

Australian Industry Group

Ai GROUP STATEMENT

Ahead of the NSW Government's
2019-20 Budget

MAY 2019

Ai
GROUP

Contents

1. Introduction	3
2. Key Recommendations.....	5
3. The NSW Fiscal Outlook	8
4. Reducing the Cost of Doing Business in NSW	10
5. Infrastructure Investment.....	16
6. Using Procurement to Best Serve the Interests of Government, Industry and the Community	18
7. Encouraging Innovation in NSW Industry	22
8. Industry and Economic Development.....	25
9. Energy and the Environment	29
10. Skills, Education and Training Reform	31

About Australian Industry Group

The Australian Industry Group (Ai Group) is a peak industry association in Australia which along with its affiliates represents the interests of more than 60,000 businesses in an expanding range of sectors including: manufacturing; engineering; construction; automotive; food; transport; information technology; telecommunications; call centres; labour hire; printing; defence; mining equipment and supplies; airlines; and other industries. The businesses which we represent employ more than 1 million people. Ai Group members operate small, medium and large businesses across a range of industries. Ai Group is closely affiliated with more than 50 other employer groups in Australia alone and directly manages a number of those organisations.

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1. Introduction

The NSW economy is continuing to benefit from the state's diversified range of industries, low interest rates, above-trend population growth and strong public-sector investment. The state's infrastructure program which accounts for almost half of the national pipeline of public engineering projects is a key growth driver and will continue to help in offsetting peaking residential construction. Exports have also gained momentum with opportunities continuing to increase for the service sectors as well as advanced manufacturing such as medical and pharmaceutical products. Recovering business conditions and high levels of construction activity have in turn supported jobs creation and a reduction in the unemployment rate.

Despite these headline figures, conditions are mixed across sectors and pressures on profit margins persist due to sharp rises in energy costs and a still highly competitive pricing environment. In addition, businesses are reporting increasing difficulties in recruiting skilled labour, particularly companies based in metropolitan Sydney.

There are also risks to the outlook for the NSW economy and considerable challenges to navigate. Weakness in consumer spending will continue to cast a cloud over the near-term outlook while the slowdown in residential building activity in 2019-20 and the associated negative spill-over effects on employment and industry activity more broadly will weigh on state final demand.

The NSW fiscal task also poses challenges. State revenue will come under more pressure from the slowdown in the residential property market (which will directly flow through to lower transfer duty and mortgage duty income) while demographic forces will increase spending pressure in the areas of health, aged care, education services the delivery of more infrastructure projects.

These circumstances mean that it is important that the NSW Government uses the 2019-20 Budget to deliver a reform agenda to address the pressures on businesses and build the capability and capacity of the economy. This will be critical in building a stronger base for industry, employment and community inclusion and prosperity while concurrently underwriting the state's financial position over the longer term.

Areas of priority attention include the need to lower business costs for NSW businesses; ensure policy and regulatory settings - in areas such as taxation and the provision and maintenance of infrastructure - are conducive to strong productivity growth; taking a leading role in the development of a skilled workforce with a focus on ensuring workers are equipped to meet the challenges of a modern economy; encouraging new technology applications; and adopting a more supportive industry development role.

Equally important is the need for the Government to support the future growth of the economy by building on the progress it has already made in a number of key areas, including the delivery of high levels of infrastructure funded through operating surpluses and asset recycling strategies as well as important progress in helping businesses to scale-up and innovate and attracting and growing the right businesses for future jobs growth through the Jobs for NSW program.

It is also critical for regional development to remain a key element in long-term planning and development given the important role of the regions in driving state economic growth and the need to ensure their long-term sustainability.

Ai Group commends the Government's strong focus on supporting the state's industry capabilities through the NSW advanced manufacturing industry development strategy and its targeted and practical initiatives for growing the industry.

A strong growing, competitive and innovative state means that businesses and the community benefits through both jobs and the opportunities to create new and improved products and services. This submission focuses on some of the key policies which Ai Group believes the government should adopt as part of a longer-term growth strategy. This involves maintaining a range of existing policies and programs delivering a number of new policy initiatives.

2. Key Recommendations

Ai Group notes that economic developments in NSW remain broadly positive and that the state looks set to enter 2019-20 in a solid financial position. Nonetheless, there are downside risks and significant challenges ahead. This means that the NSW Government must ensure that economic opportunities are maximized with a firm commitment to, and the timely implementation of, policies to build competitiveness. With this context in mind, Ai Group's priorities for the 2019-20 NSW Budget include:

- **reduce business costs and promote long-term economic growth for the wellbeing of the local community by removing or reducing taxes and charges that hinder or discourage business growth.** This includes a commitment to genuine taxation relief and reform and ensuring that NSW businesses are not at a competitive disadvantage with their interstate competitors. Priority recommendations include pursuing the option of removing residential and commercial stamp duties by better utilising land tax as a source of revenue; undertaking to simplify tax scales and thresholds to avoid multiple rate scales which increases complexity; ensuring appropriate indexation of the various tax rates and thresholds to avoid bracket creep; and introducing regular and effective monitoring of the compliance costs borne by businesses to clearly identify cost impacts and priority areas for reform.
- **Address the considerable cost burden and impediments of doing business imposed by inefficient, outdated and anti-competitive regulations.** This includes a focus on achieving genuine harmonisation of state-based laws (or centralisation of laws to the Federal level) by developing and reviewing regulatory instruments in concert with other state and territory governments. NSW should also lead efforts to reduce the burden of inconsistent and duplicative reporting regimes under a range of State and Federal Government programs by advocating for, and facilitating, a single national on-line reporting portal.
- In the planning and execution of the state's infrastructure and investment programs, the Government should ensure that projects are delivered as part of a consistent pipeline of construction activity with **infrastructure project delivery strongly focused on local capacity, capability, skills and supply chains.** It is also important that governments work together in the **development of a new national infrastructure strategy** that: provides a clear strategic framework for planning to meet present needs and support future directions; maintains and reinforces a rational and transparent process to identify the highest-value infrastructure options; directs adequate and appropriate investment towards those options; ensures timely delivery; and ensures efficient use of the resulting assets.
- **Address the need for stronger regional development plans** to encourage the spread of business and jobs growth to the regions, targeting regional infrastructure,

telecommunications, education and training, and business innovation systems to stimulate economic activity in the regions and support regional communities.

- **Utilise the NSW Government’s purchasing power to the best advantage of NSW and Australian industrial development** by ensuring that full and fair consideration is given to local tenderers and helping to facilitate local involvement in its contracts. This includes recognising the need to consider “whole-of-life” costs that takes account of through-life servicing and support which are key advantages that local suppliers offer, and which is especially needed in major projects and major technology intensive purchases. It is also incumbent on the Government to take greater responsibility in raising the core skills and competencies of public sector personnel responsible for procurement. The trend towards government outsourcing in recent decades has led to a reduction in public sector staff with the necessary skills in procurement which has adversely impacted on the standard of government procurement, including inadequacies in dealing with complex contracts. Improvements in the skills of public procurers accompanied by more time and resources directed at the outset of a project on factors such as the desired functional and performance outcomes and/or specific technical specifications can play a key role in reducing infrastructure costs.
- **Promote innovation and drive industry and economic development by prioritising innovation as an important element of Government policy and strategy.** This includes a focus on supporting innovation through fostering collaborative opportunities across businesses, universities and researchers; continuing to deliver the physical infrastructure geared towards promoting innovation such as innovation precincts and improving SME access to Government research facilities; reducing or removing regulatory barriers to innovation and new technologies; lifting STEM awareness and its uptake; ensuring a skilled and future-ready workforce; and drawing on best practice and implementing appropriate elements from innovation models in other Australian state and overseas jurisdictions.
- **Continue to support industry development** by leveraging off the State’s strong and innovative services base and exploiting its skills and capabilities across a wide range of highly specialized and technologically advanced manufacturing sectors. This includes working in partnership with industry in the implementation of the NSW Government’s advanced manufacturing industry development strategy and its range of practical initiatives aimed at unlocking new opportunities for growth. It also requires providing the necessary support to bridge gaps in key technical and business skills with the goal of building greater collaboration between industry and the training system; continuing to support the long-term development of defence industries and capabilities; attracting investment for NSW by making more companies investment ready; lifting the adoption of ICT enabling technologies; and building supply chain capabilities across sectors.

- **Continuing to support international trade** and export development including effective support for small businesses that develop and export intellectual property and services.
- **Assist NSW businesses struggling with sharply rising energy prices** by working with the Commonwealth to adopt Recommendation 11 of the ACCC's Retail Electricity Pricing Inquiry Final Report directed at developing rebates for energy users on distribution network charges. In addition, the Government should make a timely decision on the Narrabri coal seam gas project proposed by Santos and develop reforms for gas approvals that create a more timely and predictable process while ensuring community concerns are answered.
- **Take additional steps in reducing energy costs by developing an integrated energy and industry policy** that facilitates deep upgrades by industry of production facilities (to radically enhance efficiency or the switching of fuels) and brings together information on opportunities, supporting innovation and unifying finance options.
- **Address issues concerning industrial waste by adopting a broad strategy that includes:**
 1. Encouraging the use of recycled materials in government procurement where appropriate, and reduction of regulatory and institutional barriers to such usage (such as replacing materials requirements for infrastructure with performance standards);
 2. Education campaigns aimed at households and workplaces to promote good recycling practices and reduce contamination through better waste separation;
 3. Careful consideration of support for waste-to-energy facilities; Work with the manufacturing and construction industries, as well as the waste sector, to understand cost-effective options to support and promote the circular economy.
- **Ensure a more urgent focus on building capacity by investing in skills**, including lifting funding in NSW VET systems (in cooperation with the Commonwealth) so that it best placed to meet the emerging vocational skill needs of industry.
- **Investing in effective programs and strategies that make it easier for people entering the labour market as well as existing workers** to acquire the digital skills needed to take advantage of growth opportunities and adapt to the digital economy. This includes adopting measures to expand the STEM-qualified workforce; addressing language, literacy and numeracy issues and; innovative arrangements that foster greater connection between industry, VET and higher education.

