Australian Industry Group

Ai GROUP SUBMISSION

to the Queensland Government's 2018-19 Budget

MAY 2018

Ai GROUP

Contents

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.

Australian Industry Group contacts for this submission

Shane Rodgers Head Queensland
07 3244 1767 shane.rodgers@aigroup.com.au

David Richardson Senior Economist
02 9466 5456 david.richardson@aigroup.com.au

1. Introduction

The Queensland economy is continuing to undergo structural change and diversification as it transitions from strong resources investment led growth towards higher export volumes and improvement across the non-mining sectors.

While the pace of economic growth is gaining momentum, there are risks for the Queensland economy and considerable challenges to navigate, including the potential for further bouts of financial market volatility; the subdued outlook for consumer spending and; a lower contribution to growth from LNG exports as output plateaus in the year ahead. The contribution from the residential sector is also likely to diminish through 2018 and 2019 as the construction pipeline continues to wind back and investor activity slows under the weight of tighter lending conditions.

It is also clear that many Queensland businesses across major sectors of the economy continue to face tough and testing conditions, and are concerned about a range of pressures which are hindering their ability to compete in national and global markets. Across all industries, there is growing concern about rising costs and disruption risks for electricity and gas supplies to businesses. Added to this are the pressures of slow productivity growth; a high burden of regulation; and a deficit of skills in a number of areas, including STEM skills to support innovation and improved competitiveness.

It is important therefore that the Queensland Government uses the 2018-19 Budget to achieve the policy settings which are sensitive to the range of challenges faced by businesses. The Government also needs to meet the challenge of balancing fiscal discipline in managing the State's budget while stimulating much needed confidence and growth through targeted productivity-enhancing initiatives and infrastructure investment.

In particular, the Government should focus on:

- Improving competitiveness by lowering business costs for Queensland businesses including reducing the still burgeoning red tape burden.
- Continuing to lift the productivity of the public sector and in the delivery of services for which it takes responsibility;
- Facilitating and supporting efforts to encourage productivity improvements in all sectors of the economy - by lifting capabilities, building networks, enhancing relationships between industry and research organisations, creating mature partnerships with the private sector, and by providing appropriate information and encouragement - to businesses and other providers of goods and services;

- Ensuring policy and regulatory settings - in areas such as taxation and the provision and maintenance of infrastructure - are conducive to strong productivity growth and;

- Maintaining a sound and secure budget framework and debt levels consistent with a AAA credit rating.

A significant challenge facing Queensland as the economy transitions away from rising levels of resources investment is the disparity in conditions across regions and industries. While South-East Queensland, for instance, with its larger population base and more diverse economy is steadily recovering and the coal producing areas have benefitted from higher coal prices and a revival in activity, many other regions are continuing to struggle. It is therefore critical that regional development remains a key element in long-term planning and development given the critical role of the regions in driving state economic growth and the need to ensure their long-term sustainability.

It is also critical that the Queensland Government takes decisive action to deliver and fast-track the infrastructure projects that Queensland needs through a swifter roll-out of the State's Infrastructure Plan. To alleviate the pressure on the State's economic and social infrastructure and avoid capacity constraints, priority projects must be funded and developed in a timely manner. In this respect, we believe that there is a strong case for carefully targeting the recycling of assets to streamline service delivery and allow for the capital to fund vital road, rail, health, utility and other community infrastructure projects. The NSW experience demonstrates there can be public support for privatisation or long-term leasing where proceeds are used to grow the economy through investment in productivity-lifting infrastructure.

A further key element to maximising the growth potential of Queensland is ensuring that industry can meet its current and future skills needs. Particular areas of concern for businesses are the lack of work-readiness and foundation skills of school leavers; the decline of STEM skills; and considerable employer unease about the quality of VET in Schools arrangements. Ai Group believes that the Government's role in addressing these issues lies with funding major initiatives to lift school sector literacy and numeracy, and developing initiatives that promote STEM skills in schools, the tertiary education sector and the workplace. Government has commenced welcome work in some of these areas already and this should continue.

Ai Group has consistently emphasised the importance of innovation, investment and exports in providing the foundation for future growth and community prosperity. Across a range of sectors such as our state's food processing firms developing new products and technology to meet a global market; our machinery and equipment manufacturers producing technologically advanced goods; and our new manufacturing industries in biotechnology, information technology, pharmaceuticals and aviation - Queensland industry is combining innovation, investment and exports to ensure the state is able to

compete on the global marketplace. This is also helping to build the state's reputation as a global leader in advanced technologies. It is therefore important that the Government's support for innovation continues and accelerate in the years ahead if Queensland is to maintain its competitive standing. This includes a continuing commitment to the important Advance Queensland Acceleration package and its focus on harnessing innovation; creating knowledge-based jobs for the future; promoting Queensland as an investment destination and; ensuring regulation is supportive of innovation.

Ai Group commends the Government's strong focus on supporting the state's Advanced Manufacturing Industry through its important role in developing roads maps and action plans for this and other significant and evolving industry sectors. These should contain mutually supportive strategies that address the priority issues identified in this submission as vital to stimulating business growth.

2. Key Recommendations

The priority recommendations that Ai Group believes the Queensland Government should action in the 2018-19 Budget are set out below.

Maintain sustainable public finances

- A key priority for the 2018-19 Budget will be for the Queensland Government to pay **close attention to the level and balance of the State's assets and liabilities and ensure growth in general government expenses are contained.** This will reduce pressure on the Government to find additional sources of revenue through taxes and charges and help to ensure a positive net operating balance is maintained. A failure to control expenditure, would also limit the ability of the Government to undertake critical investments and have a considerable adverse effect on business growth and employment, while imposing an increased cost burden on the Queensland community.

Ensure Tax Competitiveness

- Ai Group is concerned that the Government's 2017 election costings have indicated four new taxes will be introduced to increase revenue. We urge that the Government pledge a commitment to no further increases in taxes in the 2018/19 Budget.

- The Government should also provide clarity around the future direction of taxation and commit to ensuring that state-based taxes do not increase as a share of GSP over the forward estimates.

- Ai Group urges an on-going commitment to the progressive reduction in the payroll tax rate, and its eventual abolition as part of a comprehensive restructure of Australia's national tax arrangements. We also recommend that the Government pursue the option of removing residential and commercial stamp duties by better utilising land tax as a source of revenue.

Cut the regulatory burden

- Ensure a **continued focus on reducing, streamlining and removing unnecessary regulatory burdens.** This includes seeking to achieve genuine harmonisation of state based laws (or centralisation of laws to the Federal level), and greater certainty and consistency in the standards applying to industry.

- Assign responsibility of regulatory policy to a **Senior Minister to advocate regulatory policy reform** within Cabinet. This would assist in raising the level of Ministerial oversight and strongly reinforce to businesses and the community that the Queensland Government is committed to better regulatory outcomes.

- **Regulatory reduction targets be imposed on key Government agencies** with agency heads held accountable for results.

Boost infrastructure

- Take decisive action to deliver and fast-track the infrastructure projects that Queensland requires to drive growth through a swifter roll-out of the State's Infrastructure Plan.

- A key Government priority must be to facilitate the early engagement of industry and the community in shaping the future direction of investment. This will enable the early identification of opportunities, risks and issues on individual projects with proposals reflecting the needs of businesses and the people of Queensland.

- Focus on the development of **innovative models for financing major projects** into the future, including broadening contestability by encouraging greater private sector involvement in the provision of traditional government services and programs, and embracing the selling and long-term leasing of public sector assets to enable capital to be recycled to fund vital infrastructure projects.

Support the regions

- Continue to actively target regional infrastructure, telecommunications, education and training, and business innovation systems to improving livability for all Queensland regional communities and encourage growth in business activity into the regions.

- Ensure regional projects are identified and prioritized in a transparent way to foster public support and create confidence among investors thereby ensuring that lower-cost financing and a deep pool of investment funds exists for future projects.

Best practice Government procurement

- Adhere to best practice government procurement principles, including ensuring that whole of life project and support costs (which are key advantages that local suppliers offer) are fully factored into all tender assessments.

- Adopt a more flexible approach on definitions of local content with "local" referring to businesses operating in Australia (i.e. not limited to a single state) and applying this broader definition for invitations to quote or tender for every procurement opportunity offered. Local content should include the local assembly of inputs made overseas when that is the most sensible option that delivers value for money for the Government and the best possible outcome for Queenslanders at the least cost.

Support for innovation

- Maintain an on-going commitment to **encouraging innovation** and economic development through sound programs and incentives that are critical to stimulating economic growth across the State under the Advance Queensland Acceleration package.

Boost industry capabilities

- Ensure 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; supporting the development of new innovative industries in advanced manufacturing; attracting investment for Queensland by making more companies investment ready, lifting the adoption of ICT enabling technologies; raising the profile of manufacturing in the state by effectively marketing Queensland's business capability and; assisting Queensland businesses in the uptake of digital and smart manufacturing technologies building upon programs such as Industry 4.0 as well as the utilisation of demonstration programs and business toolkits.

Put downward pressure on energy prices

- **Assist Queensland businesses who are struggling with sharply rising energy prices** by ensuring a commitment to**:**

  - effective market-wide energy reforms that deliver greater confidence and clarity to investors and energy users (particularly around future climate policy).

  - encouraging and fostering energy efficiency, demand response and take up of other increasingly attractive new options for energy users to participate more actively in the energy system.

  Also, in accordance with the recent proposal by the Grattan Institute, we recommend that the Queensland Government voluntarily write down between $5 billion and $7 billion of the regulated value of its network assets and ensure that this reduction flows through to energy user bills.

