needs

8.5 Design and implement a funding scheme that enables industry associations to act as aggregators for small businesses and connect them with universities

Articulating from a VET qualification to higher education can be difficult and confusing for an individual. Recognition of VET qualifications is not a given and is not consistent across universities. From the perspective of an industry organisation watching the play between the two sectors, several factors appear to contribute to this problem.

One contributing factor is the differing structure of the two types of qualifications. The VET model which uses competency units as the building blocks that make up qualifications suggests to some that VET is only about completing a task to a suitable standard. While this is a narrow view, the VET structure differs widely from the higher education structure of learning outcomes forming a qualification's basis.

The fact that competency units all contain knowledge evidence, and sometimes at complex levels, can be overlooked by those unfamiliar with their content. There is potential for better alignment to higher education courses when the broader skills standards proposed in current VET qualifications reforms, that relate to job functions rather than tasks, are implemented.

Another factor that can act as a barrier to successful linkages between the two sectors is the difference in how they each receive

government funding. An example is the Diploma of Applied Technologies, which in Victoria can be undertaken at one education provider as a VET qualification and at another as a higher education qualification. The Victorian Government subsidy for the VET qualification is $5,590. If it is undertaken as a higher education qualification the Commonwealth contribution for a Diploma taking one year is $16,969. In addition, the student contribution is $8,301, totalling $25,270.

These funding differences contribute to a perception of VET as the junior partner of the two sectors, including within dual sectors institutions; and that it is task-oriented and not learning-oriented.

Notwithstanding this, good examples of the two sectors cooperating to enable a learner to proceed seamlessly exist. Early Childhood Education and Nursing offer education pathways that can take a learner through a career path starting from entry level to professional. These examples highlight what is possible, but also point to the failings in other sectors.

There is a need for much greater consultation with industry to examine career trajectories and build education pathways that reflect what can take place in employment for people who want to add to their work experience with an education credential. These pathways must allow for two-way cross-movement in courses across the VET and higher education sectors.

In recent years Ai Group has been working with companies and universities to pilot new VET/higher education hybrid models that meet industry's higher level skill needs. Through this work we have noticed a tendency for higher education providers to focus on large businesses who are more likely to provide the volume of student numbers needed to make a program viable. However, the majority of Australians is employed by small businesses.

To engage with SMEs, universities would benefit from outreach staff who can meet with businesses to establish their needs. Further, universities could work with industry associations who can act as aggregators for small businesses requiring new skills and knowledge through innovative qualifications.

9. Shaping a system that delivers new knowledge, innovation and capability

Opportunities for the Accord

9.1 Establish a national research advisory forum with industry representation, and capacity to stand up specific industry expert groups on priority research for Australia

9.2 Fund industry research facilitators within universities and industry associations

9.3 Support companies and universities through a model/template for relationship development

9.4 Consolidate and share data on research undertaken to assist industry understanding of opportunities

9.5 Consolidate and share funded initiatives and programs available

Notwithstanding the range of existing research initiatives and linkages between industry and universities, the gap in cultures and research language between many companies and universities remains an impediment to greater research and commercialisation in Australia. The National Research Infrastructure Roadmap identified issues in Australia's research system and provided strategies, however the differences in operations, timelines, roles and commercial outcomes continue to impede partnerships and results. Consideration should be given to cultural issues, such as overvalue of IP by universities and the difference in pace between a faster moving private sector and a traditionally slower moving research process.

Greater awareness is needed by more employers that specific business problems can be solved via research collaborations. For some that are aware (particularly smaller companies), there is still a gap in knowledge around how and where to start the search for a relevant university, and how to approach them. The decision as to which university to approach can be influenced by a number of factors. Major influences include a university that has knowledge and expertise in the relevant discipline/field; pre-existing relationships/partnerships for research, calibre of PhD students, previous partnerships on work integrated learning or co-design; and close geographical location. Potential industry partners can be disadvantaged depending on

proximity to universities that may or may not be better resourced, or better placed to collaborate.

Accessible information on existing metrics and rankings on high quality research would assist in decision making once companies are considering a university partner. Research strengths highlighted through the ERA and other world-based rankings that use metrics of quality and quantity of academic publications and citations across all disciplines, can have a bearing once a university is identified as having research expertise specific to a company's problem. They assist in steering a company towards a compatible collaboration.