3. The NSW Fiscal Outlook

We call on the Government to maintain fiscal policies that enhance the State's broader economic performance. This includes a focus on managing the resources of the public sector effectively and efficiently and ensuring that government resources are devoted to services and activities most valued by the NSW community.

Maintenance of sustainable public finances should also remain a key fiscal principle of the Government. The key to managing this task is ensuring that recurrent spending is covered by recurrent revenue. It equally requires paying close attention to the level and balance of the State's assets and liabilities.

A clear challenge for the Government is the projected weakening in revenue growth, particularly in the medium term. On the revenue side, the NSW Treasury is forecasting growth in revenue to moderate from 3.2% p.a. in 2017-18 to an average of 2.5% p.a. over the four years to 2021-22 reflecting weakness in residential transfer duty receipts.

In contrast, NSW Government expenses are growing due to increased demand for health and education services and the delivery of more infrastructure projects. Total government expenses increased by 5.4% p.a. in 2017-18 and are forecast to increase at an average annual rate of 3.5% p.a. over the four years to 2021-22.

In view of these challenges, we commend the Government's continued focus on introducing measures aimed at addressing expenditure growth. This includes the extension in the 2018-19 Budget of the efficiency dividend from two to three per cent.

A key priority for the 2019-20 Budget will be to maintain a focus on expenditure control to reduce the pressures to find additional sources of revenue to meet its fiscal targets. The Government must also maintain a focus on increasing productivity, improving the cost competitiveness of the NSW economy and generating stronger long term economic growth to address the need to ease fiscal pressures over time.

Over the medium and longer term, we also call on the NSW Government to:

- **continue to target to achieve operating surpluses** (adjusted to the state economic cycle and fluctuations in demand) and sustainable debt positions without resorting to higher taxes and charges.
- **Retain NSW's triple-A credit rating** which provides a positive signal to investors and the wider business community on NSW's risk profile and commitment to fiscal prudence.
- **Exercise control over the level and growth of Government expenditures.**
- **ensure NSW taxes and charges are competitive** (and where possible below the average of) other states and territories. This is vital in enabling the State to grow

and attract investment. This creates its own rewards in in the form of a larger tax base and a larger net revenue stream and a greater capacity to finance future public-sector services and investment.

- take advantage of its strong fiscal position and solid credit rating to **allocate sufficient funds for the continued development of the state’s economic and social infrastructure.**
- **Continue to monitor and seek out efficiencies in government department program delivery.**
- **Continue to provide sufficient funding for investment in the drivers of NSW’s competitiveness such as innovation, research and development, infrastructure, exports and skills.**
- **provide for improvements in the delivery of government programs and services.** This includes evaluating agencies activities for opportunities for greater exposure to competition from the private sector.

4. Reducing the costs of doing business in NSW

Costs are relatively high across a number of key inputs for business in NSW including:

- Payroll taxes
- Utilities and waste levies
- Land taxes
- Stamp duties and planning and approvals regulatory compliance costs

The NSW Government has taken important steps to reduce the costs of doing business in NSW by removing (from 1 January 2018) some inefficient state-based insurance duties for small businesses with less than \$2m in annual aggregate turnover. The 2018-19 NSW Budget also provided some welcome relief on payroll tax by increasing the tax-free threshold from \$750,000 to \$850,000 from 1 July 2018 with further increases of \$50,000 in each subsequent year through to 2021-22. More recently, the Government has taken the important step of addressing bracket creep in the payment of residential stamp duty. However, it clear that more needs to be done to improve the competitiveness of the NSW tax system and ensure that the overall burden is as low as possible and that revenue is raised in the most efficient manner.

5.1 Taxation Reform

Ai Group believes that it is essential to ensure that the taxation system is one that does not prohibit the further development and growth of businesses and the economy, and clearly demonstrates to the business community that NSW is open for business.

The State's longer-term challenges associated with ageing of the population and the expected decline in workforce participation mean that the longer NSW postpones genuine and comprehensive tax reform, the more difficult will be the task of promoting long-term economic growth across all sectors for the wellbeing of the local community.

Accordingly, a key priority for the NSW Government must be the creation of a low taxation business environment with minimal compliance costs to create the circumstances conducive to shaping a more competitive NSW and generating higher growth, stronger investment and increased employment opportunities.

The other broad principles shaping policy on taxes and charges should be:

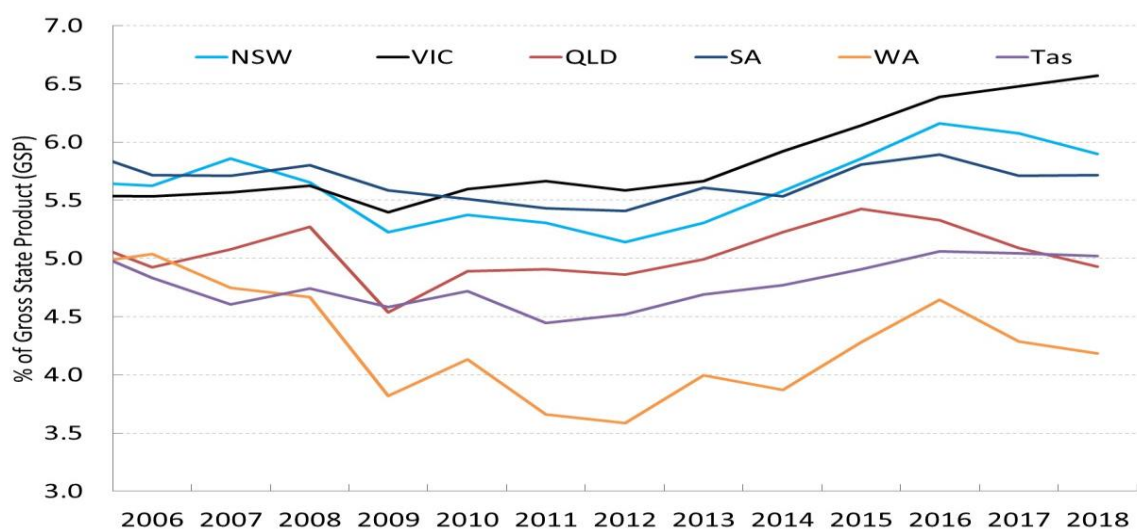
- **ensure that NSW businesses are not at a competitive disadvantage with their interstate counterparts**, and that businesses are encouraged to locate and invest in NSW rather than in alternative global locations;

- **achieve efficient administration of the tax system** so that the costs of managing and complying with any given tax are not excessive relative to the revenue raised;
- **maintain certainty** so that the taxation system is easily understood and that businesses can clearly determine or anticipate how taxes are paid, and the amount of tax liability.
- **simplify tax scales and thresholds** and avoiding multiple rate scales which increases complexity;
- **ensure appropriate indexation of the various tax rates and thresholds** to avoid bracket creep and;
- **ensure that taxes raised are commensurate with the revenue required** to support fiscally responsible Government expenditure.

NSW is a relatively heavy taxing state and businesses operating in NSW suffer a disadvantage against competitors operating in other states. On the level of international competitiveness, many of NSW’s taxes rank very poorly and are clear impediments to setting up or expanding operations in NSW. Australian Bureau of Statistics data highlights that despite some recent improvement, NSW’s total tax-to-gross state product ratio was the second highest of all states in 2017-18 (Chart 1), a position that NSW has held over the previous four financial years.

This takes in account all state and local taxes including payroll tax, land tax, land transfer duty, insurance duty and motor vehicle duty.

Chart 1: State and Local Government Taxes as a share of GSP



Source: ABS

For the NSW Government to improve its tax competitiveness, it will need to look at reforms/tax rate reductions for payroll tax, conveyancing duties and insurance premiums as a matter of priority. All are impediments to growth, investment and job creation. There is also insufficient uniformity across states in the application of taxes across states and inherent complexity in tax scales and rates which adds to business costs. These costs are disproportionately borne by small businesses.

A review should be undertaken of current exemptions and concessions that apply to taxes with a view to reducing complexity and adopting consistent approaches across states. This is needed to minimise the administration and tax compliance costs imposed on businesses and the economic distortions that can be created.

Measures should be introduced that enable on-going monitoring of the tax compliance costs borne by businesses to clearly identify cost impacts and priority areas for reform.

We also encourage the NSW Government to investigate alternative ways to finance the removal of the most inefficient state taxes. The Government has announced its intention to index the seven stamp duty tax brackets to the consumer price index effective from July 2019. However, a better option would be to remove all property transfer duties by more fully utilising the existing local government land rate system or by reforming the state government land tax base. Stamp duties are inefficient transaction-based taxes that distort economic activity. There would be substantial gains for the economy through the imposition of an annual charge on the unimproved capital value of land rather than the turnover tax levied on the full property sale price.

We also urge the NSW Government to take a leadership role in driving holistic taxation reform with a view to achieving real and meaningful harmonisation of taxes, fees and levies on business (such as stamp duties, land tax and motor vehicle duty) operating across multiple jurisdictions.