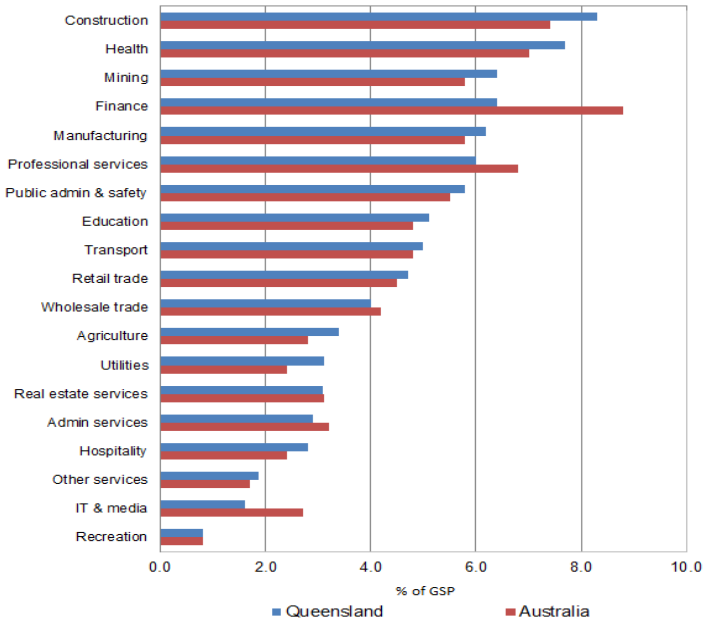
Ensure a more urgent focus on building capacity by investing in skills

- This includes taking action to alleviate skills gaps arising from digital transformation by better integrating the skill needs of industry into school, VET and higher education curricula/standards; addressing declining investment in VET in cooperation with the Commonwealth; introducing further industry skills development and training support programs and; in consultation with industry, developing measures designed to increase the level of participation in apprenticeships/traineeships.

3. The Queensland Economy

The Queensland economy ranks as the country's third largest, accounting for around 18% of Australian economic activity in 2016-17. The composition and growth of industrial production in Queensland highlights the state's broad industrial base, but also the strength of residential and other construction activity in 2016-17 (chart 1). The Queensland economy is linked closely to global trade networks through its relatively large mining, tourism, agriculture and education sectors. The state's construction sector is its largest industry (8.3% of GSP) followed by health (7.7%) and mining (6.4%). Queensland is somewhat under-represented in finance and professional services, which tend to cluster in Sydney (and to a lesser extent, Melbourne). Manufacturing comprises 6.2% of Queensland's GSP, which slightly exceeds manufacturing's share of national GDP. The dominant role of a few key sectors in the state's economy does make Queensland potentially more prone to external shocks.

Chart 1: Queensland and Australian Industry Output, share of GSP & GDP, 2016-17



Source: ABS Australian National Accounts, State Accounts 2016-17

Despite subdued conditions over the past two years, Queensland's economy is gaining momentum as LNG exports begin to provide a more significant contribution to growth and the state's recovery becomes more broadly based. Economic conditions are being supported by an improvement in business investment, rising employment and a pick-up in population growth. Increases in key Queensland commodity prices, particularly for coking coal, are a further major positive for export incomes, profits and government revenue.

Queensland Gross State Product grew by 1.8% in 2016-17, following growth of 2.6% in 2015-16. (table 1). This moderation in growth was due to the temporary setbacks (including disruptions to coal exports) caused by Cyclone Debbie in early 2017 which have now largely passed and a slowdown in dwelling construction from solid levels. However, as LNG exports begin to provide a more significant contribution to growth in 2018, GSP is expected to bounce back to a more robust pace.

Table 1: Real GSP growth and state rankings, 2015-16 and 2016-17

	2015-16		2016-17		
	% p.a (real)	Ranking	% p.a (real)	Ranking	Share of GDP (%)
NSW	3.9	1	2.9	2	*32.9*
Victoria	3.5	2	3.3	1	*23.2*
Queensland	2.6	3	1.8	4	*18.6*
South Australia	0.3	6	2.2	3	*5.9*
Western Australia	1.0	5	-2.7	6	*14.1*
Tasmania	1.3	4	1.1	5	*1.7*
Australia	**2.8**	**-**	**2.0**	**-**	*100*

Source: ABS Australian National Accounts, State Accounts 2016-17

Looking at the composition of Queensland's growth, State Final Demand (SFD) - which measures total spending by households, business and governments, but excludes exports and imports accelerated to 2.6% (seasonally adjusted, current prices) in the year to December 2017 which is stronger than in more recent years. This reflects more positive signs for non-mining business investment following the unwinding of the mining investment cycle and is in line with higher levels of business conditions and confidence and rising capacity utilization. Business investment increased at a rate of 9.4% p.a. over the year to Q4 2017 following a rise of 10.8% p.a. in Q3 2017 on the back of a revival in new plant and equipment investment (+9.4% p.a.) and a strengthening in non-dwelling construction investment (+11.6% p.a.) covering commercial and infrastructure developments.

An improving business environment is helping to support stronger privately funded commercial building activity, driven by strength in the tourism sector as international visitors continue to flock to Queensland in record numbers. This is being led by the $3 billion integrated Queen's Wharf resort development due for completion in 2022. Queensland currently sustains almost two-thirds of the pipeline of hotel and resort developments in Australia.

New engineering investment has also improved, rising at an annual rate of 12.0% over the year to Q4 2017 after investment contracted by 74% from the peak in Q4 2013 to Q4 2016 amid the completion of the state's major LNG projects. The recovery in engineering investment is being supported somewhat by a firming in levels of public investment over the past two years. The Queensland Government's capital spending program, including

funding commitments to complete the Cross River Rail project and additional investment directed at the M1 Motorway and Bruce Highway Upgrade are key positives for prospective non-mining infrastructure investment activity. However, beyond these priority projects, the forward public investment pipeline is relatively subdued with a large proportion of future mooted projects remaining uncommitted reflecting Government fiscal restraints.

Consumer spending and overall retail trade growth remain modest despite rising tourism numbers boosting parts of retail such as accommodation, cafes and high-end retailing categories. In the year to Q4 2017, household consumption expenditure increased by just 1.5% following growth of 2.0% over the previous 12 months period. Similarly, annual growth in retail sales volumes stood at a just 0.3% (seasonally adjusted) in the year to the December quarter 2017, down from a recent peak of 2.7% p.a. in the December quarter 2016. It was also below the 10-year average of 2.3%. Relatively low population growth, soft consumer sentiment and high household indebtedness all seem to have slowed household spending.

Following three years of solid growth in dwelling investment, particularly units and apartments, the residential sector detracted from Queensland's economic growth over 2017. New dwelling investment declined by 5.8% over the year to Q4 2017. This was in line with a winding back in the construction pipeline with residential building approvals trending lower from mid-2016 through to October 2017 amid an over supplied apartment market, particularly in the suburbs in South East Queensland.

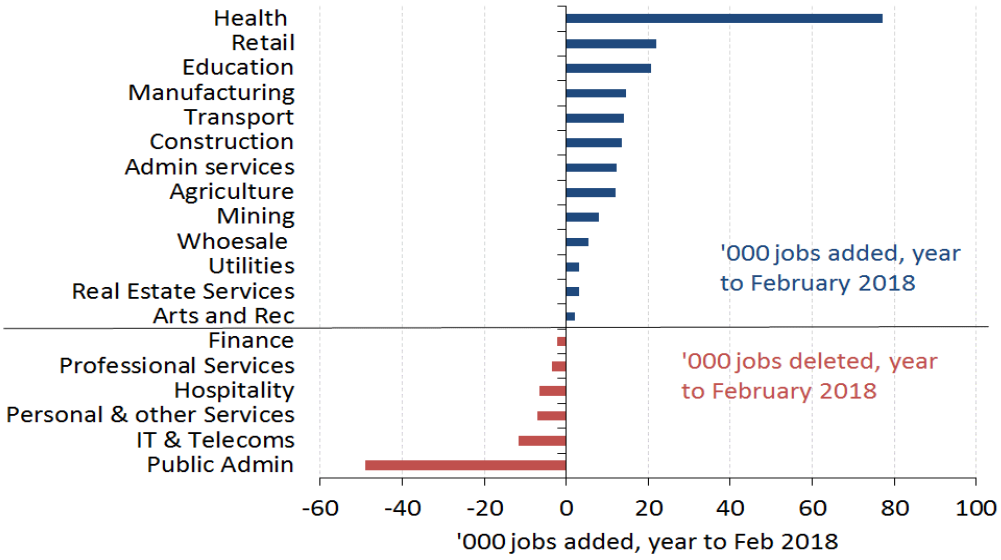
However, recent data indicates stronger residential construction activity ahead with approvals lifting through late 2017 and into 2018 as jobs and population growth work together to support a more positive economic cycle for the state. Queensland's annual population growth rate lifted to 1.7% in Q3 2017 compared with a recent low of 1.2% p.a. in Q3 2015. Net interstate migration has also lifted reflecting improved housing affordability compared with NSW and Victoria and this trend is likely to continue as the Queensland economy improves over the year ahead alongside a further expansion in job opportunities.

On the labour market, Queensland is experiencing a solid employment recovery as the state continues its transition post the mining boom to broader based growth. In the year to December 2017, total employment in Queensland increased by 115,000 jobs or 4.9% p.a. (trend). This was the highest growth rate for jobs of any state in 2017. Jobs growth has since slowed a touch to 4.3% p.a. in March 2018 (trend) but remains well above the national jobs growth rate of 3.1% p.a. (trend). The unemployment rate has also fallen in line with the upturn in employment, albeit marginally due to a rise in the participation rate. In January 2018, Queensland's unemployment rate stood at 6.0% (trend), down from 6.3% a year earlier. Employment in Queensland is shifting from the mining and manufacturing industries towards the agriculture and services sectors. Queensland's underemployment rate (the proportion of the labour force who are working part-time but would like to work

more hours) is also above the national rate, at 9.1% in March 2018 compared to 8.4% nationally. This suggests Queensland still has a reasonable degree of spare capacity in its labour market (that is, people available to work more hours) but that this reserve of local spare capacity is steadily diminishing.

Those sectors experiencing strong job gains over the year to February 2018 included healthcare (+77,300), retail trade (+22,000), education (+20,800), manufacturing (+14,500) and transportation and warehousing (+14,000). The construction sector also created 13,500 new jobs as builders continued to work through a solid backlog of work.

