

Australia's opportunity: a skills and productivity agenda

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Introduction

This paper addresses productivity in the Australian economy with a focus on a key driver of productivity - capability development. It argues that a skills and capability development agenda can improve lagging productivity and enable other economic and social benefits. It can lead to a broad range of productivity enrichments including digital technologies, infrastructure investment, productivity in the care and education sectors, and the opportunities from a net zero transition.

The paper outlines the imperative of productivity, long-term productivity patterns, skills and workforce development initiatives to support productivity, and examples of companies actively improving their workforce to positively impact productivity. Finally, the paper provides Ai Group's priorities for capability development in support of a thriving Australian future.

A capability development agenda needs to focus on both increasing skill levels for a more productive generation of outputs and technological and process improvements, as well as on the more effective use of skills through better structured work organisation. Ai Group believes these areas can be successfully tackled by reforming Australia's education and training and policy settings: through both system reform and architecture, and targeted policy and program reform.

The final element in this quest for capability development-driven productivity improvement is a robust partnership culture in Australia. Employers and education providers must be widely connected, with these relationships built into policy design, implementation and delivery, and workforce planning. Beyond this, success will be dependent on strong connections between economic and workforce development in our country.

Innes Willox

Chief Executive of the Australian Industry Group

1. Summary

Australia faces challenges arising from lagging productivity growth but also has significant opportunities as we move towards the second quarter of the century. Productivity is important because it enables sustainable economic and income growth. It is also integral to maintaining and improving living standards and quality of life. Productivity gains support the ability to invest in services such as healthcare, education and infrastructure.

Drivers of productivity include innovation in products, services and processes, capital investment (e.g.: infrastructure, technology), investment in human capital and the reallocation of activity towards those with higher productivity. This paper focuses on human capital, or capability development, through skills, education and training. Productivity improvements are both an objective of a capability development agenda and an enabler of other economic and social objectives.

Enhanced capability development will enable Australia to thrive in the future, with its beneficial impacts on industry, enabling of individual life choices as well as national productivity, participation and prosperity. Capability development is also fundamental to Australia's environmental, social and intellectual ambitions.

The interconnections between productivity and capability development are important to realising the benefits of both. From an economy-wide perspective, increasing skill levels should equate to a more productive economy. This relies not just on greater levels of skills but also on the right skills being available in the right place at the right time. At enterprise level, increasing skills and capabilities can translate into the more productive generation of outputs and higher wages both in relation to existing activities and by enabling enterprises to move up their value chain.

Skilling of the workforce also enables the further generation of technological and process improvements and the greater leveraging of available technologies. These advances require the organisation of work to be structured in

such a way to allow skills to be more effectively utilised. The focus of proposed solutions in this paper is on economy-wide system reform and program settings rather than for individual workers or workplaces.

Various recent policy papers have identified capability development as key to re-igniting productivity growth in Australia. These include the Employment White Paper (2023) and the Productivity Commission's latest 5 year Productivity Review. In setting out reform priorities, these papers focus on tertiary education systems and/or programs.

Ai Group's capability development agenda is broadly aligned with many national reform areas. Ai Group identifies two main elements for reform of Australia's education and training policy settings that will be enablers of productivity: system reform and architecture; and targeted policy and program reform. These share similarities and important differences with the Employment White Paper and Productivity Review.

Ai Group identifies two main elements for reform of Australia's education and training policy settings that will be enablers of productivity: system reform and architecture; and targeted policy and program reform.

While there is much alignment at a high level, there are also differences in detail and emphasis. Ai Group's view is that for capability development to effectively support productivity, strong

engagement between employers and education providers must be at the heart of policy design, implementation and curriculum delivery. To enable this, partnerships and connection is key, including workforce planning and connecting economic and workforce development.

Ai Group's view is that for capability development to effectively support productivity, strong engagement between employers and education providers must be at the heart of policy design, implementation and curriculum delivery.

Capability development is also an enabler of productivity enhancements such as digital technologies, infrastructure investment, productivity in the care and education sectors, and the opportunities from a net zero transition. While the skills needs for these objectives are not considered here in detail, better integration is needed so that skills needs are built into policy design.

This position paper sets out Ai Group's priorities for capability development to support a prosperous, productive future for Australia.



System and architecture reforms

- ▶ **Tertiary system reform:** prioritising a coherent and connected vocational and higher education system, supported by flexible system architecture that gives appropriate weight to knowledge, skills, their application; and enables lifelong learning;
- ▶ **Better policy integration:** designing economic and workforce development solutions together; connecting workforce demand and supply with a national, industry, occupational and regional focus. This requires an evidence-based, industry-aligned approach to tertiary education policy and provision.

Policy and Program reform

- ▶ **Foundation skills:** building efforts to raise the foundational literacy, numeracy and digital skills of Australians, so they are better prepared for productivity-enhancing changes at the workplace level;
- ▶ **Lifelong learning:** supporting labour market entry and retraining through policy settings such as 'second chance' learning, funded micro-credentials and more flexible apprenticeship pathways;
- ▶ **Work-based and work-integrated learning:** integration of learning and opportunities to apply to learning across the economy through apprenticeships, and the use of policy levers to facilitate quality work-integrated learning opportunities;
- ▶ **Leadership:** harnessing Australia's opportunity through refocused efforts on enhancing Australia's leadership and management skills to unlock productivity; and
- ▶ **Sustainable diversity and inclusion strategies:** embedding systemic strategies and programs that shift the dial on diversity and inclusion so that more women, Indigenous Australians, persons with disability and people from culturally and linguistically diverse backgrounds can access high value job roles.