5.2 Reducing Red Tape

NSW businesses are part of the global economy and must be internationally competitive to survive. Success in the reform of government regulation will be critical in creating the circumstances conducive to shaping a more competitive NSW and generating higher growth, stronger investment and increased employment opportunities.

The Government has recognised that regulation is an issue and formed an Independent Review Panel in late 2016 to examine the NSW regulatory policy framework that underpins regulatory quality across the whole of NSW Government.

Ai Group welcomes the Government's response to the final report of the Independent Review Panel (August 2017) and its two immediate decisions taken to assign

responsibility for regulatory policy to the Treasurer and appoint a NSW Commissioner for Productivity to oversee regulatory quality in NSW.

As stated in our submission to the Independent Review of the NSW Policy Framework, assigning responsibility of regulatory policy to a Senior Minister will be important in raising the level of Ministerial oversight and providing a clear signal to businesses and the community that the NSW Government is committed to better regulatory outcomes.

An independent body with a central regulatory review role should ensure that the best policy options are considered by Government. It also has the strong potential to improve the coordination of the regulatory reform across departments and agencies while promoting increased transparency and a higher level of accountability in the reform process.

Ai Group believes that **a priority for the NSW Commissioner for Productivity should be to consider those regulatory areas prioritised by stakeholders for review as part of the Intergovernmental Agreement on Competition and Productivity Enhancing Reform signed by NSW in December 2016.**

We are also strongly supportive of the Independent Review Panel's recommendations aimed at ensuring that regulations are monitored in a holistic manner throughout their life cycle, underpinned by a statutory framework that is based on the principle of regulatory stewardship. The adoption of an approach whereby regulations are subject to proactive monitoring and reviews by responsible department and agencies should help to ensure that both existing and new regulations are well targeted; responsive and adaptable to new circumstances; and proportionate so that costs are minimised for both business and the community.

There is also considerable merit in adopting a code of practice and guidelines for agencies with regulatory responsibilities and one which replaces the current NSW Guide to Better Regulation. Ai Group's long-held position is that the conduct of regulators is as important to the effectiveness of regulation as is the design of the laws themselves. As detailed in our Regulator Engagement with Small Business Submission (2013) to the Productivity Commission, Ai Group recommends adoption by all regulators of a Charter of Best Practice Regulatory Behaviour.

In consultation with stakeholders, the Australian Government has developed the Regulator Performance Framework for Commonwealth regulators, which is intended to reduce the cost of unnecessary or inefficient regulation imposed on individuals, business and community organisations. This framework consists of six outcomes-based key performance indicators covering: reducing regulatory burden; communications; risk-based and proportionate approaches; efficient and coordinated monitoring; transparency; and continuous improvement. We recommend that NSW regulators adopt a similar framework.

Aligned with the objective of driving more effective policy outcomes, we strongly endorse the Independent Review Panel's recommendation of two-way secondments of staff, working for either a regulator or a regulated party to promote knowledge sharing and the understanding of different perspectives. This should enable regulators to have a better perspective of industry-specific issues when undertaking regulatory functions, including advice to Government on regulatory impacts on industry. It should also facilitate a greater understanding within industry of the policy objectives of Government and may lead to the identification of more effective options for delivering good policy and regulatory outcomes.

Of further importance is the need to ensure a focus on developing and reviewing regulatory instruments in concert with other state and territory governments to achieve genuine harmonisation of state-based laws (or centralisation of laws to the Federal level) particularly where the businesses regulated operate or are managed across state borders. This would not only increase certainty and consistency in the standards applying to industry and reduce the compliance costs for businesses operating across multiple jurisdictions, but also enhance the effectiveness of the body of national regulation in a particular area.

Businesses operating in NSW report energy, emissions and other information under a range of state and Federal programs. Many with operations in multiple states face a number of inconsistent and duplicative reporting regimes. NSW should lead efforts to reduce the burden of inconsistent and duplicative reporting, particularly by advocating for, and facilitating, a single national online reporting portal

Another pressing challenge for NSW is ensuring that planning policies and regulations are able to overcome the pressures associated with strong population growth. The Government has sensibly confirmed its intention to pursue ongoing improvement of major project planning approval processes as part of the State Infrastructure Strategy 2018-2038. Moreover, the principles outlined in the Greater Sydney Commission Draft Greater Sydney Region Plan provide a solid policy framework for improving the planning and provision of infrastructure across Greater Sydney as it grows and evolves.

There is also a need to progress reforms in planning and approvals at the local government level by encouraging greater consistency amongst local government regulatory processes to reduce compliance costs for businesses. In helping to address these issues we would recommend regulatory instruments are developed and reviewed in concert with other state councils to achieve uniformity in approach across Australia. This could be achieved through state-based regulation review units (or equivalent) working with local councils to develop common guidelines, performance criteria or blueprints for business regulation.

The digitisation of the government agencies is also creating opportunities to streamline the way they collect and make use of existing data from businesses and reduce compliance and regulatory costs for businesses and governments. As the NSW Government continues to build its capability and strengthens its whole-of-government digital strategy, the Government should be ready to increase and redirect investment accordingly.

In recognition of cash-flow difficulties faces by many small and medium sized businesses, we recommend that businesses are given the option of paying taxes, premiums and charges on an instalment basis where practicable. Regulatory agencies should work together to develop and implement a broadly-based master licence for business, subsuming all commonly required licences and permissions in one instrument. A focus on effectively communicating with businesses through tools to assist with compliance and providing appropriate technical resources for briefing industry on regulatory changes is also required.

5. Infrastructure Investment

Ai Group commends the Government's recognition of the importance of efficient infrastructure development to NSW's long-term economic performance through its strong commitment to maintaining a substantial level of infrastructure investment throughout NSW.

The significance of the Government's infrastructure spend was highlighted in the NSW Government's 2017-18 Budget with its provision of \$73 billion in capital expenditure over the four years to 2020-21 directed at new and existing projects and spread across hospitals, schools, water supply social housing, rail and roads. The pivotal challenge for the Government will be in ensuring that these high-quality infrastructure projects are delivered as part of a consistent pipeline of construction activity with project delivery strongly focussed on local capacity, capability, skills and supply chains.

A consistent pipeline of projects which smooths investment cycles is also a means of avoiding a surplus of projects entering the market at any given time. This helps to minimise infrastructure or capacity constraints and enables major projects to be funded and developed in a timely manner. A more even spread of projects can also assist in maximizing the benefits of increased investment and employment generation during periods when it is most needed.

In this respect, we welcome the formation of the NSW Government Construction Leadership Group (CLG), led by Infrastructure NSW, to drive improved collaboration and action around procurement and delivery of major government infrastructure projects. Given the expanding pipeline of publicly funded infrastructure investment, improvements to the coordination of the pipeline of infrastructure projects across the country will be critical in enabling industry to effectively respond to tenders without facing significant cost and labour resource impacts that result in more expensive projects. It is also important that governments work together in the development of a new national infrastructure strategy that: provides a clear strategic framework for planning to meet present needs and support future directions; maintains and reinforces a rational and transparent process to identify the highest-value infrastructure options; directs adequate and appropriate investment towards those options; ensures timely delivery; and ensures efficient use of the resulting assets.

Related to infrastructure planning, stronger regional development plans need to be addressed with projects identified and progressed at rates consistent with the roll-out of metropolitan projects. This is needed to encourage business and jobs growth to spread out from the Sydney city centre and metropolitan areas. Regional infrastructure, telecommunications, education and training, and business innovation systems need to be actively targeted to stimulate economic activity in the regions and support regional communities. It will also be critical to provide the necessary public and freight transport

infrastructure needed at Badgerys Creek Airport to realize the economic and social benefits for the Greater Western Sydney area. An integrated freight and logistics hub would be the key to meeting medium to long-term demand for freight services for Badgerys Creek Airport. This will enable businesses to access transport related efficiency and competitive gains and support opportunities for on-going economic and employment growth in Western Sydney and more broadly across the state.

All proposed infrastructure projects should also be subject to thorough and transparent cost-benefit analysis to ensure the government gets the best possible use of taxpayer funds. A clear and transparent process also helps to foster public support for infrastructure projects and avoid costly delays in construction. It also creates confidence among investors ensuring that lower-cost financing and a deep pool of investment funds exists for future projects. NSW businesses are also strongly supportive of:

- **regular updates and early alerts on the level of priority attached to major infrastructure projects** and the anticipated funding arrangements to provide greater certainty and direction for project proponents (to make informed decisions about their investments) and greater clarity for businesses and residents impacted by proposed developments.
- **the further development of structured public-private partnership policies** that can lower the risks faced by private investors thus attracting more private sector investments while reducing upfront costs to the public.
- **a consistent approach in the development and management of infrastructure proposals across the government sector** to enable business to efficiently deploy both capital and resources with confidence as to the Government's expectations and within a regime of rational commercial terms and risk profiles that attach to each project.
- **working in partnership with the private sector in developing and implementing best practice principles** within its own infrastructure delivery responsibilities. This is an obligation that will be central to private sector commitment to, and investment in, NSW infrastructure projects for the longer term.
- **establishing and formalising a community and business consultation process**, where robust debates on the prioritisation of NSW infrastructure projects could be conducted.
- **transport infrastructure reform to help address congestion**: for example, better provision of real-time information by governments about transport options and network conditions; investment in new and smarter transport infrastructure to keep up with population pressures; and pricing reform to improve utilisation and efficiency in the use of transport infrastructure.

6. Using Procurement to Best Serve the Interests of Government, Industry and the Community

It is vital that NSW Government procurement policy is directed at funding the projects and services that will help NSW communities and the State in general to prosper.