Chart 2: Employment growth in Queensland, year to Feb 2018



Source: ABS Labour force Australia, detailed quarterly

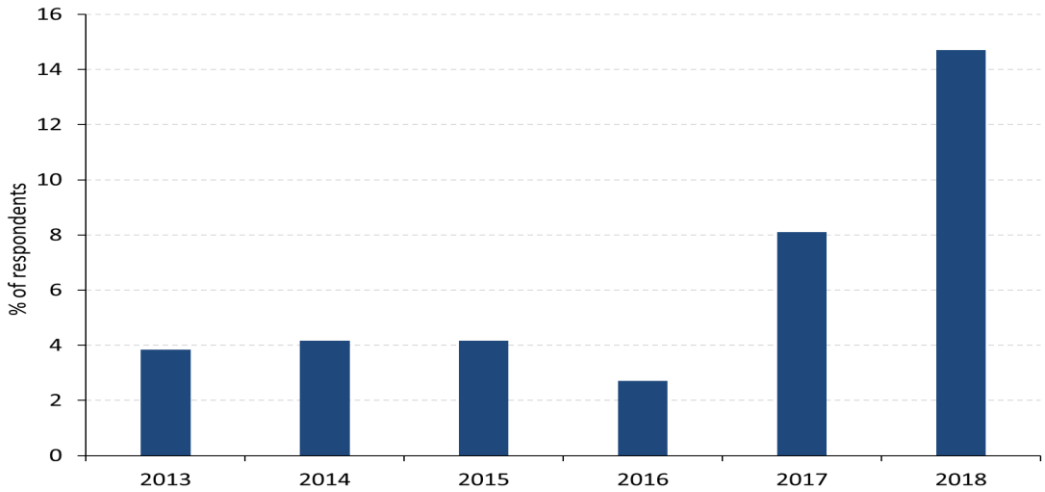
The Queensland Treasury's 2017-18 Mid-Year Fiscal and Economic Review paints a positive outlook for the Queensland economy with growth expected to strengthen to 2.75% p.a. in 2017-18 (from 1.8% in 2016-17) before lifting to a slightly higher pace of 3.0% p.a.in 2018-19. This reflects key positives including firming population growth and improving external demand. However, the stronger contribution of the trade sector to Queensland's economic growth is expected to be tempered by an improved outlook for machinery and equipment investment which is likely to be accompanied by increased imports.

Nevertheless, the outlook for the Queensland economy is not without its challenges. Despite positive headline figures and a healthy overall growth outlook, many local businesses continue to face tough and testing conditions, and are concerned about a range of pressures which are hindering their ability to compete in national and global markets. These pressures include slow productivity growth, a high burden of regulation, and inadequate skills, especially STEM skills to support innovation and competitiveness. Indeed, feedback from a wide range of businesses in sectors including manufacturing, construction and defence suggests that skill shortages are re-emerging as a leading concern for

businesses.

Ai Group's survey of CEO expectations for 2018 revealed that in line with a rapid acceleration in demand for labour – and strengthening signs of a broader recovery in Queensland – 15% of CEOs are concerned that skills shortages will be their number one impediment to growth in 2018, up significantly from any the previous five years. Although 42% of CEOs hope to hire skilled local people as their first response to rising demand for labour in their own business, approximately half of Queensland businesses are expecting difficulty with finding and retaining skilled staff in 2018. In particular, CEOs are finding it increasingly difficult to recruit people with suitable Science Technology Engineering and Maths (STEM) skills. Queensland CEOs reported they expect difficulties in 2018 across all trade, technician and paraprofessional occupations, including finding boiler makers, welders, estimators, specialty services, mechanical engineers, sheet metal worker, estimators, draftsmen, trade qualified machinists and factory supervisors.

Chart 3: Proportion of Queensland CEOs who rank 'skill shortages' as their top impediment to growth, 2013-2018



Source: Ai Group

A growing number of industrial and commercial businesses also have urgent concerns about the steeply rising price of electricity and gas and the increasing challenges to reliable supply.

Added to this, there are a range of key risks to Queensland's growth in the short to medium term. These include:

- a sharper than expected deceleration in house building activity with key concerns surrounding the oversupply of apartments within the Brisbane CBD;
- a slower than expected recovery in non-mining business investment;

- a continued upward trend in the Australian dollar and/or a sharper than expected deceleration in the Chinese economy, either of which could reduce international student numbers, international tourist numbers, foreign housing investor numbers and export earnings and;
- persistent slow wages growth which could offset the positive influence on household spending from a recovering labour market.

In view of these circumstances, the challenge for the Queensland Government will be to use the 2018-19 State Budget to address the short-term difficulties faced by many local businesses. At the same time the Government must ensure a focus on delivering the reforms that will build the capacity and capability of the economy to ensure we make the most of the opportunities that lie ahead.

4. Queensland Fiscal Outlook

Queensland current state finances are in a challenging position. The 2017-18 Budget showed that Queensland's net operating balance is forecast to fall to $146 million from an estimated $2,824 million in 2016-17. This is a significant downward revision from previous Government estimates reflecting downward revisions to taxation and GST revenue and additional un-budgeted expenses. Modest operating surpluses averaging $410 million per year are expected in each of the three years to 2020-21.

Revenue to the Queensland Government is expected to grow by an average of 3.0% p.a. over the five years to 2020-21, while expenses are expected to increase by 3.2% p.a. (nominal growth). However, excluding the year 2016-17 (which benefited from the temporary increase in royalty revenues), the four years to 2020-21 will see average revenue growth of 1.13 per cent outstripped by expenses growth of 2.23 per cent.

This underlines the need for high accountability through disciplined financial management. Accordingly, a key priority for the 2018/19 Budget will be to pay close attention to the level and balance of the State's assets and liabilities and ensure growth in general government expenses are contained.

Not only will this ensure that one of its key fiscal targets is met, it will reduce pressure on the Government to find additional sources of revenue through taxes and charges and help to ensure a positive net operating balance is maintained. A failure to control expenditure, would also limit the ability of the Government to undertake critical investments and have a considerable adverse effect on business growth and employment and impose an increased cost burden on the Queensland community.

The Government should also remain committed to paying down debt and improving the State's fiscal position, however, this should be balanced against the need for much needed investments in productivity lifting infrastructure and skills. Surpluses should be large enough to protect the state from economic shocks at a time of significant global uncertainty, but not too large as to imply taxes are too high or funds are not being sufficiently directed to the pursuit of productivity boosting State investments. Industry needs to be able to compete in world markets, and this will require investments in road, rail and ports in the future across Australia. The state also needs a skilled workforce.

In maintaining sustainable public finances, the Government medium term fiscal targets should be to:

Continue to target to achieve operating surpluses (adjusted to the state economic cycle and fluctuations in demand) and sustainable debt positions.

- Maintain Queensland's tax competitiveness.
- Ensure its financial targets are met over the forward estimates.

- Provide sufficient funds for the continued development of the state's economic and social infrastructure.

Other recommended initiatives that would contribute to achieving value for money and cost effectiveness in service delivery include:

- Promoting improvements in the delivery of government programs and service by broadening contestability and evaluating agencies activities for opportunities for greater exposure to competition from the private sector.
- Undertaking regular cross-agency reviews of spending priorities.
- Exploring opportunities for franchising and other funding models such as outsourcing. This should be done in a way that ensures value for money and consistency and reliability of service while, at the same time, enabling the Government to maintain an operational oversight of service delivery standards and asset protection on behalf of the people of Queensland.
- Embracing the transfer of public sector assets to the private sector to streamline service delivery, pay down debt and allow for the recycling of capital to fund vital road, rail, health, utility and other social infrastructure projects.

5. Taxation Reform

A focus of the Palaszczuck Government over the past two state budgets has been a commitment to maintaining a competitive tax taxation and providing an economic environment that is supportive of business and jobs growth. This has been instrumental in ensuring that Queensland has the second-lowest tax burden among the states when it comes to state and local taxes including payroll tax, land tax, land transfer duty, insurance duty and motor vehicle duty (see chart 3). Only Western Australia has a lower burden. This is an important aspect of the Queensland's competitiveness and indeed the state.

Ai Group is concerned that the Government's 2017 election costings have indicated four new taxes will be introduced to increase revenue. Whilst we understand that the Government needs revenue streams to fund important public services, it is vital that the state's competitive tax position is maintained. We therefore urge the Queensland Government to resist calls for further increases in taxes in the 2018/19 Budget. The Government should also provide clarity around the future direction of taxation and commit to ensuring that state-based taxes do not increase as a share of GSP over the forward estimates.

There is also scope for more to be done to further reduce the tax burden by making the taxation system more efficient. Key areas of state taxation reform that would provide significant spin-offs in improving business efficiency and productivity include:

- Reducing or removing taxes and charges that hinder or discourage businesses from growing and distort or reduce economic activity and re-prioritising expenditure simultaneously;
- Reducing the compliance burden that the various state taxes and charges impose on business by minimising the complexity of taxes, fees and levies and simplifying tax scales and thresholds.
- Ensuring 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; and;
- Maintaining certainty and simplicity 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.
- Introducing regular and effective monitoring of the compliance costs borne by businesses, to clearly identify cost impacts and priority areas for reform.
- Moving the administration, collection and monitoring of all taxes, fees and levies on business to online and digital systems to reduce compliance costs and requirements.

As far a fiscal circumstances permit, the Government should act to substantially improve the competitiveness of the state's payroll tax regime. This requires an on-going commitment to the progressive reduction in the payroll tax rate. As a long-term policy goal, Ai Group continues to support the recommendations of the Henry Tax Review (Australia's Future Tax System, 2010), that included the abolition of payroll tax, within the context of a wider program of national taxation reform.

The Queensland Government should also implement reform of property taxes by pursuing the option of removing residential and commercial stamp 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 by broadening the land tax base 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 would also urge that land tax rates be lowered, particularly for higher property values as part of a broadening of the tax base. This would ensure the state has a more efficient and reliable revenue source.

A broadening of the land tax base would also provide the Government with more scope to take further action to abolish or at least reduce the inefficient "nuisance taxes" that are a large source of direct state revenue.

We also urge the Queensland 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. Given the absence of the prospect in the medium term of higher GST revenue, alternative ways to finance the removal of the most inefficient state taxes should also be investigated (as identified and recommended by the national Henry tax review some years ago).

6. Reducing Red Tape

The Queensland Government has regulatory gatekeeping arrangements in place and is committed to using regulatory best practice principles. This includes the Government's regulatory impact analysis system for agencies to follow to assist them in improving the quality of regulation being considered.

Ai Group commends the Government for its retention of the Queensland Small Business Advisory Council and the establishment of the Better Regulation Taskforce (which assumes the work of the Red Tape Reduction Advisory Council - RTRAC) and their key roles as sources of advice to Government on improving regulation to support small businesses.