2. Productivity and Skills

2.1 The productivity imperative

Australia boasts a high standard of living, with comparatively high income, employment, and education levels. Productivity improvements enable sustainable economic and income growth and are integral to maintaining and improving living standards and quality of life. Productivity directly affects a country's ability to invest in services such as healthcare, education and infrastructure.

Improving productivity is key for industry success and future improvements in living standards in an uncertain, supply-constrained and slowing economy¹. Productivity improvements also allow people to complete tasks more efficiently.

In other words, productivity isn't just about economics; it directly affects quality of life. It improves the daily lives of people by providing better incomes, safer workplaces, and a healthier environment. If productivity falls, the living standards that Australia enjoys would be at risk.

2.2 Long term patterns in productivity

Australia maintained strong employment growth and low unemployment following the COVID-19 pandemic, resulting in a tight labour market and high competition for skills and labour alongside inflationary pressures. Despite a softening of economic conditions, Australia's employment and unemployment figures have to date remained relatively stable.

Inflation and rising interest rates have created cost of living pressures for households and raised input costs for businesses. The annual consumer price index rose by 7.8 per cent in the year to December 2022, the highest since 1990. To manage inflation, the Reserve Bank lifted interest rates, with November 2023 representing the 13th rise since May 2022. With the stubbornness of

inflation through 2024, cost pressures remain, and productivity does not appear to have improved at an economy-wide level.

Given the importance of productivity to our way of living, it is of deep concern that productivity growth is lagging. The rates of growth in both labour productivity and multifactor productivity in the market sector have trended down in Australia since the mid-1990s.

Recent Australian Bureau of Statistics (ABS) estimates of growth cycle productivity also show productivity growth in Australia has been weak in the current cycle. Productivity declined significantly during the 2003-04 to 2009-10 cycle, and only weakly recovered in the subsequent 2009-10 to 2017-18 cycle. The most recent cycle – 2018-19 to 2021-22, which includes three pandemic-affected years – has seen even weaker performance, with labour productivity growth of 1.63% and multifactor productivity of 0.55%.

Australia is not the only high-income country to experience low productivity growth. Indeed, over the last 15 years, productivity growth in Australia was the second highest among comparable OECD countries. There is little question that action to address lower productivity growth is in the hands of individual nations, governments and industries.

Australia faces formidable challenges from the imperative to transition to net zero emissions in a short space of time; geopolitical challenges; and accumulating demographic pressures. Lifting the rate of productivity growth can be a key contributor to addressing these challenges while still raising Australia's living standards.

2.3 Capability development and productivity

Over recent decades, education levels have increased notably in Australia. In 2023, 32 per cent of people aged 15-74 years held a bachelor degree or above (36% of women and 28% of men).

Jobs and Skills Australia research projects that more than 9 out of 10 new jobs (around 92%) expected to be created over the next decade will require a post-secondary qualification. Around half of these jobs are projected to be at the highest skill level (48.4%) and will require a bachelor degree or above as the primary education training pathway.

From an individual perspective, there is a clear link between education and employment. For example, 79% of Australians aged 15-74 with a non-school qualification were employed in August 2024, compared to 58% without a non-school qualification. There are also clear links between education levels and wages. People with a postgraduate degree earned around twice as much as those without non-school qualifications in August 2023.

Data on education levels points to both an increasing supply - and demand - for a higher educated workforce. However, this is not currently translating into increased productivity. There are a range of indicators – such as significant, persistent shortages in many occupations – which suggest that despite Australia’s increasing skills levels, more needs to be done to translate qualifications and skills into productivity. Shortages are particularly apparent in trade and technician occupations, highlighting the important role for vocational education and training in boosting productivity.

Capability development through skills, education and training has a positive impact on productivity and economic growth, including general workforce capability through investments in education and training. According to the Productivity Commission, labour quality (reflecting the education and experience of the workforce) has accounted for about 20% of labour productivity growth in recent decades.²

Capability development supports structural transformation and economic growth by increasing employability and labour productivity.

It helps in managing challenges for individuals and enterprising arising from transformations such as shifting to net zero emissions and technological change.

An effectively functioning labour market has strong alignment between the skills available and workforce requirements.

Maximising productivity is about ensuring Australians have the skills demanded in a changing economy and having a labour market that effectively matches workers with the right jobs that require those skills.³

At an enterprise level, employers look to recruit employees with skills that are well-matched to available roles. There is also evidence that training increases employee productivity and organisational performance. Investing in training can be a key part of organisational strategy, and utilised to support innovation and product development, quality and productivity. In the Australian context, there is evidence of a significant positive association between management capabilities and labour productivity, as well as supply chain management and export performance.

The case study below from SAGE Automation provides insights from a company that is integrating learning and skills into its strategy, with resulting productivity benefits.

Strategic capability development for productivity

SAGE Automation is part of the SAGE Group, a global industrial digitalisation service provider. SAGE Automation specialises in providing smart automation and control solutions for a range of industry sectors including resources, water, energy, transport, defence and manufacturing.

SAGE invests heavily in training its staff. Some of the key skilling areas it focusses on are project management, cyber security, AI and leadership.