However, the ability of universities to explain how their applied research services are relevant can be a deciding factor for engagement and one which ultimately drives research translation. At an Ai Group forum in April 2022, a member commented that the university contact they approached about a possible partnership was unable to explain how their mathematical modelling services for manufacturing would be applied, therefore the company was unable to imagine the benefits 'at the coalface'. Another Ai Group member business reported confusion about how to source a university to partner for research in the first instance.

As outlined above, the starting point for businesses is often identifying those universities with the specific research expertise required for meaningful application in their organisational context. Rankings would provide a guide when deciding between a few universities with similar research capabilities. However, where strong relationships already exist, and/or previous PhD student involvement has been valued, and/or successful outcomes have been achieved between a company and a university, or where proximity is paramount, rankings are not as important.

A major goal of the URC Action Plan is accelerated, deeper research collaboration between industry and industry researchers. Many successful partnerships achieve longevity: they are established over time and based on mutual trust, benefit, and communication. Both industry and universities need to work through stages of partnership development and to recognise that these partnerships take time and effort.

Given employers have expressed to Ai Group barriers to contacting universities, Australian companies seeking research engagement would benefit from information identifying which universities have developed streamlined communications that enable a company to

easily approach them and articulate their research problem(s). Dedicated university guidance should take companies through different expectations relating to outcomes and commercial imperatives, time horizons, IP, and ongoing monitoring and management.

In April 2022, an Ai Group member commented on a perception that universities have an interest in collaborating primarily with larger businesses. Notwithstanding that SMEs can have investment constraints, an increase in the involvement of business from these latter categories is important in achieving research results for Australia.

Universities must work to align goals for a small company. These needs/goals often do not align with many of the longer-term university research models (for example, research to produce a small change in productivity on a product line quickly). One support for universities could be aimed at bringing a group of SMEs together in a related research specialisation, to generate scale.

The challenges raised have long existed. Notwithstanding progress made through recent government research commercialisation plans and strategies, genuine progress would be made through the establishment of a national research advisory group with industry representation, and capacity to stand up specific industry expert groups to examine priority research for Australia.

The group could advise on a program of industry research facilitators within universities and industry associations to raise awareness on research opportunities for industry, negotiate different needs and guide progress. The research advisory group could also advise on a template for relationship development; on consolidating and sharing data to industry on research undertaken to assist in an understanding of opportunities; and on consolidating and sharing to industry funded initiatives and programs available to incentivise involvement.

10. Improving the research workforce

Opportunities for the Accord

10.1 Develop a national research training framework

10.2 Establish an oversighting body including government, the ACGR, research bodies and peak industry associations to guide the framework's progress

10.3 Within the framework, facilitate broader capability development for research students

Barriers to industry involvement persist within an Australia research training system that must aim to nurture research and innovation entrepreneurs. Businesses can be unaware of the opportunities research and innovation can provide them, or find the search for a relevant researcher or university difficult, or become disengaged by university structures and protocols.

An Ai Group member company recently expressed praise for a PhD student who had been engaged to assist with an important innovation. The company similarly praised the ready access to academic supervisors with specialist knowledge. While there are successful collaborations such as this, we also hear stories of less effective interactions, suggesting there is room for improvement in research training: both in the partnerships between universities and industry and in the capabilities developed by universities.

Collaborations are a shared responsibility, however a number of recurring issues for industry need to be overcome: barriers to making contact with universities; different expectations relating to outcomes and commercial imperatives of companies; different cultures around time horizons; clarity on IP arrangements; and ongoing management and motivation.

Student success in industry projects will be influenced by the quality of the relationship between their university and the company with whom they are embedded. The response must be to:

- build stronger trust-based relationships - increase the capacity and capability of universities to engage and interact
- streamline communications pathways for industry – making universities easier to approach

- support SMEs to articulate research problems; to guide the direction of research, to co-supervise and mentor; and to be involved in candidate selection, induction, assessing progress and outcomes with the university and the student.