The Government should also ensure that it utilises its considerable purchasing power to the best advantage of NSW and Australian industrial development but within a framework that is consistent with the principles of probity and the efficient use of Government funds. In achieving this objective, **the emphasis on local capacity, capability, skills and supply chains must be maintained and strengthened.** This should include an emphasis on using public infrastructure to build competitive capacity and capabilities in regional areas wherever possible and within a framework which includes consistency in relation to conformity with Australian standards.

Ai Group is not advocating that favouritism be shown to local suppliers, but rather that they be given equal access to tender, and that full, fair and equitable consideration is given to local tenders or quotations received. Helping to facilitate, rather than mandate, local involvement in its contracts can also be achieved through measures such as improving the flow of information on tender opportunities, ensuring transparency in the use of Government funds, or making greater use of the NSW Industry Capability Network in identifying import replacement opportunities in purchases of all Government agencies.

This makes it particularly important for local industry not to be burdened with other costs such as regulatory imposts which reduce its ability to compete in the tendering process.

A major distortion that frustrates and impedes the full and fair participation of Australian suppliers is an **undue emphasis on price at the front-end of procurement processes at the exclusion of “whole-of-life” considerations.** In exercising public accountability, there is good reason to not always proceed with the lowest cost tender, given it may not represent the best value for money once ongoing costs are considered. Procurement decisions should take account of factors such as maintenance and through-life support which are key advantages that local suppliers are able to offer. This encompasses supply risks, quality risks and reliability that may affect production delivery times and/or these future costs. In many cases a holistic assessment of these costs will show that for local businesses these total costs could be lower than for overseas-based businesses because services could be rendered more quickly, more reliably and replacement parts delivered more promptly.

From a budgetary perspective, the NSW Government must be careful to avoid short-term fiscal savings that might increase its long-term costs or reduce its long-term revenue

sources. Savings measures that simply postpone expenditure from one year to another (for example, by making a saving on an initial purchase price at the expense of higher future replacement, or maintenance costs) are largely illusory. In many cases, discounted current spending simply means higher costs at a later date and an adverse long-term budgetary impact.

There also needs to be **better mechanisms for small business to access “clustering” that might allow them to be a genuine player in accessing government work.** The size of government contracts often requires a large corporation or a consortium of corporations to handle the scale of work. The sheer scale and complexity of some government contracts can preclude small businesses having the resources and capacity to tender for work. The process needs to be simple and coaching and support needs to be made available for small businesses to help them navigate the paperwork.

Similarly, there needs to be **thorough and well documented feedback at every stage of the procurement process so unsuccessful businesses can keep building their knowledge and capability to be “government ready”.** On some contracts there may be capacity for an interim tender process that allows small businesses to establish their credentials. Once they are considered a genuine contender for the work, they could be supported with coaching or grants to give these businesses the capacity to do a full tender for the work.

Industry groups could be better used to help communicate the availability of government work and inform members of any opportunity to form clusters to tender for larger work programs. This needs to be done with sufficient notice for businesses to do the necessary research.

Ai Group supports the NSW Government’s market-led unsolicited bid process as a means of maximising the development of new assets and encouraging industry to submit innovative solutions to meet NSW infrastructure and service needs. However, we believe that there are opportunities to enhance the engagement of industry in the market-led unsolicited bid process. This could take the form of clearer rules of engagement such as ensuring that proponents have a more precise understanding of the relative importance attached to each of the assessment criteria, including knowing exactly how “value for money” is defined and interpreted and how innovation is assessed and measured in the uniqueness test criteria.

We would also recommend that there be a tightening of the guidelines relating to the protection of confidentiality and intellectual property rights. Where the Government decides not to proceed with a proposal, and wishes to use the intellectual property, there should be provisions allowing for appropriate payments to be considered. The Government should not use MLP's to obtain effectively free information from industry acting in a consulting engineering capacity. The proponent must be reimbursed for information provided at any stage of the assessment process if it forms the basis of a Government agency's subsequent request for tender.

On the basis that the “uniqueness” test is the major barrier to the progress of market-led proposals in NSW, we also believe that there is strong justification for amending the guidelines in line with the revised Queensland Government framework where the “uniqueness” test has been replaced with a ‘justification for direct negotiation’. This places greater emphasis on proponents making a case as to why government should directly negotiate with them rather than engage in a competitive process.

It is important that **procurement projects are designed in a way that enables businesses to leverage the relationships they build, or the products/processes they develop to find more opportunities in global supply chains**. Procurement, be it in defence, manufacturing or business services, can give businesses, especially SMEs, the opportunity for future work in global supply chains.

The Government should also facilitate early engagement of the community and industry in the identification and shaping of future infrastructure developments. The engagement of the private sector at early stages of planning for projects is also important to ensure that opportunities, risks and issues on individual projects are identified and communicated before requiring the submission of tenders or expressions of interest. This enables contractors to more effectively understand projects and assess the likely cost of tendering and their chances of being a successful tenderer.

The Federal Government’s Centre for Defence and Industry Capability has a successful program called the Global Supply Chain (GSC) program, which creates opportunities for Australian companies in the global supply chains of multinational defence companies and their major suppliers. There are seven major prime contractors, all large multinationals, which identify bid opportunities for capable Australian businesses. The prime contractors also train and mentor companies in areas like their purchasing practices, and market assistance including facilitating visits and access to decision makers.

There are opportunities for this program to be leveraged to target global supply chain development projects across other sectors. The projects could also play a role in fostering collaboration between supply chain businesses. Collaboration can be an effective way in ensuring that a supply chain is agile and can adjust as required to meet the specific needs of clients. It would also assist in improving the competitiveness of the local operators against large overseas businesses that can offer a “one-shop” solution and greater capacity to deliver on major projects.

It also important that the **Government selects and retains experienced and appropriately skilled project development and procurement personnel to ensure private sector confidence in the tender and operational processes**. The trend towards government outsourcing in recent decades has led to a reduction in public sector staff with the necessary skills in procurement which has adversely impacted on the standard of government procurement.

Commonly cited areas of industry dissatisfaction include:

- Poor specifications, lack of detail, incorrect information
- Poorly prepared plans and variations to plans
- Increased risk to businesses
- Disputes as to the extent of work being carried out
- Time delays
- Poor quality contractual terms
- Inadequacies in managing complex contracts

It is incumbent on the Government to take greater responsibility for addressing this erosion of the skills base by raising the core skills and competencies of public sector personnel responsible for procurement. This includes the skills necessary for front end procurement documentation through to tendering and selecting the most appropriate procurement mechanisms, particularly for larger and more complex procurement contracts.

In the delivery of infrastructure projects, inefficient government procurement practices due to a lack of experienced and sufficiently competent personnel and inadequate scoping practices is recognised as a leading contributor to major pressure points that can occur throughout an entire project cycle due to cost overruns, delayed completion and disputes. It is also reflected in the concerns of industry in relation to poor tender quality, inadequate project scoping before embarking on the tender process and poor quality contractual terms.

Improvements in the skills of public procurers accompanied by more time and resources directed at the outset of a project on factors such as the desired functional and performance outcomes and/or specific technical specifications can play a key role in reducing infrastructure costs.

7. Encouraging innovation in NSW industry

Innovation is the foundation of improvements in our competitiveness and living standards. It involves bringing new or refined goods or services to market; introducing new ways of producing, distributing and marketing goods and services; and putting in place more responsive and more effective approaches to doing business.

Ai Group believes that every sector has the capacity to both innovate and benefit from innovation and should be encouraged to do so. There is a tendency for those considering innovation to look to high-tech sectors. Such an approach risks overlooking areas in which we have specific strengths such as food, mining and biotechnology as well as opportunities in sectors that are the traditional stalwarts of the Australian economy.

The NSW Government has a key role to play in supporting innovation. Where possible, we would encourage the NSW Government to foster collaboration between business and public-sector research and higher education organisations in Australia. We would also encourage the NSW Government to ensure there is strong industry consultation and focus in skills and higher education policies, including effectively integrating STEM into school programs and better developing STEM skills in the VET sector and existing workplaces. More broadly, reform of state-based regulation and taxes will help to foster a greater culture of innovation within existing businesses by removing the impediments for businesses to expand into new markets or improve processes.

There is also a need to lift the number of companies involved in R&D and augment existing initiatives and assist innovative firms to break out and commercialise their research and development capabilities.

We strongly support the Government's pro-active role in establishing a suite of programs aimed at growing the State's innovation and entrepreneurial ecosystem with a view to expanding and diversifying the state's economy. This includes:

- the R&D and innovative funding (Tech Vouchers, Minimum Viable Product and Collaborative Solutions) programs,
- the Supply Chain Accelerator Pilot Program, the five industry-led Knowledge Hubs which provide an important platform for increased industry-research interaction;
- the establishment of the Sydney Startup Hub to grow the size and strength of the city's innovation and entrepreneurial ecosystem;
- The Sydney School of Entrepreneurship and its focus on growing the startup sector by providing the facilities and resources to support young entrepreneurs across the state's 11 universities and TAFE NSW.

We also welcome the Government's Procurement Innovation Stream which is an effective means of driving innovation through procurement policy with its focus on project objectives instead of prescriptive specifications and the opportunity for businesses to offer innovative

products or processes. This makes government procurement more accessible to start-ups and SME's and brings benefits to both businesses and the government. We would encourage the NSW Government to **maintain a pro-active approach to connecting businesses with opportunities in government procurement**. Local business success in securing government contracts includes the direct benefits of increased employment and diverse spin-offs to industry and the state's economy that can arise from the development of new technologies, new products, and new skills which can have flow-on benefits extending far beyond the initial contract.