Managing projects for clients is at the core of the services that SAGE provides. There is a regular need to upskill people currently in project management roles and to create pathways for others in the organisation. A formal approach to training means there is a common, organisation-wide approach to project management. This is reinforced by an established Project Management Office (PMO), set up to ensure consistency and quality.

Staff can undertake a full qualification (Diploma of Project Management) or a micro-credential, depending on their requirements. Graduate Engineers also undertake the program.

Since establishing the PMO and offering formal training, SAGE is seeing enhanced knowledge sharing and approaches to project management. The training is delivered by Skills Lab, a national RTO owned by SAGE.

Cyber security is another area where training is regularly provided, some internally by Skills Lab, and other training is provided externally. Training is specifically tailored for leadership groups, technical delivery team members and general staff. Many of SAGE's projects are delivered within the defence and critical infrastructure sectors and as such, carry a requirement to meet ISO standards for cyber security training. The company philosophy is 'cyber by design' - built in first time to reduce the need for rework. SAGE customers are also invited to undertake cyber

security training to provide further resilience for their organisation and assets.

All staff receive foundational cyber awareness training, which is updated at least every six months. Staff that operate in the defence sector receive additional training as do the leaders, which is generally provided externally. SAGE has recently achieved ISO-27001 certification for information security management. For SAGE, protecting its data, systems and processes is a non-negotiable as it in turn protects the data of its customers and partners.

Artificial Intelligence is another area where SAGE is providing internal training. Currently the leaders are receiving training that will be rolled out to other employees in due course. Already, there are productivity improvements arising from AI, in terms of process improvements and adding computational power. It is also useful in helping to fast-track new ideas. SAGE has established a community of practice in AI to share innovations.

SAGE offers a Diploma of Leadership and Management to staff, plus a smaller micro-credential, generally delivered by Skills Lab. Graduates of the program regularly move into leadership roles and there is cross pollination between teams, providing consistency across the organisation.

Staff also receive training in an accredited unit in ESG (Environmental, Social and Governance). This relates to standards used to measure an organisation's impact across the areas of sustainability, governance and social impact. The training focuses on one implementable change each employee can achieve and encourages staff to think about the whole of life of a product or a service from a waste perspective, and from other perspectives. The benefits are in encouraging staff from different areas to talk to each other about opportunities in this space and has led to several innovations, including switching the organisation's large field service fleet to hybrid vehicles.

Capability development of existing employees can also result in higher rates of adoption of technological and process improvements, waste reduction and efficiencies. Effective teamwork through collaboration and communication also enhances productivity.

Training initiatives can be directly related to supporting productivity and the bottom line, as outlined in the case study below from the food manufacturing industry.

Productivity on the production line

At a food processing company in Melbourne employing around 400 production staff and 100 in head office functions, there is a strong focus on developing the skills of production workers. Developing people is a priority for the company and given the productivity enhancing benefits of training on the production line, training is considered a benefit rather than a sunk cost.

All production workers are offered the opportunity to undertake a Certificate III qualification. By completing the qualification, workers gain an understanding of the types of produce they process and learn how to cut and slice for retail consumption. They also learn about hygiene, knife handling, and processing foods.

Beyond the Certificate III qualification, selected employees are offered the opportunity to undertake further accredited training in leadership or quality. The RTO that delivers this formal training is a specialist in food processing training. It delivers all training on-site to reduce disruption to production times.

In addition to the formal training on offer, the company operates a buddy/assessor system, where staff learn to operate the production machines. These buddies and assessors are the subject matter experts who learn how to operate the complex large-scale production machines direct from the manufacturers. They then develop training materials, mainly using videos, to train other staff.

Many of the production staff are from culturally and linguistically diverse (CALD) backgrounds and English is often not their first language. The company partners with a community education provider to deliver language and literacy training to staff. This training is government-funded, however the company makes a significant

contribution by releasing staff during paid work time to attend.

Three years ago, there was no accredited training provided to production staff. Now, thanks to encouragement from management, most have completed or are undertaking the Certificate III qualification.

Benefits to productivity

The nature of the business model means revenue is generated for every kilogram of food processed. Therefore, any wastage, whether due to errors, lack of understanding, or skill deficiencies on the production line, directly affects business revenue. The formal training program equips staff with a comprehensive baseline understanding of the products they handle, including cutting techniques and the rationale behind specific procedures. This knowledge significantly reduces waste and drives efficiency at the production line.

The management team are aware that the knowledge and understanding gained through the upskilling investment is not necessarily skill based. Instead, they see value in the training's ability to help workers to understand 'why' they follow certain procedures (such as the use of colour coded buckets for various processing tasks), the types of food they work with (and its value), and a stronger understanding of 'what' they are looking for when carrying out quality control in the production line.

As a result, they see results on the production floor where those who have gone through the training have greater initiative to know what needs to happen on the line and they are able to take action without direction.

The higher level of skills on the production line has also seen a reduction in the numbers needed to work on each line and has contributed to a reduction in the number of mechanical breakdowns. Both reductions help to keep the business efficient and minimise wastage.

Staff turnover has dropped from 30% three years ago to less than 20%. At the same time the employee engagement score has risen from 35 to above 90. Much of this relates directly to the formal training, but a reduction in the numbers of casual staff and restrictions on the work they can do has also contributed to this.