We note the Queensland Government's progress made against the former RTRAC's 14 priority recommendations under the broad themes of reducing regulatory creep; improving regulator engagement; and improving regulatory processes. We particularly endorse the recommendations aimed at delivering greater transparency and stakeholder engagement in the regulatory review process, underpinned by a best practice model of regulation reflecting the recommendations made by the Queensland Productivity Commission (QPC). The adoption of an approach whereby regulations are subject to timely monitoring and reviews by responsible agencies as well as greater focus on ensuring the level of regulation is proportionate to the "risk" that the regulated activity represents, should help to ensure that both existing and new regulations are well targeted and proportionate so that costs are minimised for both business and the community.

We also note the Queensland Government has adopted the Council of Australian Governments (COAG) best practice regulatory principles in regulation making. We believe that there would be considerable merit in building on these principles by adopting a **code of best practice for agencies with regulatory responsibilities**. 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 (an updated Charter is attached to this submission).

There are also other specific areas, which if addressed, could provide significant spin-offs in improving business efficiency and productivity at a relatively low cost to the State Government.

- As stated in other submissions to the Queensland Government, there is a need to develop and review 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). This would ensure increased certainty and consistency in the standards applying to industry, and reduce the compliance

costs for businesses operating across multiple jurisdictions. Inconsistent reporting regimes add to the red tape burdens on industry**.** Businesses operating in Queensland 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. Queensland should lead efforts to reduce the burden of inconsistent and duplicative reporting, particularly by advocating for, and facilitating, a single national online reporting portal.

- In support of a more structured approach to regulatory reform we believe there is merit in assigning responsibility of regulatory policy to a **Senior Minister to advocate regulatory policy reform** within Cabinet. This would assist in raising the level of Ministerial oversight and strongly reinforce to businesses and the community that the Queensland Government is committed to better regulatory outcomes. The Minister, with support from an independent body would also be responsible for improving the coordination of the regulatory reform across departments and agencies, while promoting increased transparency and a higher level of accountability in the reform process.

- We would also recommend that Queensland regulators at all levels of government with **regulatory agencies undergo regular 'health checks'** to ensure these agencies are efficiently implementing regulations and not imposing an additional and unnecessary burden on businesses. Aligned to this, we recommend that **regulatory reduction targets be imposed on key Government agencies** with agency heads held accountable for results.

- Regulatory agencies work together to develop and implement a **broadly-based master licence for business**, subsuming all commonly required licences and permissions in one instrument.

In driving more effective policy outcomes, there is also considerable merit in giving consideration to a system 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 was key recommendation arising from the NSW Regulatory Policy Framework Review Panel's Draft Report for Consultation, May 2107. It would be beneficial in strengthening relationships of regulators with the private sector and vice-versa, and enabling regulators to have a better perspective of industry-specific issues when undertaking regulatory functions, including advice to Government on regulatory impacts on industry.

A continued focus is also required on the removal of regulatory duplication between agencies and the pursuit of best practice principles such as:

- Businesses should only have to supply information that is necessary (and unavailable from other sources) and not multiple times**.**

- Adoption of a process of testing whether regulatory requirements actually contribute to behavioural outcomes sought.
- Claims of reduction in regulatory burden should be externally validated by a process that includes industry-based feedback and assessment.

7. Infrastructure Investment

Increased investment in roads, rail, ports, health, utilities and recreation infrastructure is critical for building Queensland's productive capacity, reducing the costs of doing business, improving livability for all Queensland communities and addressing the social needs of the state's growing population.

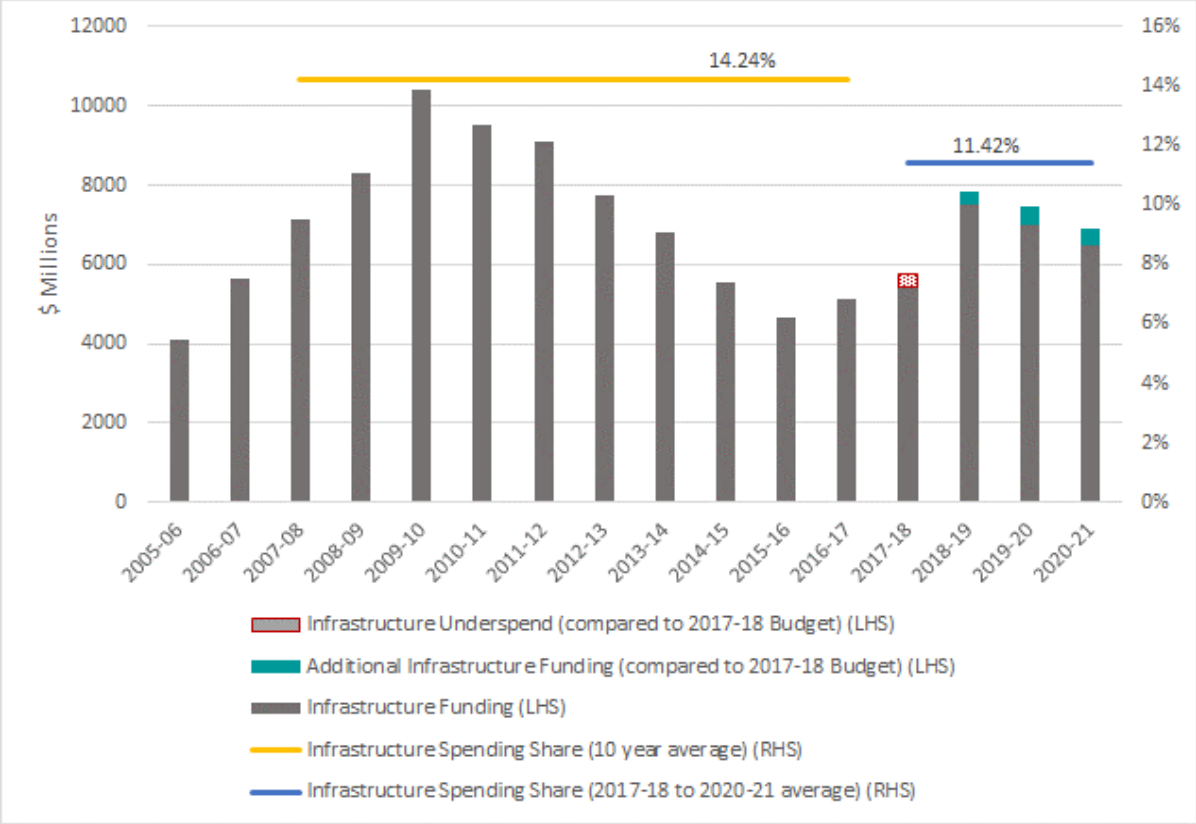
Ai Group is encouraged by the Queensland Government's support for major infrastructure initiatives including the allocation of funding for the Cross-River Rail project and a range of high priority regional infrastructure projects. We also commend the Government for lifting future funding for infrastructure in the 2017-18 Budget which will be important in providing an increased pipeline of work for industry and supporting Queensland's future growth prospects.

The establishment of Building Australia represents an important initiative in providing independent and rigorous advice on the state's investment. We believe that this investment needs to be progressed on priority projects that have the potential to deliver the greatest economic and social benefits for Queensland. Proposed projects must be subject to thorough and transparent cost-benefit analysis to ensure the Government gets the best possible use of tax payers funds. This analysis should also identify specific opportunities for private sector investment to assist business in formulating long-term investment plans and ensure more efficient use of public and private resources to support continued economic growth.

Despite the recent improving trend in Queensland's public works spending, there remains a strong case for the Queensland Government to do more to alleviate the State's infrastructure constraints. Based on the Government's committed infrastructure program at the time of the Mid-Year Fiscal and Economic Review, average infrastructure spending as a share of total government expenditure over the period 2017-18 to 2020-21 is projected to be around 11.4%, a level that is still well below the 10-year average of 14.2% (see chart 4).

Decisive action is needed to deliver and fast-track the infrastructure projects that Queensland needs through a swifter roll-out of the State's Infrastructure Plan. The Queensland Government must also use Building Queensland's Infrastructure Priority List to complement proposals under the State Infrastructure Plan, and establish a detailed and deliverable long-term infrastructure program. A long-term planning approach will enable the private sector and it supply chain to better harness the skills and resources needed to deliver more cost and operationally effective outcomes for the State, and provide clear direction for the community.

Chart 4: Queensland Government Infrastructure Spending: Share of Expenditure



Source: Infrastructure Partnerships Australia (IPA) Analysis

Congestion on the major road arteries into Brisbane (the M1 and the Bruce Highway) is worsening by the month. The State Government's general commitment to improve these roads needs to be upgraded to a comprehensive 30-year transport integrated plan for South-east Queensland that genuinely addresses the massive population growth expected over the next 15 years.

Importantly, infrastructure planning must be complemented by a bipartisan approach to the rules around investment and major projects so business can have certainty and the state does not look indecisive and unreliable to outside investors. Project planning should also transcend the short-term political agenda with the Government needing to play a key role in facilitating the early engagement of industry and the community in shaping the future direction of investment. This will enable the early identification of opportunities, risks and issues on individual projects with proposals reflecting the needs of businesses and the people of Queensland.

To enhance certainty in the planning and delivery of infrastructure, it is important that the government recognises the right of incumbents to make contractual decisions which can be relied upon. If these contracts are dishonoured, businesses tendering for future work will be compelled to add a higher risk premium in their bids. This will detract from the value that the people of Queensland will get for their money.

In considering future infrastructure investment in Queensland we would also urge government to consider:

- smoothing investment cycles as a means of reducing project costs;
- utilizing non-funding levers available, including continuing to fast track development approvals; reducing delays and uncertainty in zoning, assessments and planning approvals and; reducing the regulatory and cost burden on industry by improving government tender processes;
- Clear and consistent application of land use and development policies with industry regularly informed on the status of its policies and strategies. This will help in providing industry with the certainty necessary to support its investment decisions;

  developing programs of projects that can be rolled out at short notice to fill anticipated declines in order books as resource projects decline.
- Adopting 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 and within a regime of rational commercial terms and risk profiles that attach to each project.
- Conducting regular audits to identify emerging capacity constraints and gaps in infrastructure provision.
- Ensuring an appropriate balance between the development of economic and social infrastructure.