There are also potential synergies between the Government's ICT strategy, its plan to establish a Sydney technology and innovation precinct and the various smart cities initiatives in NSW. A coordinated approach to these various activities will increase the potential benefits derived.

Ai Group believes that there are opportunities for further significant benefits through the following initiatives:

Assisting SME's to develop design led innovation capabilities has the strong potential to increase the speed of innovation along with lifting competitiveness within the small business sector. SMEs can face difficulties in acquiring the skills and capabilities to assist them with identifying niche opportunities, developing ways to exploit them and become more innovative. It would also assist in driving upgrades in technical, design, cost and quality capabilities to meet customers' supply needs.

Providing support for regional and metropolitan cluster initiative programs that would direct financial and other assistance to individual cluster initiatives. The collaboration of related or complimentary businesses in the same areas can lead to a range of benefits such as access to a larger pool of skilled labour, improved supply chains, knowledge sharing in key areas such as best practice and innovation, and opportunities for businesses to collaborate as a supply chain of products and services. It would also assist in allowing businesses to jointly bid on projects and improve the competitiveness of the local manufacturers against large overseas businesses that can offer a "one-shop" solution and greater capacity to deliver on major projects. Cluster initiatives can also be aimed at encouraging suppliers able to jointly pitch creative ideas to solve Government challenges.

The introduction of an innovation 'Start-Up' program for those businesses with no prior experience in R&D, but with an interest in starting an R&D project. These businesses often find it difficult to compete with larger and more experienced businesses for government funding which acts as a barrier to involvement. Under such a program, grants could be provided to companies (on a competitive basis) on a matching dollar for dollar basis, and be used for a broad range of purposes such as purchasing specialist equipment to undertake proposed R&D, to engage a consultant to assist in R&D activity, to employ a scientist or

engineer to undertake R&D, or to engage the expertise of a university, CSIRO or another research centre.

Reduce or remove regulatory barriers to innovation and new technologies. With a firm eye on the digital world and its potentially disruptive implications for the future of industry across NSW, we also urge the NSW Government to review its regulatory arrangements across all sectors, including (but not limited to) energy, transport, engineering, food development, robotics, digital technologies and telecommunications. This is becoming increasingly urgent with the advent of Technology 4.0 and the plethora of digital technologies, applications and systems that are becoming available. This includes for example: regulatory arrangements for the ‘sharing’ and ‘gig’ economies; regulatory arrangements for digital technologies, IP and applications; regulatory arrangements which address the risk of cyber-attacks which pose particular threats to information rich products and services; regulatory arrangements for robotics and artificial intelligence in the workplace; regulatory arrangements for driverless cars and other driverless transport for freight and/or passengers on NSW roads and; the development of use of ‘Big Data’ to create an innovative economy.

Promote innovation through taxation measures and other incentives. We would encourage for instance the consideration of such measures as payroll-tax holidays for start-ups and new businesses; regionally-based incentives to support growth in designated areas, such as tax holidays, or assistance and incentives to set up new businesses and; incentives to develop greenfield land, such as expedited planning processes.

Rebalance export support programs to provide effective support for small businesses that develop and export intellectual property and services. The ongoing “information revolution” and the development of the National Broadband Network provide the context in which NSW is already developing world-leading knowledge, services and technologies that do not fit comfortably in the established “product” oriented export facilitation programs. A vibrant, export-oriented industry focused on advancing and exploiting the information revolution will become a major earner and a major attractor of high value individuals to NSW.

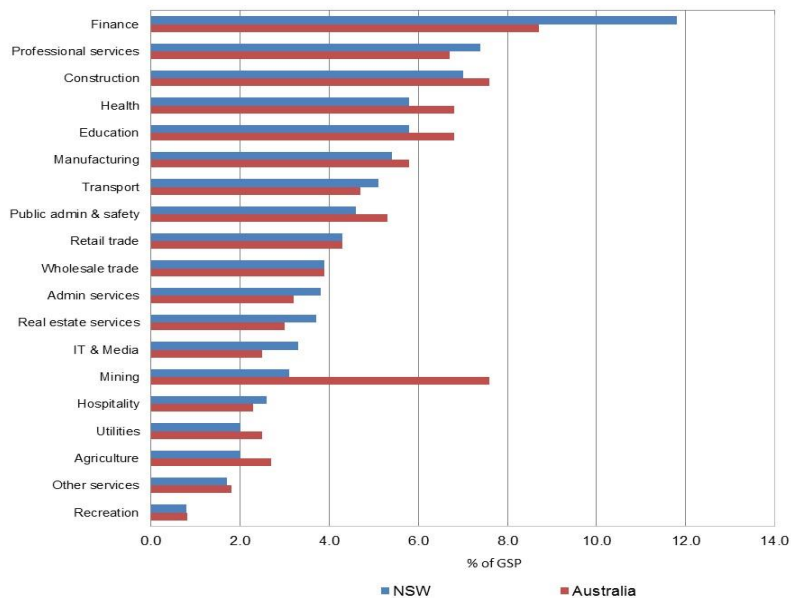
Work closely with industry associations and businesses to influence the development of regulation and legislation with a view to incentivising innovation through an increased understanding of the specific challenges to innovation from conception to commercialisation.

Draw on best practice and implement appropriate elements from innovation models in other Australian state and overseas jurisdictions and be proactive in continually identifying gaps in the state’s innovation ecosystem and taking action to fill those gaps.

8. Industry and economic development

Australian Industry Group through its pre-budget submissions and other policy documents has consistently emphasised the importance of building stronger growth as a basis for industry and community prosperity. This includes leveraging off the State’s strong and innovative services base and exploiting its skills and capabilities across a wide range of highly specialised, and technologically advanced manufacturing sectors. Indeed, manufacturing which is the State’s sixth largest sector, (making up 5.4% of the NSW economy) is uniquely positioned to drive our economic growth rate and reduce unemployment. Manufacturing sectors such as pharmaceuticals, scientific and medical equipment, environmental technology as well as highly processed foods, beverages and confectionary

Chart 2: NSW and Australian Industry Output, share of GSP & GDP, 2017-18



Source: ABS Australian National Accounts, State Accounts 2017-18

are combining innovation, investment and exports to ensure the state is able to compete on the global marketplace. Moreover, in the manufacturing industry, businesses are increasingly adding value by engaging not only in production, but an array of services including research and development, prototyping, design, maintenance and logistics. This shift to services provision is helping to drive innovation and competitiveness, particularly where it is combined with retained manufacturing capability. Increasing opportunities are likely to develop over the next decade for manufacturers of specialised and high value-added products which can take advantage of emerging markets and new technologies. This includes areas such as medical technologies, renewable energy, and sustainable building materials.

We therefore commend the Government's support for the state's Advanced Manufacturing Industry through its important role in developing the NSW advanced manufacturing industry development strategy and its practical initiatives to grow the industry. We also stand ready to continue working with the Government on achieving its strategic objectives and to help drive jobs creation, skills development and continued investment in advanced manufacturing in the State.

It is also important that the NSW Government maintains a strong commitment to other key initiatives directed achieving industry growth and competitiveness and creating a climate for business success, including:

- programs aimed at bridging gaps in key technical and business skills with the goal of building greater collaboration between industry and the training system;
- programs aimed at building exports and collaboration focusing on awareness raising, training, skilled export staff and stronger long-term supply chains in emerging and strategically important sectors;
- programs aimed at attracting investment for NSW by making more companies investment ready, promote innovation and by raising the profile of manufacturing in the state by effectively marketing NSW's business capability.
- Programs aimed at building supply chain capability such as workshops to share examples of best practice across sectors on supply chain competitive issues or matching buyers and sellers through targeted "Meet the Buyer" events.
- Programs aimed at supporting the development of new innovative industries in advanced manufacturing.
- Programs aimed at lifting the adoption of ICT enabling technologies.

Specific initiatives to assist in addressing these issues could include:

- Assistance for businesses in developing a path for the **adoption Industry 4.0 type capability** to exploit the benefits of digital manufacturing and better integrated supply chains based on stronger data flows. Small and medium sized enterprises, in particular, are often constrained in their growth by lack of technology capability and access to finance. Ai Group therefore recommends the establishment of a State based program targeted to assist small and medium sized businesses in the adoption of Industry 4.0 type capability. Funding could be directed to companies on a dollar for dollar basis up to a maximum \$50,000.

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- The NBN will accelerate the development and uptake of flow-on information technologies. While the benefits of the NBN to households, health and education providers have been strongly promoted, less attention has been paid to the needs of, and opportunities for, business users. **Government programs that assist SME's in taking advantage of broadband and other advances in ICTs** (including the upskilling of employees) could make a valuable contribution to NSW's future global competitiveness by helping to ensure potential benefits are maximised.
 - An examination of the opportunities for establishing a grants program to **support regional and metropolitan cluster initiative programs** that would direct financial and other assistance to individual cluster initiatives. The collaboration of related or complimentary businesses in the same areas can lead to a range of benefits such as access to a larger pool of skilled labour, improved supply chains, knowledge sharing in key areas such as best practice and innovation, and opportunities for businesses to collaborate as a supply chain of products and services. It would also assist in allowing businesses to jointly bid on projects and improve the competitiveness of the local manufacturers against large overseas businesses that can offer a "one-shop" solution and greater capacity to deliver on major projects.
 - Assistance in the **identification of new market opportunities**, including niche markets and understanding how to best access these opportunities. A comprehensive data and information base that identifies gaps and opportunities that businesses could seek to exploit in international value chains could be one useful initiative. SMEs can lack the skills and capabilities to assist them with identifying niche opportunities, developing ways to exploit them and to be more innovative. Assisting the manufacturing sector to develop design led innovation capabilities may increase the speed of innovation along with increased competitiveness within this sector.
 - **Rebalancing export support programs to provide effective support for small businesses that develop and export intellectual property and services.** The ongoing "information revolution" and the development of the National Broadband Network provide the context in which NSW is developing its presence in knowledge, services and digital technologies that do not fit comfortably in the established "product" oriented export facilitation programs. A vibrant, export-oriented industry focused on advancing and exploiting the information revolution would help in creating a more balanced portfolio of economic activity in NSW and become a major earner and attractor of high value knowledge workers to NSW.