2.4 Skills and workforce development initiatives to support productivity

Australia's lagging productivity has been identified in strategic reviews as a priority area for policy reform. Skills and capability development is one of the key strategies to achieve an uplift in productivity, for example, Working Future (the Employment White Paper) in 2023 and the Productivity Commission's 5-year Productivity Inquiry in March, 2023.

The Employment White Paper outlined the Federal Government's vision for a dynamic and inclusive labour market. Meeting skills needs and building Australia's workforce and reigniting productivity growth are both objectives in achieving this vision. The five objectives in the White Paper are:

- ▶ delivering sustained and inclusive full employment;
- ▶ Promoting job security and strong, sustainable wage growth;
- ▶ Reigniting productivity growth;
- ▶ filling skills needs and building our future workforce;
- ▶ overcoming barriers to employment and broadening opportunity.

To support the objective of re-igniting productivity growth, the White Paper identified a five-pillar approach: Creating a more dynamic and resilient economy; building a skilled and adaptable workforce; harnessing data and digital technology; delivering quality care more efficiently; investing in cheaper, cleaner energy and the net zero transformation. This five pillar approach requires investment and capability development.

A range of recommendations were also made to achieve the skills and workforce objective of the White Paper, including:

- ▶ targeted training programs such as industry specific training for occupations in shortage, short courses and micro-credentials;
- ▶ partnerships with employers including work-based learning;
- ▶ support for initial training programs such as apprenticeships;
- ▶ access to training pathways for diverse cohorts including women, Indigenous Australians and people with disabilities.

This focus on skills and workforce as both a labour market objective and an enabler for productivity, shows that capability development and productivity are inextricably linked. And while capability development is a key pillar of productivity, it also underpins other pillars – for example capability development and available workforce are critical for harnessing data and digital technology, for delivery of quality care, and for a clean energy future. The Employment White paper also includes a range of recommendations for foundation skills for young people through school reform (for example, school funding and quality teaching). The initiatives included in the roadmap are generally quite specific and include targeted programs.

The Productivity Inquiry, with its explicit lens on productivity, took a broad scope including school, VET and higher education as well as the role of institutional, regulatory and tax environments, innovation, digital transformation and managing climate change. It also considered workplace relations and migration. The education and training recommendations are the focus for this discussion. The Productivity Inquiry acknowledged the reforms underway

in Vocational Education and Training (VET), broadly supporting the direction of change. Published ahead of the Universities Accord, it highlighted a need for higher education reform including access, investment and quality. For school education, it focused on better resource allocation, teaching and sharing of best practices.

Both the Productivity Inquiry and the Employment White Paper recognise the need to match supply and demand for skills. Similar to the White Paper, the Productivity Inquiry highlights lifelong learning to ensure that workers can upskill throughout their careers, as well as the need for flexible learning options to accommodate adult learners. The Productivity Inquiry focus on quality and funding models is less apparent in the Employment White Paper.

The Employment White Paper recognised the importance of focusing on targeted training programs and partnerships with employers to address specific skills shortages. It places a strong emphasis on work-based learning, such as apprenticeships and traineeships, whereas the Productivity Inquiry focuses more on formal education reforms and continuous skill development.

The Employment White Paper highlights the importance of inclusive education and support services to ensure marginalized groups have access to training opportunities. This aspect is less prominent in the Productivity Inquiry recommendations. The Productivity Inquiry does make an explicit reference to the importance of science, technology, engineering, and mathematics (STEM) education to prepare students for future job markets, particularly those from underrepresented groups.

Ai Group's capability development agenda is broadly aligned with many of these reform areas. While there is much alignment at a high level, there are also differences in detail and emphasis. Ai Group's agenda includes system and program reforms. Overarchingly, Ai Group's view is that for capability development to effectively support productivity, strong engagement between employers and education providers must be at the heart of policy design, implementation and curriculum delivery. To enable this, partnerships and connection is key, including workforce planning and connecting economic and workforce development.

National reforms around capability development are key for sustained improvement in the skills pipeline, the renewing of skills and re-igniting productivity. In recent years, reports have been developed in parallel with Ai Group's policy and advocacy on behalf of Australian industry. These reports have included: The Clean Energy Generation - workforce needs for a net zero economy; the National Skills Plan; the five-year National Skills Agreement; and the Final Report of the Universities Accord.

While each of the reports has its own focus, they present common skills themes, issues and solutions that can contribute to a prosperous Australia into the future. Overall, they propose ways for the three key pillars of the national skills system (VET, higher education and migration) to effectively complement each other and flexibly respond to skills and workforce needs.



3. Capability development for a productive future

3.1 System reform and architecture

How these reforms are connected to industry will be critical to how they translate into improved productivity. For example, in terms of practice, ensuring that work-integrated learning comes to the fore and that tertiary sector teachers are deeply connected to industry. And from a governance perspective, that industry is at the centre of national skills architecture.

A coherent and connected tertiary system is needed. And public funding for the tertiary education system must be at a level that enables high quality outcomes and supports inclusion across VET and higher education. Given the longstanding disparity that remains between universities and vocational education and training, Ai Group would like to see fair and cohesive funding arrangements across the two sectors and between levels of government.

Another critical step is raising the status of skills relative to knowledge. Progressing reform of the Australian Qualifications Framework, as proposed by Peter Noonan in his Review of the Australian Qualifications Framework, is overdue. The current framework has ten hierarchical levels based on knowledge and skills locked into a laddered progression. This rigid approach assumes that knowledge is privileged over skills and therefore higher education over vocational education.