The many research bodies, guidance and initiatives existing in Australia lack an overarching framework to make this happen in a coherent manner. The country will benefit from a national research training framework. Accompanied by an oversighting body to guide the framework's progress that includes government, research bodies, the Australian Council for Graduate Research (ACGR) and peak industry associations, the Framework must encourage industry involvement by:

- promoting and raising widespread industry awareness of research linkages
- including a map of research fields and connector contacts
- outlining the steps in establishing and maintaining a quality partnership
- streamlining research engagement administration
- providing support through facilitators/connectors
- providing advice on co-supervising and mentoring
- promoting partnership grants, programs and co-location initiatives.

Using this Framework to upscale partnerships between industry and universities will become an important foundation in improving research training and pathways for researchers. Comprehensive marketing and promotion of the benefits and opportunities is needed to increase participation by industry, universities and prospective PhD candidates to create a greater understanding of the requirements of the opportunities for all parties. It will increase the volume of businesses aware of, open to and provided with guidance on engagements with researchers on industry research problems. Companies considering embedding graduate research students will benefit from information on the pathways taken by previous students in relevant disciplines at the universities under consideration.

ACGR and Ai Group developed two sister guides in 2018 which aimed to provide these supports - one focussed on assisting universities, and the other, *Enhancing industry university engagement through graduate research students* on businesses. The guides remain a useful foundation, having promoted graduate research students as a rich

talent pool, possessing the knowledge, intellectual abilities, technical capabilities and professional standards to work on and solve industry-defined problems or generate new knowledge. The guides provide principles for collaboration and assist companies and universities in realising short-term and long-term gains from graduate research student-industry engagement. They cover benefits to industry, establishing the engagement, developing the project, compliance and managing risk, delivering the project, examples of engagements and university contacts.

Another resource useful in the development of a National Research Training Framework is the *ACGR Checklist for the Management of Graduate Research Industry Internships.*

If businesses are to be encouraged to engage and invest, they need to be confident of students' research specialisations and enabling capabilities. Employers need a span of capabilities in research students. Students should be able to integrate well within an industrial environment; be able to identify the key differences between industry and university research priorities; to understand why industry values research differently to pure research and how to take the research to commercialisation.

Ai Group member feedback has suggested there is a span of capabilities employers want to see in PhD candidates beyond their technical specialisations, including knowledge of:

- business models, strategy and operations, cultures of organisations (standards and behaviours)
- digital systems/Industry 4.0/new technologies
- managing plans, budgets and outcomes
- complex problem solving; design thinking; being agile and self-managing; being flexible and creative in the work environment;
- communicating effectively in teams and with stakeholders
- research methods, funding and investment.

These skills and activities are not a natural extension from undertaking basic research. While it is acknowledged that some of these capabilities can only be developed once students are exposed to business environments, deeper development should be embedded in universities through curriculum design, content and delivery within undergraduate and post-graduate studies.

A national research training framework should include guidance on these broader capabilities required in research students by industry and offer strategies for development. The ACGR Good Practice Guidelines for Transferable Skills Development can be incorporated within the framework.

The National Industry PhD Program promises to assist with the development of these capabilities within business environments as it establishes new pathways, opportunities and funding for industry, universities and researchers. APR.Intern continues to be another powerful connector to practical research environments for researchers, and research talent for industry. A register of all programs would be useful for businesses.

11. Removing barriers to higher education for students

Opportunities for the Accord

11.1 Examine degree apprenticeships as one solution to higher education access barriers

11.2 Introduce a government incentive similar to employer subsidies paid for trade-level apprentices

11.3 Examine different delivery models to cater for effective degree-level apprenticeships

A significant barrier to participation in higher education is the opportunity cost of not working while studying. For a four-year degree, this could amount to more than $200,000 in wages not earned, with an added cost of a FEE-HELP debt of more than $20,000. For some this may be offset by taking a part-time job, however not everyone can support themselves with part-time work while studying.

The Accord Discussion Paper addresses some factors that can act as barriers. Additionally, cultural barriers exist for some groups, especially women. Some cultures do not place a high importance on women undertaking higher level studies, instead preferring they take up paid employment.

There is an opportunity to assist such groups access higher education by combining it with relevant full-time work. Degree-level apprenticeships have proved successful in other countries and pilots in Australia are underway. They have the benefit of combining study towards a degree with work that is relevant to the studies.