The Government also needs to be proactive in identifying gaps in programs and take the lead in drawing on appropriate models in other States and overseas jurisdictions. Ai Group believes that there would be merit in establishing a **manufacturing advisory group** to act as an industry expertise resource for Government in guiding policy directions based on the

Queensland Government's Industry and Manufacturing Advisory Group (IMAG). The IMAG helps position Queensland manufacturing businesses to maximise domestic and international opportunities with a focus on changing demand and emerging opportunities; productivity and competitiveness; innovation and technology; and local content, business costs and regulation. The Minister for State Development chairs the group, which includes business leaders, union representatives and a peak industry body representative.

9. Energy and the Environment

Elevated prices for electricity and gas remain a serious challenge to the growth and competitiveness of many businesses in NSW. Futures prices for wholesale electricity suggest prices will remain nearly twice their historic average for the next few years. Wholesale gas prices are increasingly set by oil-linked export parity, and global oil prices suggest that local gas prices will indefinitely remain at least twice the historic average, and more usually three to four times. The NSW Government has limited levers to directly influence energy prices, but there are two that should be strongly considered:

- The Government should work with the Commonwealth to adopt Recommendation 11 of the ACCC's Retail Electricity Pricing Inquiry Final Report, developing rebates to energy users on distribution network charges to defray the impact of over investment over the past decade. Budget options to offset this cost, including through Commonwealth support as recommended by the ACCC, will need careful development to ensure they promote efficiency and are sustainable.
- The Government should make a timely decision on the Narrabri coal seam gas project proposed by Santos and develop reforms for gas approvals that create a more timely and predictable process while ensuring community concerns are answered. The Northern Territory's recent reforms in response to its independent Fracking Inquiry present a possible model for strong but workable regulation of unconventional gas development. The potential development of Narrabri is unlikely to send gas prices below export parity, but additional supply would increase competition and reduce the risk that future market imbalances send prices soaring above export parity, as they did in 2017.

High prices make it vital to use energy more efficiently and productively.

The Government has recently announced a \$72m set of measures to support improved energy efficiency in industry and low-income households. These are positive steps, and we are working with the Office of Environment and Heritage to assist the most effective rollout of the industry support. The Government should closely monitor these measures and be ready to back success with further resources for capital upgrades and energy management. Additional steps should be developed in two areas:

Deep improvements in energy costs are likely to require major upgrades of production facilities to radically enhance efficiency or switch fuels. Such investments are not made lightly or often and will shape the long-term future of manufacturers in NSW. The Government should develop an integrated energy and industry policy that facilitates deep upgrades by bringing together information on opportunities, supporting innovation, and unifying finance options with the scale and scope to be relevant to such projects.

Improved energy efficiency beyond industry can improve outcomes for all energy users by reducing pressure on electricity infrastructure and markets. Further initiatives for household energy efficiency are sensible. These should include options for the disclosure of the energy performance of medium- and high-density residential buildings, which should drive improved outcomes for renters and increase market pressure for efficiency upgrades.

Looking beyond energy to waste, the waste handling and recycling sectors have been rocked by China's sharply reduced willingness to accept contaminated Australian materials for recycling and recovery. The viability of recycling activities is threatened, given that contamination levels and the Australian cost base often make recovered materials more expensive than virgin materials. The effects of this on wider industry are still patchy, with some member reporting no impact and others concerned at the increasing difficulty of meeting the goals for waste reduction that management and shareholders expect. A broad strategy is needed in response, including:

- Encouragement of the use of recycled materials in government procurement, and reduction of regulatory and institutional barriers to such usage (such as replacing materials requirements for infrastructure with performance standards);
- Education campaigns aimed at households and workplaces to promote good recycling practices and reduce contamination through better waste separation;
- Careful consideration of support for waste-to-energy facilities;
- Work with the manufacturing and construction industries, as well as the waste sector, to understand cost-effective options to support and promote the circular economy.

10. Skills, education and training reform

Ai Group has identified a number of skills, education and training issues that must be addressed within this year’s budget as a matter of urgency. These are discussed in detail below.

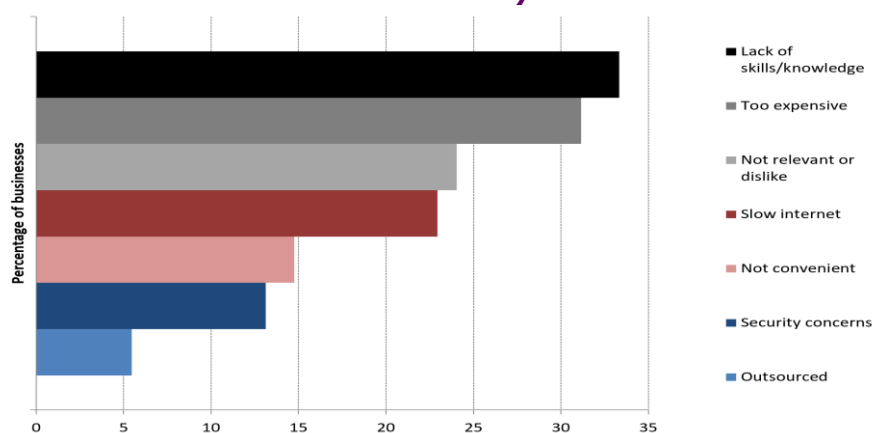
Skills gaps arising from digital transformation

The transformation of the workplace and disruption caused by digital technologies is having a widespread effect on skills needs and creating skills shortages. Changes to skill requirements in industry are occurring at all levels of the workforce. The workforce needs to be able to operate with emerging new technologies and systems and engage in more complex work and relationships in environments that are constantly changing.

Workers need higher level skills and the capacity to be transferred between functions and processes. Industry increasingly needs workers who have the relevant specialist technical (STEM) skills, foundational skills including digital literacy and, importantly, higher level enterprise capabilities in creativity, problem solving, advanced reasoning, complex judgement, social interaction and emotional intelligence. Further, capable leadership and management is needed to drive the effective utilisation of these skills and significant organisational change.

The Ai Group’s Business Beyond Broadband report found a lack of skills to be the highest barrier to investment in digital technology. Only 15 per cent of businesses believe they have a high level of digital skills. While it was positive that businesses were generally digitally upskilling their workforce through training or recruitment, almost 20 per cent of businesses expected to do nothing to improve skills.¹

Chart 5: Barriers to business investment in digital technology (% of businesses)



Source: Ai Group, “Business beyond broadband: Are Australian businesses ready for the Fourth Industrial Revolution? (May 2017).

¹ Ai Group, “Business beyond broadband: Are Australian businesses ready for the Fourth Industrial Revolution? (May 2017).

Digital transformation is also leading to a significant shift in the skill composition of the workforce. There has been a range of reports highlighting the rapid and extensive change in this area. The CSIRO's latest report on megatrends for Australia's future workforce in the next 20 years highlights the need for a paradigm shift of mindsets for workers, employers, education sectors and governments to accommodate for the predicted jobs of the future².

A 2015 CEDA report notes that the share of high-skill jobs is significantly increasing while the share of low-skilled jobs is decreasing.³ Similarly the OECD has reported on the long-term movement away from low -skilled occupations to higher skilled occupations in the context of the expanding knowledge economy.⁴ The Foundation For Young Australian research has characterised this as a growth in 'high skill' and 'high touch' occupations and a decline in lower skill occupations⁵

All of these changes in the nature of work are producing skill needs in a number of categories that must be better integrated into school, VET and higher education curricula/standards as well as teaching, training and learning strategies. These broad categories fundamental for work into the future include:

- **Digital Literacy**

Evidence suggests that despite an increasing diffusion of digital technologies in business, a large proportion of people do not effectively use digital technologies at work or do not have adequate ICT skills.

- **STEM skills**

Another key component of the future workforce will be the acquisition of Science, Technology, Engineering and Mathematics (STEM) skills. A number of reports have highlighted the importance of STEM skills to the economy and that these skills are needed for the fastest growing occupations.⁶ According to Ai Group's latest Workforce Development Needs Surveys⁷, employers continue to experience difficulties recruiting STEM qualified workers. More than half reported they had difficulty recruiting professionals and technicians/trades workers with STEM. The later section on STEM further discusses the problems and recommendations to secure a base in these skills.

- **Enterprise and entrepreneurial skills**

² CSIRO, Our Future World: Global megatrends that will change the way we live, 2017

³ Committee for Economic Development of Australia, Australia's future workforce?, 2015.

⁴ OECD Skills Outlook 2013.

⁵ The New Basics: Big data reveals the skills young people need for the New Work Order, Foundation For Young Australians, 2016.

⁶ See for example Strengthening School -Industry STEM Skills Partnerships, Australian Industry Group, June 2017; STEM Country Comparisons, Australian Council of Learned Academies, May 2013; The Case for STEM Education, R. Byee, NSTA Press, 2013; and Science, Technology, Engineering and Mathematics: Australia's Future, Office of the Chief Scientist, September 2014.