3.2 Workforce planning and improved policy integration

A skilled workforce is central to meeting Australia’s economic and social needs. To achieve this, effective matching of the skills demanded by industry and those supplied through the labour market is critical. Better matching in the economy decreases unemployment, reduces skills shortages and improves productivity as “matching efficiency in the labour market means Australia can generate more economic output for a given level of available workers and demand for labour”.⁵

The reasons for mismatches are many and varied. Reasons for inefficient labour markets include a mismatch between the skills and location of potential workers, and the requirements, remuneration, and location of available jobs. These issues are heightened in regional areas. For example, Ai Group has received advice that proponents of major projects in North Queensland, including renewables and critical minerals, are concerned about workforce capacity and the potential risk this poses to project delivery, particularly if migration is reduced.

This analysis points to the importance of strategies to better plan for emerging and future skills needs, including data and intelligence gathered through industry. The new architecture comprising Jobs and Skills Australia and Jobs and Skills Councils needs time to become embedded.

National and industry level workforce planning provides insights that inform strategies to meet skills and workforce needs. By their nature, these strategies are high level and directional and may not account for the complexities of local labour markets. Place-based workforce planning, particularly outside of major cities, is important to align skills and workforce needs. This is particularly the case for the delivery of strategic economic development initiatives.

Too often, consideration of skills needs happens as an afterthought. This risks delivery of economic development and productivity enhancing initiatives. It is important that skills needs are considered from the outset in making policy and program decisions.

3.3 Lifelong learning

Employers need increased access to readily available short programs at a range of skill levels to upskill and reskill existing workers. The expansion of micro-credentials, skills sets and other short form credentials are important and should be aligned to the skills needed in the labour market. Innovative models of training that allow working age Australians to develop skills and keep them up to date must be pursued and be made more accessible.

The Universities Accord Final Report makes the case that new qualifications and better pathways are required including more modular, stackable and transferable qualifications and that micro-credentials should be funded, accredited and recognised by the Australian Government. This reflects Ai Group's view. Our research shows that short courses are the most used form of education and training by employers, ahead of formal qualifications, conferences and micro-credentials.

Creating a lifelong learning system will enable individuals to navigate the system with greater ease and clearly demonstrate their skills and capabilities to employers. Stronger pathways and partnerships, greater accessibility and transparency should be the result. An Australian Skills Taxonomy, currently being progressed through Jobs and Skills Australia, would be a helpful addition, assisting both employers and individuals with the identification of relevant skills. The development of a National Skills Passport system is also useful, through which employers will be able to ascertain the skills and qualifications of potential employees more easily.

These initiatives should be underpinned by a lifelong learning funding model, with a coherent framework of learning entitlements and income-contingent loans available to students of VET and higher education. This would require a Commonwealth-state compact, and once the concept is agreed by all jurisdictions, the details of regulatory reform and funding models could

follow. In designing this model, it will be important to recognise that employers already make a large contribution to training.

3.4 Work-based and work-integrated learning

Apprenticeships

Ai Group and its members have long been strong supporters of the apprenticeship and traineeship system. The system provides the means for employers to develop a pipeline of relevant and in-demand skills for their company and for industry more broadly. The apprentices and trainees benefit from gaining valued skills development from their employment and from their completion of formal training qualifications, which can set them up to secure well-paying jobs and establish good careers.

Incentives for employers and apprentices to participate in the apprenticeship system are key strategies that governments can take to raise the number of commencements and improve completion rates. Incentives for employers recognise the costs they incur in employing, training and supervising apprentices, especially in the early years. They can help improve affordability when making the decision to employ. For larger employers, incentives can be used to fund apprentice mentors, or rotation models, or even to fund additional training for other employees such as apprentice supervisors. Carefully targeted incentives for apprentices can help some decide to see their training contract through to completion, rather than leave early for financial reasons.

The financial incentives for employers of apprentices and trainees have been reduced, especially for those that are not deemed priority occupations. The Strategic Review of Australian Apprenticeships provides an enormous opportunity to provide certainty and policy settings that encourage employers and apprentices to commence – and complete – apprenticeship programs.

Ai Group's submission also noted the importance of raising awareness of apprenticeship and traineeship pathways with eligible candidates, and of presenting the careers they lead to as equally desirable to other options. Other issues

raised were the value of supervisor training and mentoring of apprentices. The full submission is available at: [apprenticeship_incentives_review_may_2024.pdf](https://www.aigroup.com.au/apprenticeship_incentives_review_may_2024.pdf) (aigroup.com.au).

It is also timely to consider different models to reflect Australia's changing industry needs and enhance productivity. For over five years now, Ai Group members have been expressing the need for graduates who have a combination

of what our education and training systems have artificially separated into VET and higher education skills and knowledge. The pilots Ai Group has initiated and managed since 2016 have represented a world-leading approach to developing a broad range of in-demand skills in the context of work. The case study below from BAE Systems shows how these initiatives are directly related to productivity.

Degree-level apprenticeship at BAE Systems

BAE Systems Australia is a multinational defence industry company which has extensive contracts with the Australian Government to build and sustain defence equipment in various states. In South Australia, BAE Systems Australia is contracted to build Hunter Class Frigates.