Experience in countries that have implemented degree-level apprenticeships demonstrates they provide opportunities to a much broader demographic than those normally applying to attend university as students. The attraction for the broader cohorts is the ability to earn a living while studying, to gain valuable industry-relevant experience in their chosen field, and in some countries to gain a university qualification without needing to incur a debt.

In the pilots that are underway in Australia, there is no current way to avoid the standard student contribution, however employers have demonstrated that they are open to contributing to the apprentice's

contribution. If this was augmented by a government incentive (similar to that paid to employers of trade-level apprentices) it could ease the eventual debt incurred for studying and make the model more attractive to those who might otherwise not have been attracted to the pathway.

The model can be attractive for employers because they benefit from early access to talented individuals. This is particularly important in periods of labour and skills shortages where employers are competing for talent. Employers also benefit from productive apprentices after one or two years. When they eventually graduate they have years of relevant work experience behind them as well as a good understanding of the organisation for which they work.

12. Regulatory and governance reforms to enable the higher education sector to better meet contemporary demands

Opportunity for the Accord

12.1 Undertake an intergovernmental review, commencing after the implementation of the revised AQF, to examine the current regulatory landscape and consider how the best elements of both the VET and higher education sectors' regulatory regimes could be combined into one model

There should be an aspiration to slowly and cautiously work towards harmonising regulation across the tertiary system, moving away from the distinct regulators we currently have in the higher education and VET sectors. Indeed, this was a recommendation of the 2008 Bradley Review.

The two current regulators, the Tertiary Education Quality and Standards Agency (TEQSA), the Australia Skills Quality Authority (ASQA) and to a lesser degree state-based VET regulators in Victoria and Western Australia, have different philosophies, policy frameworks and operating models. This reinforces the divide between VET and higher education hindering the creation of one high performing tertiary system.

We acknowledge that the need for a compliance-based approach in VET is far greater, given the sheer number of providers, the low barriers to entry and the proven record of poor provider behaviour. However, VET also needs a model which incentivises continual improvement and best practice, and allows greater autonomy for those with a proven track record. There is also an argument that the regulatory system in VET could provide better market signals regarding provider quality.

On the flipside, regulation in the higher education system needs to incentivise nimble and responsive institutions. Higher education providers must be able to design and deliver new qualifications in line with changing demands, in collaboration with industry where appropriate.

It is time to rethink the current regulatory landscape and consider how the best elements of both sectors' regulatory regimes could potentially be combined into one model. This would need to strictly enforce compliance, encourage outward facing innovation and

collaboration, incentivise and reward continual improvement and facilitate greater autonomy where it is warranted. This change would have to take place in a measured step by step manner to ensure the VET sector remains appropriately regulated throughout.

13. Changing the JRG package

Opportunities for the Accord

13.1 Recommend the discontinuation of the undergraduate certificates introduced by the JRG package

13.2 Review JRG funding approaches ensure expansion of in-demand discipline areas

The Jobs Ready Graduate package was initially an emergency measure implemented in the early and uncertain days of the COVID 19 pandemic. Good intentions in difficult times should not be the basis for entrenched policy reform.

Ai Group believes that this package needs to be either totally overhauled or significantly redesigned. Our two areas of major concern are:

1. Introduction of Undergraduate Certificates. These undergraduate certificates were implemented as a strategy to introduce shorter university options in a time of significant displacement and very unclear labour market outcomes in the early days of the pandemic. The idea of an undergraduate certificate was conceived in this climate and rapidly introduced.

   The undergraduate certificate has since been 'approved' until 2025. This is regrettable on a number of levels. The certificate was not a considered or tested qualification-type addition to the AQF, rather an emergency measure. This qualification type was NOT recommended by the Noonan Review of the AQF. The Noonan review recommended a more targeted and innovative suite of diploma qualifications that would include a new Higher Diploma, available for delivery by both the vocational and higher education sectors.