Lifting infrastructure spending within a sound fiscal framework and without increasing net debt will represent a major challenge for the Queensland Government. There is therefore a need for the State government to focus on the development of innovative, yet sustainable, models for financing projects into the future, and to adjust policy and commercial approaches that may have been relevant to the past but not the future. Improved access to private funding as well pro-actively seeking Federal funding will be needed to ensure that critical infrastructure is progressed in a timely manner.

In this respect, the Government should look to encouraging greater private sector involvement in the provision of traditional government services and programs. This needs to be undertaken in a way that ensures value for money and consistency and reliability of service while, at the same time, enabling the Government to maintain an operational oversight of service delivery standards and asset protection on behalf of the people of Queensland.

We also believe that there is a strong case for selling and leasing public sector assets to streamline service delivery and allow for the recycling of capital to fund vital road, rail,

health, utility and other social infrastructure projects. Governments elsewhere in Australia, particularly NSW and Victoria, have been able to boost their investment in productivity enhancing infrastructure by the reform and lease of state-owned assets.

We recommend further consideration being given into the role of congestion charging on Queensland's toll road network. This form of user pay road funding model is a positive option for addressing traffic congestion issues while also helping to fund the delivery of infrastructure projects in the medium term.

Land value capture is another approach that should be considered by the Government to recover the cost of public infrastructure investment by capturing some or all gains in land value that result from infrastructure investment.

In addition, the Government should commit to funding increased investments through cost savings and productivity gains achieved through public sector reforms.

Support for the Regions

Queensland Government has demonstrated a commitment to increasing funding for regional infrastructure and encouraging growth in business activity into the regions. However, a common theme shared by all regions is that better regional industry consultation will greatly improve the prioritization and delivery of infrastructure, and ensure Government funds are directed to those projects which will deliver the greatest benefit.

The Queensland Government needs to concentrate efforts on sensible investment prioritization for all regions in Queensland based around the objectives of cost benefit analysis and opportunity cost evaluation. Sensible investment in both new and existing infrastructure has a range of benefits including improving the region's and state's future economic capacity and meeting the needs of our growing population.

Regional infrastructure should also be identified and prioritized in a transparent way and be accompanied by detailed plans. This is central to private sector commitment to, and investment in Queensland regional infrastructure projects. It also helps businesses in their long-term investment decisions. Bi-annual updates to inform industry about the progress and priority attached to major transport projects across the regions would assist planning processes within businesses.

A further priority is the need for greater connectivity between modes of transport across the State, including appropriate road and rail infrastructure linking the major ports and improved connections between airports and land based transportation to support trade and development in Queensland.

8. Procurement Policy

Ai Group welcomes the Queensland Government's commitment to ensuring that the state's procurement policy is consistent with the principles of integrity and probity within a governance framework that focuses on ensuring value for money outcomes and the efficient use of Government funds. We also welcome the Government's policy objectives of promoting full and fair access for local suppliers and building opportunities and capabilities in regional areas wherever possible. In a highly competitive environment, it is vital that local industry has the opportunity to compete on a fair basis for public sector contracts.

Ai Group agrees that is critically important to take account of the wider value to the Queensland economy by purchasing locally such as on-going jobs creation, reducing unemployment and increasing opportunities for skills development. However, it is also important that the Government is flexible on definitions of local content. For example, local should refer to businesses operating in Australia and not be limited to a single state with this broader definition applied for invitations to quote or tender for every procurement opportunity offered. Local content could also be the local assembly of inputs made overseas when that is the most sensible option that delivers value for money for the Government.

The most effective role that the Government can play in supporting local involvement in its contracts is to facilitate, rather than mandate, local engagement. This can 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 Queensland Industry Capability Network in identifying import replacement opportunities in purchases of all Government agencies.

In supporting local industry, it is also important that costs are evaluated carefully consistent with ensuring that value for money considerations guide procurement decision making. In particular, "whole of life" costs project and support costs must be fully factored into costings. This approach looks beyond up-front purchase prices and brings to bear a more transparent, broader cost-benefit equation or value model that considers whole-of-life costs. It takes account of maintenance and through-life support which are key advantages that local suppliers are able to offer. It also 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 are lower than for overseas-based businesses because services are capable of being rendered more quickly, more reliably and replacement parts delivered more promptly.

Rather than mandating local content rules as a form of business assistance, Australian Industry Group supports a national procurement strategy, where all levels of government follow a principled and coordinated approach to improve access for domestic suppliers to public sector contracts and to the provision of goods and services for major projects

undertaken within Australia. Such a strategy would be for the greater benefit of Queensland and the wider Australian business sector. We therefore urge the Queensland Government to collaborate with other States to formulate local procurement policies that could bring mutual benefits to more Australian businesses and assist businesses in general to broaden their customer base across all states.

Ai Group supports the Queensland 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 QLD infrastructure and service needs. Whilst we welcome the revised guidelines for the market-led process released in July 2017, we believe that there are opportunities to further 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 know exactly how "value for money" is defined and interpreted and a clearer understanding of the relative importance attached to each of the assessment criteria. We would also recommend that there be a tightening of the guidelines relating to the protection of confidentiality and intellectual property rights.

Complex contract conditions and overly prescriptive tender specifications can also make it difficult for local industry to compete for Government work, particularly SME's and new entrants. For mainstream contracting, standardised templates and Requests for Tenders (RFT's) need to be simpler and more easily understood by industry. This could involve adopting a common form of contract encapsulating general terms and conditions for all Queensland departments, agencies and service providers.

The more that additional requirements are placed on local suppliers as conditions of government procurement arrangements, the more complex and costly will be the red tape burden on suppliers (and governments) and the greater likelihood that innovation that could lead to cost and operational efficiencies could be curtailed.

The Government needs to ensure that tenderers know exactly how "value for money" is defined and interpreted. Where a weighting based system of tender evaluation is utilised, it is critical to ensure that industry is fully informed prior to receiving tenders of the selection criteria and the weighting system being utilised by the Government agency. Also, the number of criteria against which a tender is evaluated should be minimised to maintain the transparency and objectivity of the process.

There are also a range of measures that we recommend for adoption with respect to major infrastructure projects that will assist industry to complete projects more expeditiously, and reduce the cost of infrastructure to the public. These measures include:

- **Providing advance notice of intent to issue a request for tender** would assist businesses to plan for the resourcing required to submit tenders, and to research

and understand what is required. It would also allow industry to seek and develop alliance partners of intent rather than wait for tenders to come to the market.

- **The identification of the proposed risk allocation at the earliest possible stage in the tender process**. A concern of the construction industry is that significant time and resources can be devoted to the evaluation of a project, even before proceeding through the Expression of Interest (EOI) and Request for Tender (RFT) phases. Furthermore, the proposed risk allocation is not always evident during the EOI phase, and may not be immediately apparent at the start of the RFT phase.

- The **development of a more effective Public Private Partnership model** that reduces operational risk (including equity risk) to contractors and places responsibility for risk on the appropriate entities rather than those who are least able to resist it.

- Adjust assessment processes to place greater reliance on third party accreditation and **reduce reliance on the provision of comprehensive material at the bid stage**.

- **Streamline the tender process** by adopting a two-stage process for the tendering of major projects. This entails preferred tenders being selected at the first-stage, based on lesser documentation requirements. More detailed evaluations and negotiations are undertaken with a smaller number of preferred tenderers at the second-stage.

- **Shortlist bidders as early as possible** and consider taking forward fewer bidders where risk assessment and preliminary assessment of bidders warrants such action.

- **Contribute to the bid costs incurred by unsuccessful tenderers** and ensure compensation for the intellectual property developed through innovation in design, systems and processes that lead to more efficient or cost-effective infrastructure outcomes.

- **Harmonisation of state and Federal codes and/or guidelines for procurement** in the building and construction industry.

- **Greater coordination with other state jurisdictions and the Federal Government to provide a more manageable pipeline of work across the country thus eliminating the boom/bust approach to major infrastructure projects.**

9. Encouraging Innovation in Queensland Industry

The Queensland Government has a key role to play in supporting innovation by providing funding support for research and development; effectively integrated STEM into school programs; better developing STEM skills in the VET sector and existing workplaces; delivering policies that encourage innovation and; ensuring that the regulatory environment is supportive of regulation and is consistently applied.

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 under the broadening Advance Queensland Acceleration package. These programs will help to ensure Queenslanders have the skills for future workplace demand (such as computer coding, robotics); provide support for businesses to innovate and grow; facilitate collaboration between industries and universities; and support graduates, new businesses and scientists in working together and networking globally.

We also welcome the Government's election commitment to allocate a further $93 million for Advance Queensland over three years, including re-investing in the Ignite Ideas program; establishing a Regional Start-up Onramp Program focusing on the delivery of training programs for aspiring entrepreneurs; exploring the opportunity to unlock spare capacity in the Queensland Government-owned fibre network to improve internet access for regional Queensland and; investing $15 million into the Sunshine Coast's international broadband submarine cable project to connect the Sunshine Coast directly with global communications systems.

The Government's support must continue and accelerate in the years ahead if Queensland is to maintain its competitive standing. A strong growing and innovative state means that all people of Queensland benefit through both jobs and the opportunities and the creation of new and improved services. In this respect, we highlight the following specific priorities for innovation:

- Provide a stable, workable and predictable policy environment that incentivizes investment in innovation and encourages intellectual property (IP) and its flow-on benefits to fully captured to maximize the creation of jobs and wealth in the state.
- Ensure that state research priorities are clearly articulated and that there is a strategic long-term view to pursuing and implementing these priorities.
- Maintain a focus on building collaborative links between researchers and industry.
- Ensure that innovation policy is founded on initiatives which are open and accessible to all sizes of businesses from all sectors with an emphasis placed on the generation of commercial outcomes.
- Improve workforce STEM skills and innovative capability.

- Increase funding for measures that improve the flow of private capital to innovative businesses and increase collaborative opportunities between businesses.

Ai Group also believes that significant benefits could be achieved through the following initiatives:

Driving innovation through procurement policy. Ensuring that government procurement opportunities have significant flexibility and focus on project objectives instead of prescriptive specifications have the potential to provide businesses, large and small, with the opportunity to offer innovative products or processes. That is, procurement can provide a 'demand-led' model of research and development, and enables the government, that is the customer, with direct input at the development stage of a new product or service rather than waiting until it reaches the market. This brings benefits to both businesses and governments.