As part of BAE Systems Australia's strategy to grow its workforce to undertake the shipbuilding activities, they have partnered with the University of South Australia (UniSA) and Ai Group to develop a degree-level apprenticeship in software engineering, whereby new entrants, often straight out of high school, will work full-time under a five-year training contract while completing a Bachelor of Software Engineering (Honours) at UniSA.

The first intake of software engineering apprentices commenced in January 2024. BAE Systems Australia employed ten of them. The expectation was that during the first two years the apprentices would spend most of their time learning and would be unlikely to be very productive.

Three of BAE System Australia's ten apprentices were placed in the Manufacturing Engineering team. Mindful of expectations, Tom, the team manager, was still keen to provide his apprentices with meaningful and needed work, rather than give them tasks that would develop their skills but would have no effect on the team's priorities. The Manufacturing Engineering team has a long list of activities that are required to be completed but are not their highest priorities, so it was this list that the team manager used to find work.

Their first task was to develop a software program that would examine the CAD files related to each manufacturing component and fit it into a Build Strategy Tree. This enables the planner to have on hand all of the files relevant to a particular build in the correct order. Collating those files usually takes a planner two days per block, with 70 blocks making up a full build.

The apprentices were provided with a brief of the task and given an idea of what the program should look like. It took the three apprentices about three weeks to develop and test the software to make sure it worked properly and met the needs of the planner. This was achieved within the first few months of commencing the apprenticeship and even after being in the role for only six months, they could see more efficient ways of completing the project.

Another task the apprentices have been working on is developing training for non-IT specialists to use simulation software. They have been producing training videos to meet this need and are now road testing them with users.

Tom is very mindful that the apprentices are still new and are still at the early stages of learning their craft, however he has been very pleased with their progress and believes they are outperforming compared to expectations. He believes it has well been worth the effort of the team to invest their time in developing the apprentices.

Extending apprenticeship and traineeship financial incentives to degree-level qualifications would assist in encouraging employers to take on higher level apprentices. Removing the requirement for employers to pay Fringe Benefits Tax for assisting degree apprentices with their student contributions/HECS FEEHELP component would also provide further encouragement to employers.

Another possible area of reform is through initiatives that help mature-aged workers gain access to trades at later stages of their working lives, which could improve their career opportunities and increase the pipeline of skilled workers. There are three main barriers for mature aged workers: their wages are higher than younger workers, making them less attractive to employers; the low apprentice wage is difficult for an older person with financial commitments; and there is little to help them progress through an apprenticeship more quickly, regardless of the skills and experience they have already acquired.

Work Integrated Learning

Work integrated learning (WIL) is ever more important for the workplace. It is the champion of employability skills to assist graduate transitions and drives quicker integration into roles and enhanced productivity. Barriers to employers in recruiting and retaining workers can be improved at scale by incorporating student placements and projects more broadly into qualifications.

Through its members, Ai Group sees many quality and innovative pockets of work-integrated learning where formal education and training is augmented in the workplace over time. Many companies introduced to WIL for the first time through our brokering program involvements have subsequently embedded WIL practices, seek students regularly and maintain mutually beneficial relationships with universities. Conversely other companies have expressed frustrations with their own efforts to engage with universities.

Overall, Australian university links are under-developed by international standards, without a strong culture of work-integrated learning integrated into courses.

Collectively we must significantly upscale learning and work interactions between companies,

universities and students during a student's learning journey. In a recent report, Connecting to maximise knowledge and skills Companies and universities working together: Ai Group has called for a renewed paradigm framing relationships between industry and universities – for the sake of the emerging Australian workforce.

A more systematic approach is needed for capability development where learning is immersed in work environments. This is key to linking learning with constantly changing industry strategies and practices, technical and generic skill needs.

3.5 Foundation skills

Lifting the foundational literacy and numeracy skills of Australians is essential, so we are better prepared for productivity-enhancing changes at the workplace level - including digital skills. Foundation skills (language, literacy, numeracy, and digital literacy) are a baseline requirement for workers of all ages.

Research shows that the higher the level of education, the greater the employer satisfaction with literacy and numeracy outcomes of school leavers, VET and university graduates. However, Ai Group research finds almost 9 in 10 employers are affected by low levels of literacy and numeracy. This is directly related to a range of productivity measures. In 2024, employers reported that poor language, literacy and numeracy impacts productivity in the following ways:

- ▶ Poor completion of workplace report/documents – 63%
- ▶ Time wasted – 55%
- ▶ Staff lack of confidence/unwilling to take on new work – 49%
- ▶ Teamwork problems/communication problems – 47%
- ▶ Material waste/errors/non-compliance – 37%
- ▶ Miscalculations – 33%

The importance of vocational and workplace contexts in delivering foundation skills must be recognised. It is imperative that our education and training systems effectively.

Expansion of the Skills for Education and Employment program (SEE) program is welcome,

including building in vocationally oriented delivery of foundation skills, tailored to workplace needs and in partnership with industry organisations. A key learning from the former Workplace English Literacy and Language (WELL) program was that embedding language, literacy and numeracy (LLN) into workplace contexts helps alleviate the stigma of poor language, literacy and numeracy. This includes embedding foundational skills alongside other competencies. It will be important that these lessons learned from the WELL program are effectively translated into SEE through formative evaluation. It will be also important that the 10-year National Foundation Skills Strategy, committed to through the National Skills Agreement, considers the productivity impacts of low levels of literacy and numeracy and includes a focus on workplace language literacy and numeracy.