   The AQF Review Report noted that:

   Creating a Higher Diploma would create a sequence of shorter, specific qualifications from the Diploma to the Graduate Diploma. It would enable both sectors to offer shorter

qualifications to provide up-skilling and re-skilling opportunities in the future.[14]

Furthermore, the undergraduate certificate, despite its current AQF level alignment, has been restricted to university-only delivery. This exacerbates the disadvantage and residualisation that the VET sector continues to experience.

It is the strong view of Ai Group that the undergraduate certificates should be discontinued.

2. Reduction of Student contributions to targeted disciplines.

The changes in the required student contribution payments for particular disciplines, i.e. engineering, nursing, etc, had the unintended consequences of distorting the overall funding envelope available for delivery when aggregated from all funding sources. Rather than enabling expansion of in-demand and skill shortage discipline areas, some providers have had to make significant delivery adjustments due to the impact of less overall funding. The reduction in the funding contribution from the student was not replaced or rebalanced elsewhere. The funding envelope for these in-demand and skill shortage area programs simply reduced.

This has not served well the needs of industry or the university sector but acknowledged advantage for some individuals. Ai Group does not propose specific recommendations around new approaches to funding. Rather, we are concerned that on-going distortions remain problematic and suggest a more fulsome review of the approaches to funding is required.

[14] Noonan, P., Blagaich, A., Kift, S., Lilly, M., Loble,L., Moore, E., Persson, M., Review of the Australian Qualifications Framework: Final Report, Department of Education, 2019.

References

Australian CEO Survey, Australian Industry Group, 2023.

A Vision for University-Business Engagement in Australia, Howard in University Industry Innovation Network, 2021.

Dawkins, P., Hurley, P., & Lloyd, D., Averting an Escalating Labour Market Crisis for Young People in Australia: A Proposed National Job Cadet Program, Mitchell Institute, Victoria University, 2020.

First steps on the ladder: exploring young Australian's pathways from education and training into work, Australian Industry Group, April 2023.

Global framework on core skills for life and work in the 21st century, International Labour Organisation, July, 2021.

Noonan, P., Blagaich, A., Kift, S., Lilly, M., Loble,L., Moore, E., Persson, M., Review of the Australian Qualifications Framework: Final Report, Department of Education, 2019.

Our STEM skilled future: An education roadmap for an innovative workforce, Australian Academy of Technological Sciences and Engineering, 2022.

Qualifications Systems: Bridges to Lifelong Learning, OECD, 2007 https://www.oecd-ilibrary.org/education/qualifications-systems_9789264013681-en

Review of University-Industry Collaboration in Teaching and Learning, Bean, M. and Dawkins, P., Department of Education, Skills and Employment, 2021.

Roadmap to Deliver One Million Tech Jobs, Technology Council of Australia, 2021.

Skills Survey: Listening to Australian businesses on skills and workforce needs, Australian Industry Group, 2022.

State of Australia's Skills 2021: now and into the future, National Skills Commission, 2021.

AUSTRALIAN INDUSTRY GROUP METROPOLITAN OFFICES
SYDNEY 51 Walker Street, North Sydney NSW 2060, PO Box 289, North Sydney NSW 2059 Tel 02 9466 5566
WESTERN SYDNEY Level 2, 100 George Street, Parramatta, NSW 2150
CANBERRA AMA Building Ground Floor, 42 Macquarie Street, Barton ACT, 2600, Tel 02 6233 0700
MELBOURNE Level 5, 441 St Kilda Road, Melbourne VIC 3004, PO Box 7622, Melbourne VIC 8004 Tel 03 9867 0111
BRISBANE 202 Boundary Street, Spring Hill QLD 4004, PO Box 128, Spring Hill QLD 4004 Tel 07 3244 1777
ADELAIDE Level 1,45 Greenhill Road, Wayville SA 5034 Tel 08 08 8394 0000
PERTH Suite 6, Level 3, South Shore Centre, 85 South Perth Esplanade, WA 6151

REGIONAL OFFICES
ALBURY/WODONGA 560 David Street Albury NSW 2640 Tel 02 6041 0600
BENDIGO 87 Wills Street, Bendigo VIC 3550 Tel 03 5440 3900
NEWCASTLE Suite 1 "Nautilos", 265 Wharf Road, Newcastle 2300, PO Box 811, Newcastle NSW 2300 Tel: 02 4925 8300

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