The NSW Government's Procurement Innovation Stream is an effective means of allowing accredited Government agencies to trial innovative products and services offered by SME's. Agencies can engage a small or medium sized enterprise through direct negotiation on short term contracts valued up to $1 million (including GST) to do proof-of-concept testing or outcomes-based trials, subject to meeting various conditions, including that the supplier agrees that the agency can publish a report on the outcome of any trials. We believe that that the Queensland Government should give consideration to establishing similar procurement arrangements to for building the capacity of local SME's businesses to have a greater role in the delivery of Government services and deliver more value for the State from government tendering.

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.

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.

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 Queensland, we also urge the Queensland 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 for robotics and artificial intelligence in the workplace; regulatory arrangements for driverless cars and other driverless transport for freight and/or passengers on Queensland 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.

10. Industry and Economic Development

Strong economic growth necessitates the continuing support of the Queensland Government to industry and economic development. This particularly requires a commitment to manufacturing industry in Queensland, along with the necessary support and development to exploit the state's skills and capabilities across a range of innovative, knowledge intensive and high margin businesses of the future.

The includes our highly specialized and technologically advanced manufacturing businesses. 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. Queensland manufacturing is a key contributor to the state's growth of 6.2% (state final demand) in 2016/17. Within the manufacturing industry, Queensland businesses have a growing reputation for producing high-quality products requiring particular skills and expertise. They are quickly evolving from old-world factories to modern, high-technology, research-oriented operations that are competitive and focussed on exporting. They are also 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.

We therefore strongly welcome the inclusion of manufacturing as a specific portfolio area in the new Palaszczuk Cabinet and stand ready to work with the Minister on the Government's advanced manufacturing agenda and to help drive the policies to encourage continued investment in manufacturing in the State.

Given the significance of Queensland manufacturing to the State economy, we also commend the Government's stated commitment to protect and transform the industry, and support the development of new growth industries such as biotechnology, aerospace, marine technologies, medical technologies and renewable energies. Of particular importance is the government's 'Advance Queensland' agenda aimed at supporting local businesses and at harnessing innovation in a rapidly changing global economy and comprises key initiatives such as the Advance Queensland Acceleration package, the Biofutures Roadmap and Action Plan and the Platform Technology Program. This is consistent with other business assistance initiatives, including the Advanced Manufacturing Roadmap and Action Plan designed to position Queensland as a leader in advanced manufacturing technologies products, systems and services; the Made in Queensland Manufacturing Program aimed at protecting traditional manufacturing jobs and lifting international competitiveness and; the tasking of the Queensland Productivity Commission to examine ways to boost the sector.

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

- The Manufacturing Leaders Group (MLG) and its focus on providing high-level advice on strategic matters in relation to building and promoting industry and manufacturing in Queensland.
- The Industry and Advanced Manufacturing Advisory Group (IMAG), helping to position Queensland manufacturing businesses to capitalize on domestic and overseas opportunities by guiding policy directions in trade, innovation and technology, local content, business costs and regulation.
- The development and implementation of the 10-year road maps for advanced manufacturing and other priority sectors with global growth potential as part of the Queensland Government's Advance Queensland program.
- The Regional Back to Work Program, providing job opportunities for long term unemployed or young unemployed jobseekers in regional Queensland, and assisting businesses to expand.
- The Skilling Queenslanders for Work initiative that helps to improve job prospects for Queenslanders and boost local economies and business growth prospects.
- The Powering Queensland Plan to provide a road map for exerting downward pressure on electricity prices and securing sustainable energy supply.

The 2018/19 Budget also offers an opportunity for the Queensland Government to build on these foundations by allocating funding for well-targeted programs to improve the capacity and capability of the Queensland industrial supplier base, with an emphasis on:

- 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 attracting investment for Queensland by making more companies investment ready, promote innovation and by raising the profile of manufacturing in the state by effectively marketing Queensland'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.
- additional programs aimed at lifting the adoption of ICT enabling technologies.

Other specific initiatives to assist in building the capability and lifting the growth potential of Queensland businesses 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. Specifically, this could take the form of Industry 4.0 education/demonstration programs and the development of toolkits that help in the uptake of digital and smart manufacturing systems. In particular, small and medium sized enterprises 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.

- 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 the 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 Queensland 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 Queensland and become a major earner and attractor of high value knowledge workers to Queensland.

11. Putting downward pressure on energy costs

The steep increase in energy prices across Eastern Australia over recent years is a serious concern to businesses of all sizes, and Ai Group's business surveys reveal that these increases – and widespread expectations of more to come – are one of the main headwinds to otherwise strong growth prospects. Policy reform is needed to ensure energy prices can be kept to the lowest sustainable levels.

The Queensland Government has already taken some commendable steps to address high wholesale electricity prices; Queensland wholesale futures prices dropped significantly after the announcement of the Powering Queensland Plan in June 2017. Continued implementation of these measures remains important. Queensland should support the development of effective market-wide energy reforms to deliver greater confidence and clarity to investors and energy users, particularly around future climate policy. There is also scope for further effort to encourage and foster energy efficiency, demand response and take up of other increasingly attractive new options for energy users to participate more actively in the energy system.

However, there is another major frontier for action on electricity costs: network costs. Queenslanders have borne a very substantial increase in these costs over the past decade, driven by immense capital investments that resulted from inefficiently designed reliability requirements, inaccurate demand forecasts, perverse incentives and inadequate regulatory rules. The regulated asset base for the three State-owned networks has increased far faster than energy use or the wider economy, and without change Queensland energy users will continue to pay through their bills for assets that they will never need.

We support the recent proposal by the Grattan Institute that the Queensland Government voluntarily write down between $5 billion and $7 billion of the regulated value of its network assets and ensure that this reduction flows through to energy user bills. This proposal raises several important issues:

Maintaining reliability

A reduction in the value of the regulated asset base should not have any impact on actual levels of network reliability; no assets would be removed and regulated allowances for operational expenditure would not be affected.

Risk and investment.

A voluntary revaluation by the asset owner does not raise any of the concerns that would rightly result from a compulsory revaluation of privately held network assets in other States.

Costs.

A revaluation will have an impact on the Budget, since it will lead to lower revenues for the networks and lower dividends to the State. This would need to be balanced either by additional revenues, spending reductions or borrowing. Such options would have impacts of their own which serve full consideration. However, we are confident that options can be developed which are more efficient and equitable than raising revenue through excessive electricity network charges.

We urge the Government to consult on an appropriate level of revaluation, means of ensuring the flow through of benefits, and options to bolster the Budget in response.

12. 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.

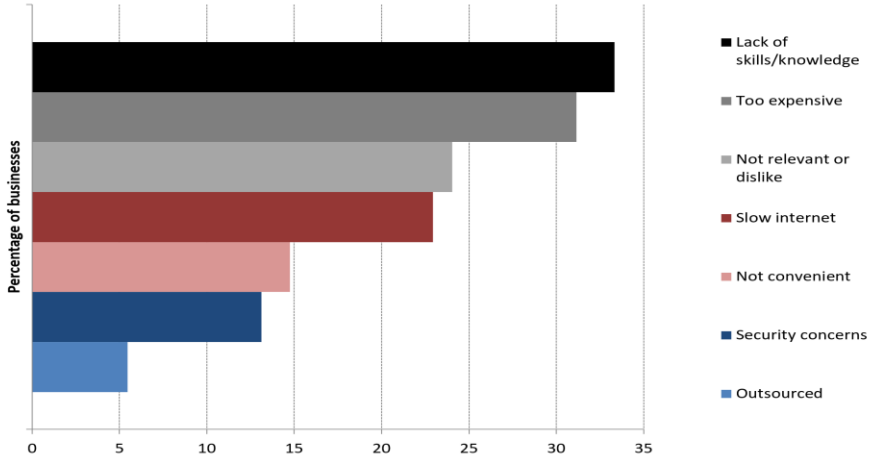
12.1 Skills gaps arising from digital transformation

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, new boundary-crossing 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 recent 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)

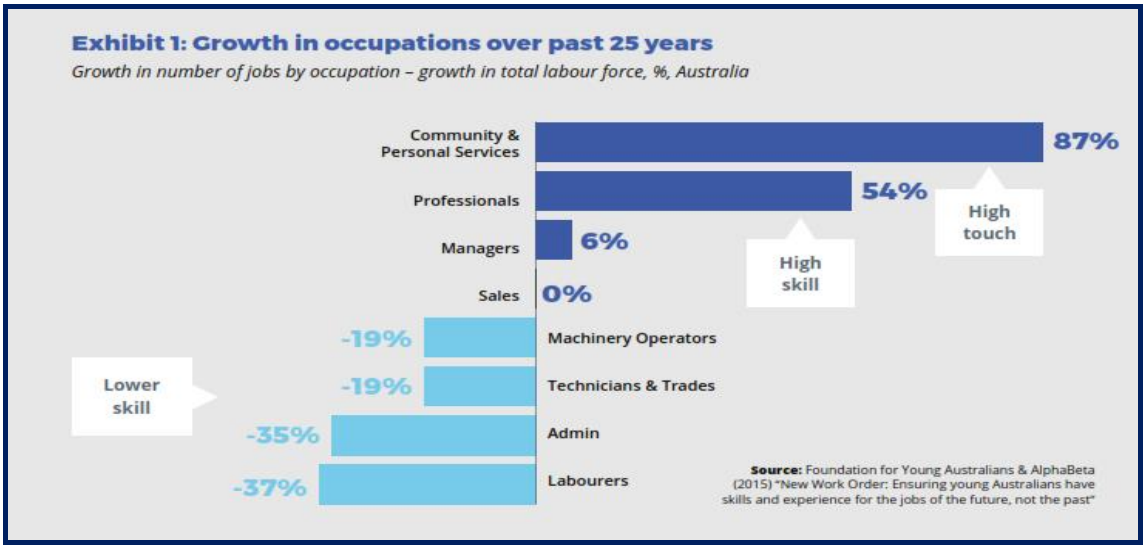


Source: Ai Group, "Business beyond broadband: Are Australian businesses ready for the Fourth Industrial Revolution? (May 2017).