⁷ Ai Group, Workforce Development Needs Survey 2018.

Workers must increasingly develop higher level skills in communication, leadership, problem solving and design thinking. These are generic skills that can be coupled with technical capability to build a broader set of capabilities for application in different environments⁸. Fostering innovation begins with building the necessary foundation and generic skills needed by the workforce. These enterprise-focused skills are not just for entrepreneurs, they are skills required in all jobs.

- **Management capabilities**

The Ai Group's 2018 Workforce Development Needs Survey found that almost two thirds of employers believe a lack of leadership and management was having a high impact on business. The survey also found that most companies believe their managers need to improve their technology and digitalisation skills. Managers who are decision-makers adept at dealing with uncertainty and constantly changing landscapes are needed in a networked-knowledge economy.⁹ To understand and recognise the upcoming changes in digitalisation and automation, leaders need to identify where their own organisation will be transformed and then put in place plans to migrate to new business processes enabled by digitalisation.¹⁰

Leadership and management capability must enable companies to steer the interconnectivity between systems, machines and people – across companies, countries and value networks. Managers need to develop the digital strategies required, develop workforces with proficiency in problem solving in technology rich environments and ensure workers continue to utilise their information processing skills.

There is a requirement for an increased investment in the development of key categories of skills for the transforming economy through education and training sectors in NSW.

Existing worker up-skilling

Whilst there needs to be an expansion of digital literacy across all education sectors and flowing into the future workforce, a crucial contributor to industry's success will be the re-skilling of Australia's existing workers to possess the digital skills needed for today's jobs.

The more rapid changes in the economy mean individuals will need regular upskilling throughout their working lives. Companies must up-skill existing workers in order to take advantage of growth opportunities and adapt to the digital economy. By assessing their own capability and training when necessary using trainers, supervisors, managers and leaders, companies will develop employees more capable of taking control of their roles, needing less supervision and being more engaged.

⁸ Position Paper on the New Skills Agenda for Europe, CEEMET, 2017

⁹ The Future of Manufacturing Education Initiative, Final Report, Australian Business Deans Council, 2014.

¹⁰ Chui, Maniyika and Meremadi, Where machines could replace humans – and where they can't (yet), McKinsey Quarterly, 2016

Support is needed for industry to assess existing workers' digital capabilities and train where necessary, resulting in employees who are more capable of undertaking productive and engaged roles and able to better contribute to innovation in the workplace. Management development to build the capabilities described above is crucial. And learning must continue throughout a career in order to acquire new capabilities as the unknown new technologies and roles emerge.

The Ai Group's Business Beyond Broadband report found that businesses are prepared to digitally upskill their workforce through training or recruitment. A minority will be outsourcing digital functions. Alarming, 17 per cent of businesses plan to do nothing to improve technology skills because employee skills, costs, perceived lack of relevance and slow internet capacity inhibited them from investing.

The Ai Group's 2018 Workforce Development Needs Survey found employers listing occupations experiencing skills shortages included those with skills in business automation, Big Data and artificial intelligence solutions.¹¹ Employers are still experiencing difficulties recruiting employees with STEM skills, particularly technicians and trades workers and professionals. Within their workforce, employers are prioritising managers for digital technology training and changes anticipated or caused by its rollout (33 per cent). Technicians and trades workers and administration staff are the next equal priority for digital technology training and changes from its rollout (both 18 per cent), followed by professionals (16 per cent).

The Government's Skills for Business program provides welcome support for small businesses to upskill employees in business management, digital and financial skills. There is a need to support medium-sized businesses in their digital transformation and to broaden the support to a greater range of skills.

Extend the Skills for Business program to more businesses and skill areas.

Investment in Australia's VET system

Australia's and NSW's VET systems must be viewed as skills engine rooms for industry's workforce. It is therefore deeply concerning that the funding of the VET system continues to be inadequate, in terms of both the level and composition of its funding.

Firstly, the levels of total VET funding are not sufficient to meet existing and future skills needs of the workforce. The level is too low in absolute terms and relative to the funding arrangements in both the higher education and school sectors. The most recent national analysis of VET demand was undertaken by the former Australian Workplace Productivity Authority in 2011.¹² This report recommended a 3 per cent p.a. increase to 2020 to meet the demand for VET qualifications required by the workforce. Current VET funding levels

¹¹ Ai Group, Workforce Development Needs Survey 2018.

¹² Skills for prosperity: a roadmap for vocational education and training, Skills Australia, 2011.

are well short of this. Further, there is an increasing gap in the public expenditure for VET compared to other sectors of education.

More recent research by the Mitchell Institute shows there has been a much lower rate of growth in VET spending compared with other education sectors. Expenditure on VET has grown much more slowly, by around 15 per cent in total until 2012-13, before experiencing a sharp decline in 2014. This left total VET expenditure in 2013-14 only around 5 per cent higher than 2003-4 levels.¹³

This lack of VET funding and the growing gap between VET and the higher education sector makes any movement towards a national tertiary system more difficult.

The second problem is the composition of public funding for VET, or more precisely, the shared contributions of the Commonwealth and the States/Territories. The funding by the jurisdictions is falling in absolute terms and also relative to Commonwealth expenditure. The relative funding shares between the Commonwealth and the jurisdictions vary significantly. These differences have been aggravated by the introduction of differential student training entitlement funding models by all states and territories. The jurisdictions have used in-built flexibility parameters resulting in differences in the eligibility requirements, the courses eligible for an entitlement, course subsidy levels, the quality requirements of providers, and the information provided to students.¹⁴

A recent finance report from the NCVET highlights a continuing decline in government expenditure across Australia which amounts to a 15 per cent decrease between 2012 and 2016.¹⁵ NSW declines in expenditure contributed to the overall decline during this period.

The shared funding arrangements are impacting on the effectiveness of the VET system. Different mixes of Commonwealth and States and Territories funding and different ways of funding each VET system are causing confused messages for employers engaging with the system, particularly those operating nationally. In some instances, within individual state systems the needs of industry, businesses and students have not been met.

The Ai Group believes that genuine national funding of tertiary education including VET must be established. By addressing and clarifying the excessively complex and duplicative Commonwealth and State/Territory roles and responsibilities in the training system, a genuinely national training system may be possible.

Further challenges exist for the VET sector. As with other education sectors, it is under pressure to develop people with higher order STEM skills and enterprise skills for the digital economy. The current training product reform initiatives by the Department of Education and Training that are reviewing competency definitions, skill sets and common units

¹³ VET funding in Australia, Peter Noonan, March 2016, Mitchell Policy Paper 2016.

¹⁴ Kaye Bowman and Suzy McKenna, NCVET, Jurisdictional approaches to student entitlements: commonalities and differences, 2016

¹⁵ Financial information 2016, NCVET, November 2017.

promise to improve the quality of VET provision and are welcomed. Similarly cross sector projects underway through the training product development system should help to address needs.

A 2017 NCVER report has found that the VET system contains a significant amount of digital training content, although much of this is elective rather than part of the core.¹⁶ The training is also geared towards the development of lower levels of skills. This is counter to the growing evidence of the increasing need for higher-order skills in data analytics, cyber security, social media and mobile-related digital skills. The Ai Group is piloting a higher level skills approach in our Australian Government-funded partnership project with Siemens and Swinburne University on the Industry 4.0 Higher Apprenticeships Project. This project has proved successful and we are currently in the process of rolling it out to other states.

The sector is also potentially a rich source of applied research and collaboration with industry. The sector needs to be further included in the government's innovation initiatives – a recommendation included in the House of Representatives report of its Inquiry into innovation and creativity.¹⁷ A 2017 NCVER paper and practical guides provide directions by addressing the potential and exploring the capabilities that are needed and how RTOs and practitioners can build off their existing connections and skills.¹⁸

Finally, industry requires a steady supply of VET graduates to the workforce and has indicated difficulty in recruiting trades and technician workers. It needs to be assured that students are best suited to the level and emphasis of the programs they are undertaking, and that they have the opportunity to undertake courses that are most relevant to them, thereby creating the best talent pipeline for the workforce.

We therefore urge the NSW Government to address declining investment in VET in cooperation with the Commonwealth to ensure a sector funded to meet emerging vocational skill needs of industry.

1.4 Reform of the apprenticeship system

The most recent data from the NCVER indicates that there were 272,440 apprentices and trainees in-training nationally as at 31 March 2018. This represents a fall of 1.2 per cent compared to the March 2017 level. Commencements fell by 0.9 per cent during the period. NSW has a better story than the national averages. Commencements rose by 4.3 per cent in the same period and trade commencements increased by 8.5 per cent. This improvement has come before the introduction of fee-free apprenticeships.

¹⁶ Developing appropriate workforce skills for Australia's emerging digital economy: working paper, NCVER, 2017.

¹⁷ Inquiry into innovation and creativity: workforce for the new economy, House of Representatives Standing Committee on Employment, Education and Training, May 2017.

¹⁸ Beddie, F and Simon, L, VET applied research: driving VET's role in the innovation system, NCVER, September 2017.

While some occupations are increasing their training rates, especially key trades in construction, others are not faring as well. Food trades continue to decrease and traineeships in the community and personal service sector are down more than 6 per cent. This demonstrates the need for targeted government intervention, particularly in traineeship occupations.

A contributing factor to this general concern is the data released about VET in Schools participation for 2016 across Australia. In 2016 there were 52,600 VET in Schools students in NSW, a decrease of 2.8 per cent on 2015. Of particular concern is the state of NSW school-based apprentices and trainees which made up only 4.2 per cent of all NSW VET in Schools students in 2016.