Recent NAPLAN results are deeply concerning for a more productive and competitive future. This points to the need for urgent action. Without getting the basics right to develop the skills we need for tomorrow's workforce, Australia runs a serious risk of not being able to develop the more advanced skills at scale that will be required for the future.

Employers also report that baseline digital skills are in demand, with 42% reporting this need in 2024. This demand has lessened somewhat from the last survey in 2022, when basic digital skills were the highest priority, with 62% of Australian businesses needing more of these skills. Cyber security is currently the most in demand digital skill, at 64%.⁷

It is imperative that our education and training systems effectively supports digital skills development, including general digital literacy as well as specific digital skills.

3.6 Science, Technology, Engineering and Mathematics (STEM)

Technology is one of the key drivers of change across the globe. It is creating many new jobs and tasks, and changing many others through rapid developments in AI, robotics and cyber security. Australia is projected to need 370,000 digital

workers by 2026, with high-level digital skills – such as programmers and analysts – expected to balloon by 47% by 2026. Ai Group surveys show demand for digital skills is broad and deep, ranging from basic digital skills to specialist technology skills.

The education and training system must be able to cope with the rapid pace of change in the digital skills needed by job roles. The Jobs and Skills Council, the Future Skills Organisation, has been tasked with addressing digital skills shortages and with future-proofing skills and training.

One issue across both the VET and higher education sectors is the need for an increase in the pool of teachers and trainers who can deliver digital education and training across different qualifications. In VET, governments should support the movement of industry personnel into teaching positions through more flexible pathways into teaching.

Developing skills for this sector begins with primary and secondary schooling. The latest OECD Programme for International Student Assessment (PISA) has shown there is a considerable decline in science, and mathematics and numeracy skills among Australian students. Action needs to be taken to arrest this decline to ensure there is a baseline standard at the foundational skills level and to put a floor under the higher-level STEM skills required for a transforming economy through trends like decarbonisation and digitalisation.

Given the rapid change in digital technologies, it is important that existing workers have every opportunity to reskill and upskill through various modes of delivery (onsite, online, in person, etc.) utilising micro-credentials, short courses, accredited and non-accredited, and other types of formal and informal training. Consideration of Singapore's SkillsFuture program, which provides financial incentives and digital learning resources to mid-career workers to reskill and upskill, could help achieve these aims.

Alongside technology skills development, should be the development of generic skills which are growing in importance as technology advances. As machines do more and more, a human's value to an enterprise is increasingly about the ability to spot opportunities and challenges, formulate strategies and build networks and

collaborations. An AlphaBeta analysis prepared for Google found the fastest growing skills are in fact characteristics relating to the way humans execute tasks: creativity, integrity, persistence, empathy, attention to detail. It is vital for industry that these uniquely human capabilities are explicitly cultivated through the VET and higher education systems.

3.7 Leadership and management

Skilled leadership supports better organisational management and preparedness for current, emerging and future challenges. Given the increasingly complex environment that organisations operate in, highly effective leadership and management is more important than ever. There is a positive relationship between leadership and firm performance.⁸ As identified by Ai Group almost a decade ago:

Lifting Australia's leadership capability in order to enhance productivity, innovation and sustainability is critical to our future and is recognised as a key challenge for Australia by policymakers and businesses.⁹

Recent research has also found a strong, positive correlation between employee well-being and productivity. A meaningful improvement in well-being results in an average 10% increase in productivity. A study into happiness and productivity also identified that happy workers are 13% more productive. This research highlights the relationship between management approach and productivity.

Yet Australia continues to perform relatively poorly on leadership and management indicators. The International Institute of Management Development (IMD) survey measures the standard of management practices throughout the world by asking employees to evaluate the elements of leadership and culture across businesses in their country. In Australia, the perception of management practices by employees has dropped notably over the last 15 years. In 2010, Australia ranked 11th for management practices, this had dropped to 18th in 2014. Australia's ranking was 33rd in 2024, a slight improvement on 36th in 2023.

Organisational potential can be unlocked through a shift in leadership approach and recognition of the strong link between an organisation's culture, its structure and leadership approach, and business success. Ai Group previously led a project on high performance organisations, including research and case studies, that identified seven main characteristics of high performing organisations: leadership; participatory decision making; team-based work systems; developing and utilising workforce skills; quality improvement; learning from others – networking and benchmarking; and knowledge sharing.

The case study below of REDARC demonstrates the benefits of investing in leadership development at all levels.



Leadership training at REDARC

Based in South Australia, REDARC has over 40 years of expertise in the design, development and manufacture of a range of electronic products. Founded in 1979, REDARC began creating vehicle ignition systems and voltage converters. It has grown to become a world-class, advanced electronics manufacturer that services both domestic and international markets.

As REDARC has grown, it has seen the need to invest in the leadership skills of its people, to manage that growth and develop the next generation of senior leaders. Since 2017, REDARC has partnered with ASC Training and Development, which runs its leadership programs onsite. ASC has developed a strong understanding of REDARC's culture and strategies to create and then refine customised training that uses REDARC's own policies and procedures, performance management systems and core values in the delivery. Because the program has been run for several years, REDARC and ASC have been able to make improvements each time it is run. The training is not aligned to any formal qualification or micro-credentials.