[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 future.

A 2015 CEDA report notes that the share of high-skill jobs is significantly increasing while the share of low-skilled jobs is decreasing.[2] 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.[3] 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 occupations.[4]



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. The OECD's Survey of Adult Skills indicates that on average more than half of the adult population can only perform the simplest set of computer tasks, or have no ICT skills at all. Only about one third of workers have the skills to evaluate problems and find solutions. Australia's performance is higher than the OECD average in this regard.[5]

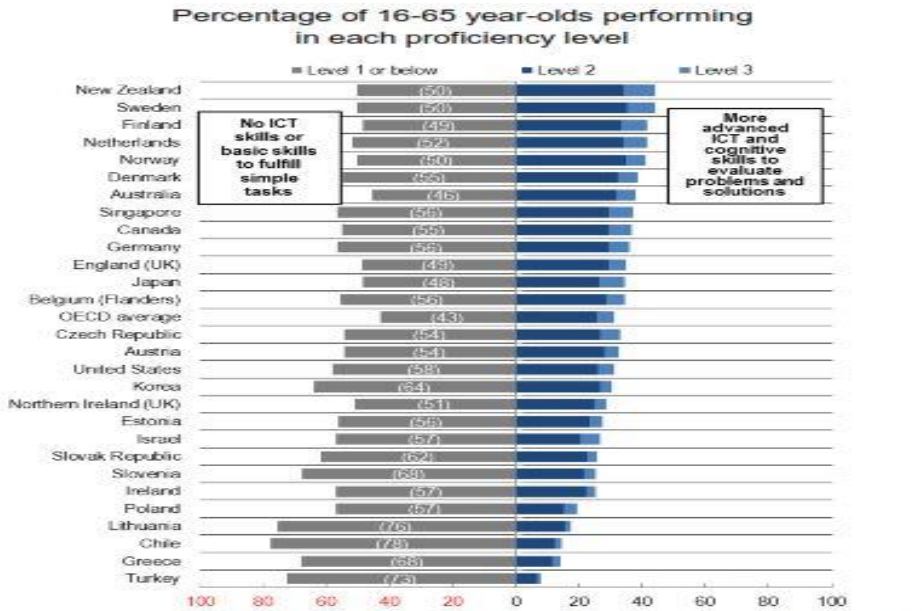
[2] Committee for Economic Development of Australia, Australia's future workforce?, 2015.
[3] OECD Skills Outlook 2013.
[4] The New Basics: Big data reveals the skills young people need for the New Work Order, Foundation For Young Australians, 2016.
[5] Skills for a Digital World, OECD, December 2016.

To enter the labour market of the future all Australians will need to be literate, numerate and digitally literate: to be able to use digital technology purposefully and confidently to communicate, and find information. These capabilities will be threshold requirements for most jobs. While numeracy and literacy have long been on the radar for education providers, digital literacy is relatively new. A challenge is the rapid change in computer software and hardware, which can make learned skills redundant. However, there are likely to be fundamental and enduring concepts of digital literacy which will be important for future job seekers to have mastered.[6]

A more involved digital worker needs to be able to evaluate, configure/program and use complex digital systems. More advanced skills are needed for 'Digital Makers' to build digital technologies such as software development, complex excel macros and additive manufacturing data files.[7]

Increasing use of digital technologies at work is raising the demand for new skills. Workers across an increasing range of occupations need to acquire generic ICT skills to be able to use such technologies in their daily work. The production of ICT products and services – software, web pages, e-commerce, cloud and big data – requires ICT specialist skills to programme, develop applications and manage networks.

Chart 6



Notes: Individuals in Level 2 or Level 3 have more advanced ICT and cognitive skills to evaluate problems and solutions than those in Level 1 or below.
Source: OECD (2015c), Survey of Adult Skills (PIAAC) 2015.

[6] Hajkowicz, S, Reeson, A, Rudd, L, Bratanova, A, Hodgers, L, Mason, C, & Boughen, N 2016, Tomorrow's Digitally Enabled Workforce, Commonwealth Scientific and Industrial Research Organisation, <https://www.csiro.au/~/media/D61/Files/16-0026_DATA61_REPORT_TomorrowsDigiallyEnabledWorkforce_WEB_160204.pdf>

[7] Digital Skills for Tomorrow's World, UK Digital Skills Taskforce, 2014

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.[8] According to Ai Group's Workforce Development Needs Surveys[9], employers continue to experience difficulties recruiting STEM qualified workers. One fifth reported they had difficulty recruiting professionals with STEM. The later section on STEM further discusses the problems and recommendations to secure a base in these skills.

Enterprise skills

Workers must increasingly develop the enterprise skills of 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 environments[10]. Fostering innovation begins with building the necessary foundation and generic skills needed by the workforce. These enterprise-focussed skills are not just for entrepreneurs, they are skills required in all jobs.

The new digital environment relies on a much more complex operational and organisational structure relating to decision making, coordination, control and support services. This means there are significantly higher demands placed on all members of the workforce in terms of managing complexity and higher levels of abstraction and problem solving. Employees will need to act more often on their own initiative, have excellent communication skills and be able to organise their own work.[11]

Flexibility and adaptability are also key future capabilities in the context of the rising 'platform' or 'gig' economy – another important structural change. More workers need to engage quickly with work tasks through their gig-based work – another important structural change.[12] There will be a significant call on these capabilities given that already in Australia over four million people, or 32 per cent of the workforce, had freelanced between 2014 and 2015.[13] The largest categories for this type of work are web, mobile and software development (44 per cent), design and creative (14 per cent), customer and administrative support (13 per cent), sales and marketing (10 per cent) and writing (8 per cent).

[8] 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.
[9] The Australian Industry Group, Workforce Development Needs Survey 2012 and 2014.
[10] Position Paper on the New Skills Agenda for Europe, CEEMET, 2017
11 Key Issues for Digital Transformation in the G20, OECD, 2017
[12] The Emergence of the Gig Economy, Australian Industry Group, August 2016.
[13] Australia's freelance economy grows to 4.1 million workers, study finds, Frank Chung, 27 October 2015.

Management capabilities

The Ai Group's 2016 Workforce Development Needs Survey found that over 50 per cent of employers believe a lack of leadership and management was having a high impact on business.

Managers who are decision-makers adept at dealing with uncertainty and constantly changing landscapes are needed in a networked-knowledge economy.[14] 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.[15]

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.

The greater challenges for leaders are the workforce and organisational changes that will have to be put in place as automation upends entire business processes, as well as the culture of organisations. The digital economy requires a cultural change in the way work is done and managed. In the past, much of the role of a senior manager was tied up in expertise and knowledge. Now that is becoming less important and instead it is the ability to locate knowledge, assess how valid it is and then put it to use in collaboration with other people.

Another new management challenge in a world where knowledge is dispersed across firms, industries and countries is the globalisation of innovation. The increasing geographic dispersion of knowledge, research and development also requires new forms of collaboration and levels of coordination. [16]

Recommendation:

Increase investment in the development of key categories of skills for the transforming economy through education and training sectors in Queensland.

12.2 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.

[14] The Future of Manufacturing Education Initiative, Final Report, Australian Business Deans Council, 2014.
[15] Chui, Maniyika and Meremadi, Where machines could replace humans – and where they can't (yet), McKinsey Quarterly, 2016
[16] Australian Business Deans Council, op. cit.

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.

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. Alarmingly, 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.

A successful model for supporting companies to develop and implement training in line with new directions and strategies involves the assistance of skills advisers, such as those that operated under the Australian Government's Industry Skills Fund. The Fund included subsidies for existing workers to undertake training. The introduction of any similar schemes proposed in Queensland, in particular for SMEs, that deliver expert advice and information on workforce development planning and skills opportunities, including addressing digital skill needs, language, literacy and numeracy issues, leadership and management challenges and other unmet demand for training to assist company growth, would assist the NSW business sector with digital transformation.

Recommendation:

Introduce further industry skills development and training support programs focussing on digital skills, organisational change, workplace innovation and management development.

12.3 Investment in Australia's VET system

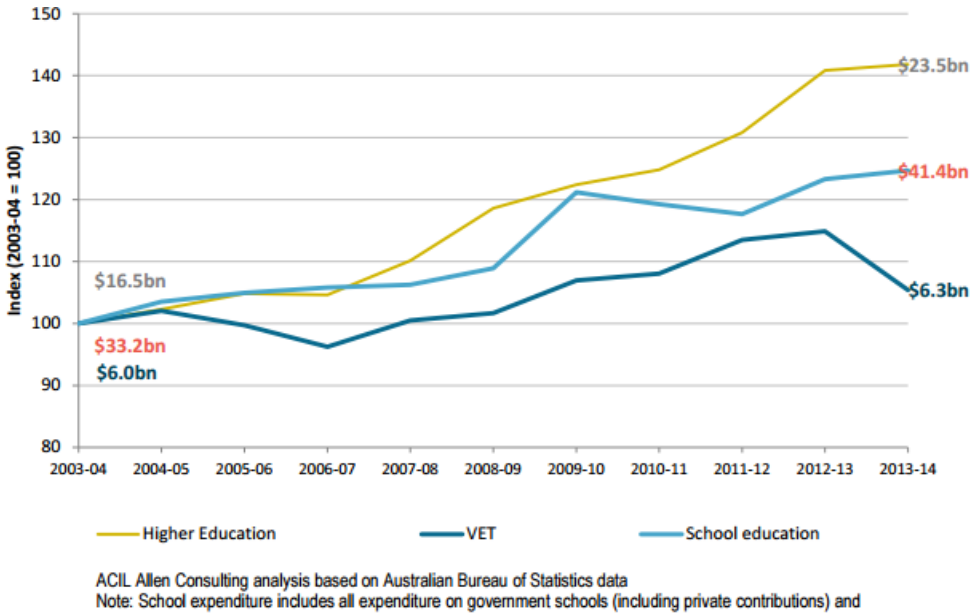
Australia's and Queensland's VET systems must be viewed as skills engine rooms for industry's workforce. It is therefore deeply concerning that the funding of the VET system continues to be inadequate, in terms of both the level and composition of its funding.