Table 2: State and Territory summaries of school-based apprentices and trainees, 2012 -16

	2012 (’000)	2013 (’000)	2014 (’000)	2015 (’000)	2016 (’000)	2015–16 % change
School-based apprentices and trainees						
New South Wales	2.3	2.5	2.8	2.2	2.2	1.0
Victoria	4.2	3.6	3.9	3.6	3.3	-7.7
Queensland	13.2	13.1	11.7	11.1	8.7	-21.4
South Australia	0.9	0.9	0.3	1.1	1.3	12.9
Western Australia	1.2	1.1	1.2	1.2	0.8	-36.7
Tasmania	0.7	0.6	0.7	0.6	0.6	-8.6
Northern Territory	0.1	-	0.2	0.2	0.1	-44.7
Australian Capital Territory	0.4	0.3	0.2	0.1	0.2	**
Total school-based apprentices and trainees	23.0	22.1	21.0	20.1	17.2	-14.4

Source: VET in Schools 2016, NCVET

There needs to be a sponsored review of these arrangements to determine the reasons for the under-utilisation of this pathway and develop strategies to assist schools and industries to more actively participate.

One new traineeship that has been declared in some states, but not yet in NSW is the Diploma of Applied Technologies. This qualification underpins the successful Industry 4.0 Higher Apprenticeship piloted in Victoria by Ai Group in partnership with Siemens and Swinburne University of Technology. Employers across the country have expressed interest in the program, which focuses on future technologies in manufacturing and other sectors.

To facilitate greater industry involvement in apprenticeship arrangements the current regime of employer incentives needs to be reviewed and rationalised. In particular, there needs to be a focus on employer incentives for first time participants in the arrangements. European research suggests that direct subsidies are effective in encouraging companies to start training rather than for companies which are already training.¹⁹

¹⁹ The effectiveness and cost-benefits of apprenticeships: results of the quantitative analysis, European Commission, September 2013.

A national body is needed to manage the implementation of these measures including overseeing national consistency and ensuring programs and arrangements meet current and future workforce needs. Confronted with similar apprenticeship issues, the UK has established an independent and employer-led body, the Institute for Apprenticeships, to regulate the quality of apprenticeships in the context of anticipated rapid expansion of the program.²⁰ It is timely for Australia to review the governance arrangements for apprenticeships with a view to providing a genuinely national approach.

- **Implement further measures to ensure programs and arrangements meet current and emerging occupational needs.**
- **In consultation with industry, develop measures designed to increase the level of participation in traineeships, including the Industry 4.0 Higher Apprenticeship.**
- **Develop strategies to facilitate greater participation by schools and industry in school-based apprenticeships.**

STEM skills in NSW's education system

Some progress has taken place towards STEM capabilities, especially in the school sector, through the establishment of the STEM Partnership Forum as recommended in the Education Council's National STEM School Education Strategy.²¹ The Ai Group research project Strengthening School-Industry STEM Skills Partnerships, produced a number of models and recommendations that need to be promoted nationally to encourage further participation.²²

However, there are still gaps in the national approach to STEM skills. The initiatives released to date do not constitute an overall national strategy. In particular, there is little focus on measures to support and expand the STEM-qualified workforce and no reference to the importance of the Vocational Education and Training (VET) sector in this policy area.

Ai Group's long-standing concerns about the state of STEM skills and the impact on the economy are well documented.²³ A major focus needs to be on growing the STEM workforce.

While longer-term solutions to the STEM skills shortfall properly concentrate on the school sector, there is much to be done to reduce short-term pressure on current shortages. In addition, support for existing workers to retrain in STEM areas would also assist to meet the relatively short-term needs of the economy.

²⁰ <https://apprenticeships.blog.gov.uk/2017/11/23/the-institute-for-apprenticeships-breaking-the-chain/>

²¹ *National STEM School Education Strategy*, Education Council, December 2015.

²² Strengthening School – Industry STEM Skills Partnerships, Final Project Report, Australian Industry Group, June 2017.

²³ *Progressing STEM Skills in Australia*, Australian Industry Group, February 2015.

Strategies are also required to meet the particular needs of SMEs given their prominence in the economy. Government could support these companies via networks or clusters and engagement with group training companies. Support for sectoral and supply-chain companies working with larger companies also warrants consideration.

The Industry Growth Centres initiative has significant potential to promote and implement STEM skills. All six of the Centres announced to date overlap with STEM skill areas. The centres are tasked with improving the management and workforce skills of key growth centres.²⁴ The long-term strategies to be developed by each of these centres needs to focus on the development of workforce STEM skills. There has been research by NCVET about the readiness of five of these growth industries to meet the demand for skills. Among a number of findings to overcoming limitations this research found there is a requirement to have

“a priority focus on STEM, including the development of workplace skills in STEM undergraduate or research degrees and opportunities for continuing professional development in STEM disciplines.”²⁵

To address this issue the Ai Group supports the call for an overall national STEM skills strategy. A multi-pronged approach is needed to address school, university, VET and industry involvement. Sufficient resourcing is required to develop a co-ordinated and systemic response to the issue with specific action taken to:

- **Operationalise elements of the developing national STEM skills strategy in conjunction with industry to expand the STEM-qualified workforce.**
- **Utilise the findings and recommendations of the Strengthening School – Industry STEM Skills Partnerships Project to encourage increased participation.**
- **Implement measures to increase the level of STEM participation in the VET sector, especially through apprenticeships and traineeships relevant to STEM skills.**
- **Develop specific measures to expand the STEM workforce in SMEs through cluster/network models.**

Developing Australia’s workplace literacy and numeracy capabilities

Ai Group research confirms that the low levels of workplace literacy and numeracy are a major concern to employers. The most recent survey indicates that 99 per cent of employers reported low levels of literacy and numeracy having an impact on their business.²⁶

²⁴ www.business.gov.au/advice-and-support/IndustryGrowthCentres

²⁵ Francesca Beddie et al; *Readiness to meet demand for skills: a study of five growth industries*, NCVET, 2014.

²⁶ Ai Group, Workforce Development Needs Survey 2018.

This has a negative impact on productivity, labour mobility and the capacity of the economy to achieve the higher levels of skills needed for the increasingly knowledge-based economy. There remains an urgent need to address the language, literacy and numeracy needs of the Australian workforce.

The Ai Group has conducted a return on investment to employers' program with very positive results.²⁷ In addition to the benefits for participating employees, there is also now a firm business case for employer investment in workforce literacy and numeracy. There needs to be a program within which they can invest.

A literacy and numeracy strategy needs support especially for workplaces. A key component of this is the development and implementation of a new co-contribution program specifically for workplaces. Such a program would be based on tight outcomes for both individual participants and employers. The use of the Australian Core Skills Framework could be mandatory to measure individual improvement and return on investment measures could be utilised to demonstrate benefits to the employer including direct linkages to productivity. The program could also be nationally accredited through the use of the Foundation Skills Training Package adapted to suit particular workplace needs. The Ai Group conducted a small pilot study with three workplaces during 2016 based on these approaches with significant success.²⁸

The Ai Group urges the NSW Government to consider the adoption of a similar program to lift the literacy and numeracy skills of the current workforce.

Challenges to higher education

The Ai Group recognises the importance of a well-placed higher education sector to drive a successful business sector. As industry meets the challenges of new business models, new ways of working, and new technology, there are questions around the capabilities required of university graduates and the best way to develop these capabilities. VET sector models of work-based learning are considered increasingly relevant to this sector. Data from members gathered through Ai Group's 2018 Workforce Development Needs Survey found their highest levels of dissatisfaction focused on graduates' levels of team work, self-management, planning and organising.²⁹

Employability skills are built over time³⁰ through a number of complementary activities.³¹ In today's world all graduates are better prepared to contribute productively in the workplace if they have had opportunities to integrate theoretical knowledge with practice. The

²⁷ *Investing in Workforce Literacy Pays*, Australian Industry Group, August 2015.

²⁸ *Foundation Skills Pilot Program Success*, Australian Industry Group, July 2017.

²⁹ Ai Group, Workforce Development Needs Survey 2018.

³⁰ Yorke and Knight, 2006.

³¹ Jackson, 2015

benefits of it have been well documented and researched.³² Initiatives in work integrated learning (WIL) are bringing about broad collaboration between industry and universities, with many innovative arrangements for cooperation – not only around WIL but for research and development.

A further challenge to higher education, brought about by rapidly changing jobs and new business structures concerns the relevance of degrees, in their current form, into the future. Anecdotal evidence suggests that businesses are increasingly demanding shorter, sharper education and training. Micro-credentialing is gaining steam as a way to quickly build capabilities. Educational content needs to be delivered faster, more cheaply and on demand, with new learning experiences – ensuring more focus is on questioning, exploration and authentic environments. Whilst the qualitative experience of higher learning must not be lost, a balance needs to be met between the traditional degree program and the demands for ‘stacked’ learning to cater for both new learners and those in the workforce needing to constantly update their skills.

These new demands touch on the models and programs of both VET and higher education in Australia and raise the question as to whether a more coherent approach to post-secondary education and training would better serve the development of a skilled workforce for Australia.

Ai Group calls for programs that model innovative ways of connecting between industry, VET and higher education.

³² Jackson, Ferns, Rowbottom and McLaren, Working together to achieve better WIL outcomes, 2015; PhillipsKPA, Engaging employers in work integrated learning, 2014; NCVER, Work integrated learning in STEM disciplines: employer perspectives, 2015; OECD Workshop, Engaging employers in skills development for the 21st century, 2016.