Training is offered for different levels of leaders. One program targets new and emerging leaders, including those who might not be current leaders but might benefit from learning some leadership skills. Another targets mid to senior level managers and then a third is a 2IC program, developing the senior executives.

The training covers a range of topics including self-awareness and self-management, leadership styles, engaging teams, delegating, difficult conversations and working with change, as well as operational skills such as financial management and the performance appraisal system. Guest speakers, including REDARC senior leaders, are included in programs.

The leadership programs run for about twelve months and are offered annually to every two years. The format is generally a half-day

workshop once a month with out of session work for participants to complete. Most of the training is face-to-face, although because REDARC has expanded to other states and other countries, some participants have attended virtually. This has a mixed level of success, depending on how well participants benefit from online attendance. As the remote workforce continues to expand, being able to offer the program or alternatives in other states and countries will present challenges.

Some of the benefits of the leadership program include higher levels of engagement from staff, evident from engagement surveys, which REDARC partially attributes to this training. The company has good retention rates and has been able to lift the KPI percentage of people promoted internally from 15% to 20%, again due to this program.

Another benefit has been the strengthening of relationships between participants. Each has developed a greater understanding of the roles of other participants and a more holistic understanding of REDARC as a complex and rapidly growing organisation.

The 2IC program has enabled top level managers to spend more time focusing on the strategic directions of the company. As an example, the company leaders recently spent three months focused full-time on strategy, while the 2ICs were able competently run the business on a day-to-day basis, with no drop in productivity.

REDARC has embarked on an ambitious growth plan and has heavily invested in plant, equipment and new staff resources to support this growth. A key observation of fast-growing companies is that companies can only grow as quickly as their leadership. This challenge means that REDARC will continue to invest in developing its leaders at every level.

3.8 Sustainable diversity and inclusion strategies

Diversity and inclusion is not only important for reasons of fairness and equity, but also for innovation, productivity and performance. For example, companies with higher than average executive diversity (both gender and ethnicity) have been found to have above-average profitability than companies with lower than average diversity. This is increasingly the case over time.¹³ Other research has found that diversity matters at different levels of organisations, for example a 1% increase in racial diversity similarity between upper and lower management increases firm productivity by between \$729 and \$1590 per employee per year.¹⁴

Diversity also plays an important role in productivity through better matching supply

and demand for labour. For example, Jobs and Skills Australia has identified a link between occupational segregation and skills shortages. Occupations in Australia with a highly skewed workforce (eg many trades, or caring roles such as aged-care and child-care) are significantly more likely to be experiencing shortages than occupations where the gender balance is more even.¹⁵

Research has also shown that increasing employability of people with disabilities would also have a productivity uplift. For example, reducing the gap between labour market participation rates and unemployment rates for people with and without disabilities by one-third would result in a cumulative \$43 billion increase in Australia's GDP, and that GDP would be around \$12 billion.¹⁶



4. Priorities for capability development

This paper explores the importance of capability development as a key factor in re-igniting productivity growth in Australia.

Aligned at the high level with national reform areas, but with some differences in detail and emphasis, our capability development agenda identifies two main elements for reform of Australia's education and training policy settings that will be enablers of productivity: system reform and architecture; and targeted policy and program reform.

For these reforms on capability development to effectively support productivity, Ai Group's view is that strong engagement between employers and education providers must be at the heart of policy design, implementation and curriculum delivery. To enable this, partnerships and connection is key, including workforce planning and connecting economic and workforce development.

Capability development is also an enabler of productivity enhancements such as digital technologies, infrastructure investment, productivity in the care and education sectors, and the opportunities from a net zero transition. While the skills needs for these objectives have not been considered in detail in this paper, better integration is needed so that skills needs are built into policy design.

Ai Group's priorities for capability development to support a prosperous, productive future for Australia include:

System and architecture reforms

- ▶ Tertiary system reform: prioritising a coherent and connected vocational and higher education system, supported by flexible system architecture that gives appropriate

weight to knowledge, skills, their application; and enables lifelong learning;

- ▶ Better policy integration: designing economic and workforce development solutions together; connecting workforce demand and supply with a national, industry, occupational and regional focus. This requires an evidence-based, industry-aligned approach to tertiary education policy and provision.

Policy and Program reform

- ▶ **Foundation skills:** building efforts to raise the foundational literacy, numeracy and digital skills of Australians, so they are better prepared for productivity-enhancing changes at the workplace level;
- ▶ **Lifelong learning:** supporting labour market entry and retraining through policy settings such as 'second chance' learning, funded micro-credentials and more flexible apprenticeship pathways;
- ▶ **Work-based and work-integrated learning:** integration of learning and opportunities to apply to learning across the economy through apprenticeships, and the use of policy levers to facilitate quality work-integrated learning opportunities;
- ▶ **Leadership:** harnessing Australia's opportunity through refocused efforts on enhancing Australia's leadership and management skills to unlock productivity; and
- ▶ **Sustainable diversity and inclusion strategies:** embedding systemic strategies and programs that shift the dial on diversity and inclusion so that more women, Indigenous Australians, persons with disability and people from culturally and linguistically diverse backgrounds can access high value job roles.

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For further information or assistance please contact

The Ai Group Centre for Education and Training
Level 5, 441 St Kilda Road, Melbourne VIC 3004 Australia
Email: cet@aigroup.com.au www.cet.aigroup.com.au

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