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 (see Chart 11). The most

recent national analysis of VET demand was undertaken by the former Australian Workplace Productivity Authority in 2011.[17] 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 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.[18]

Chart 7: Expenditure on education by sector, 2003-04 to 2013-14



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.

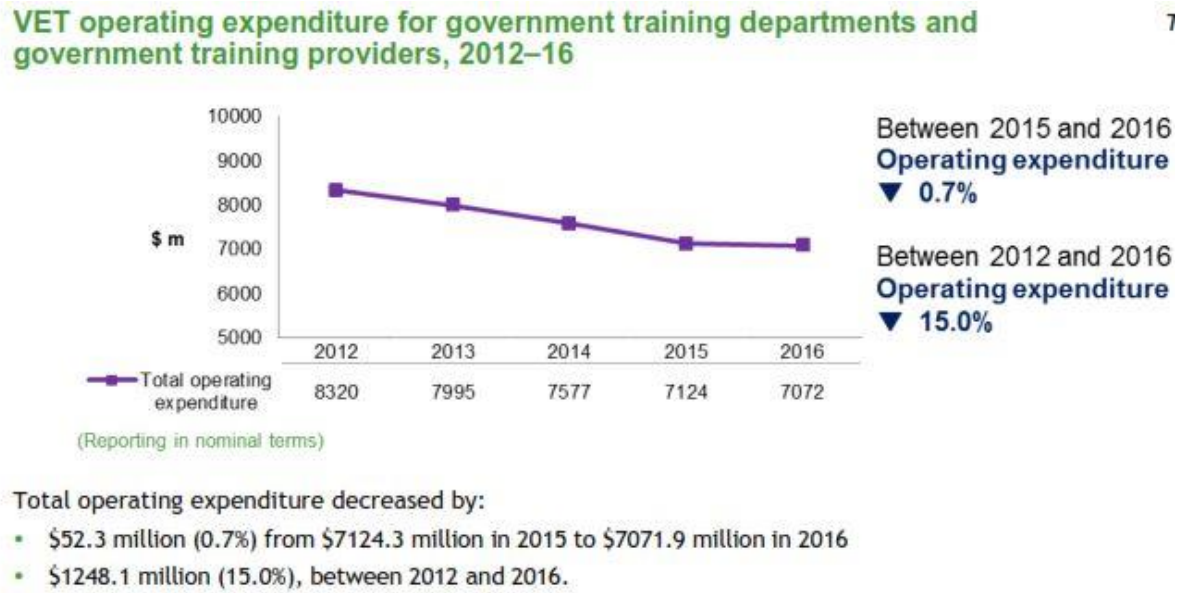
The second problem is the composition of public funding for VET, or more precisely, the shared contributions of the Commonwealth and the States/Territories. The funding by the jurisdictions is falling in absolute terms and also relative to Commonwealth expenditure. The relative funding shares between 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

[17] Skills for prosperity: a roadmap for vocational education and training, Skills Australia, 2011.
[18] VET funding in Australia, Peter Noonan, March 2016, Mitchell Policy Paper 2016.

requirements, the courses eligible for an entitlement, course subsidy levels, the quality requirements of providers, and the information provided to students.[19]

A recent finance report from the NCVER highlights a continuing decline in government expenditure across Australia which amounts to a 15 per cent decrease between 2012 and 2016.[20] Queensland decreases in expenditure contributed to the overall decline during this period.

Chart 8



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 boundary-crossing 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 promise to improve the quality of VET provision and are welcomed. Similarly, cross

[19]Kaye Bowman and Suzy McKenna, NCVER, Jurisdictional approaches to student entitlements: commonalities and differences, 2016

[20] Financial information 2016, NCVER, November 2017.

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.[21] 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.

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.[22] 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.[23]

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.

Recommendation:

The Queensland Government should address declining investment in VET in cooperation with the Commonwealth to ensure a sector funded to meet emerging vocational skill needs of industry.

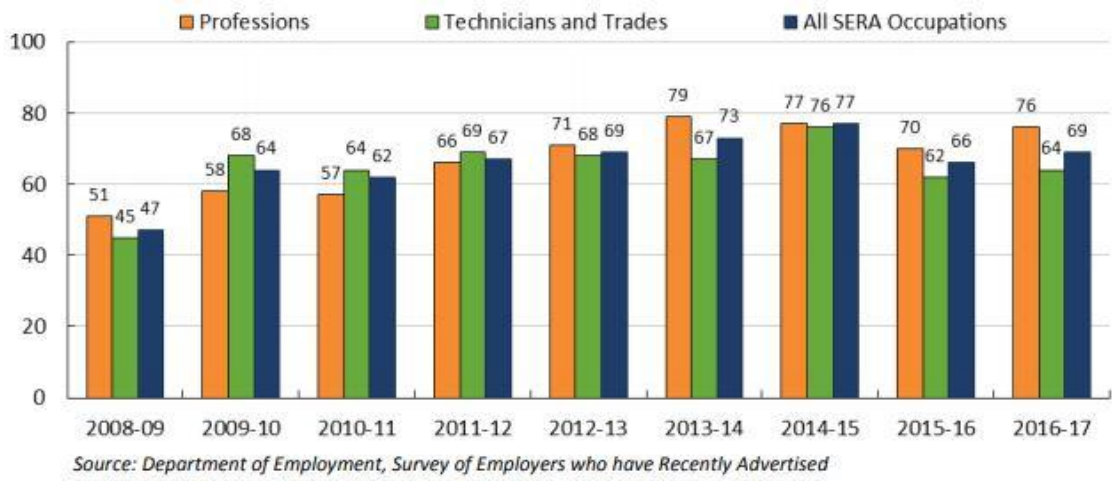
12.4 Skills Shortages

Recent data from Ai Group's Business Prospect survey of CEOs reveals that skills shortages was the single largest skilling factor inhibiting business growth. This has increased from 8 per cent in 2017 to 17 per cent in 2018.[24] Skills shortages remain a persistent problem for industry. The 2016 Workforce development Needs Survey indicated that that over half of the surveyed employers reported skills shortages in the previous 12 months.[25]

[21] Developing appropriate workforce skills for Australia's emerging digital economy: working paper, NCVER, 2017.
[22] Inquiry into innovation and creativity: workforce for the new economy, House of Representatives Standing Committee on Employment, Education and Training, May 2017.
23 Beddie, F and Simon, L, VET applied research: driving VET's role in the innovation system, NCVER, September 2017.
[24] Skills Shortages Research Note, Australian Industry Group, April 2018.
[25] Workforce Development Needs Survey, Australian Industry Group, December 2016.

The major areas of shortage identified by 52.2 per cent of employers are technicians and trade workers. This data is confirmed in Queensland by an analysis of the job vacancies filled. Technicians and Trades Workers are regularly the most difficult vacancies to fill including in the most recent data year 2016 – 17 when only 64 per cent of the vacancies were filled.[26]

Chart 9: Proportion of vacancies by occupation groups, Queensland, 2008-09 to 2016-17



Recommendation:

Develop a greater emphasis on training provision targeted to identified skills shortages, especially in technician and trade worker occupations.

12.5 Reform of the apprenticeship system

The most recent data from the NCVER indicates that there were 261,925 apprentices and trainees in-training nationally as at 30 June 2017. This represents a fall of 5.6 per cent compared to the September 2016 level. Commencements fell by 4.4 per cent during the period. In Queensland, as at 30 September 2017, apprentices in training fell by 2.3 per cent compared to 30 September 2016. What appears to be developing is a new and lower plateau of participation.

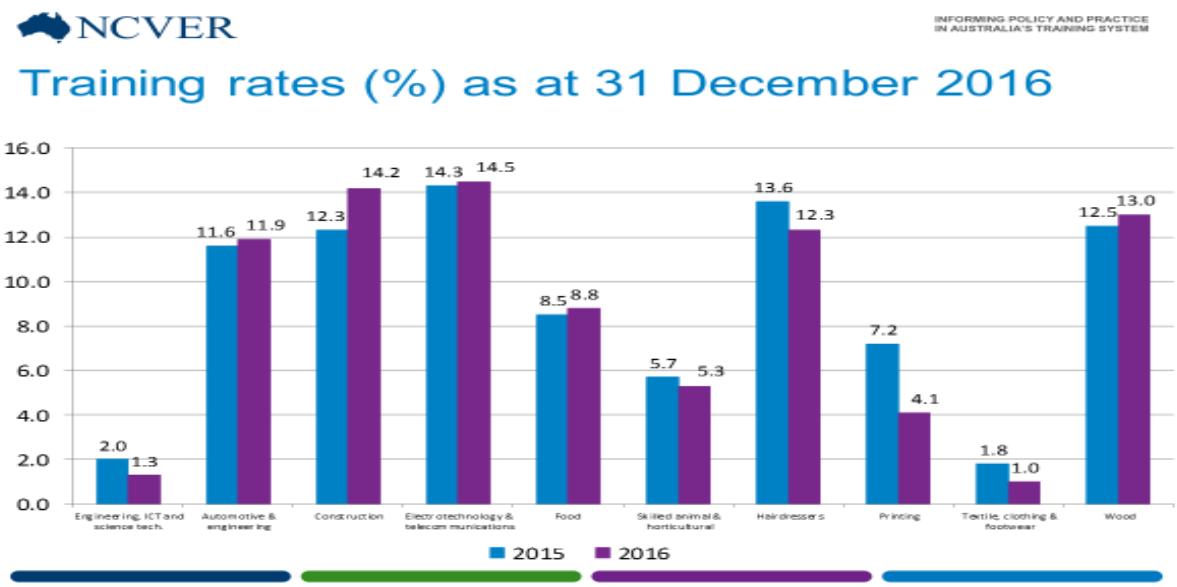
[26] Skill Shortage Research, Time Series data – Queensland, 2016 – 17, Australian Government, Department of Employment.

Chart 10: Queensland training activity September 2013 –September 2017

Source: Apprentices and trainees 2017, September quarter, NCVER

However, the latest disaggregation of the data for Australia to December 2016 reveals a more nuanced situation. Training rates in many of the key industrial trades increased from 2015 to 2016. This reflects infrastructure and related projects, i.e. construction-based trades. However, printing, hairdressing and TCF continue to decline. This does not lift the overall quantum of apprentices in training, however, it does demonstrate improvement in some key areas. This analysis demonstrates the need for targeted government invention.

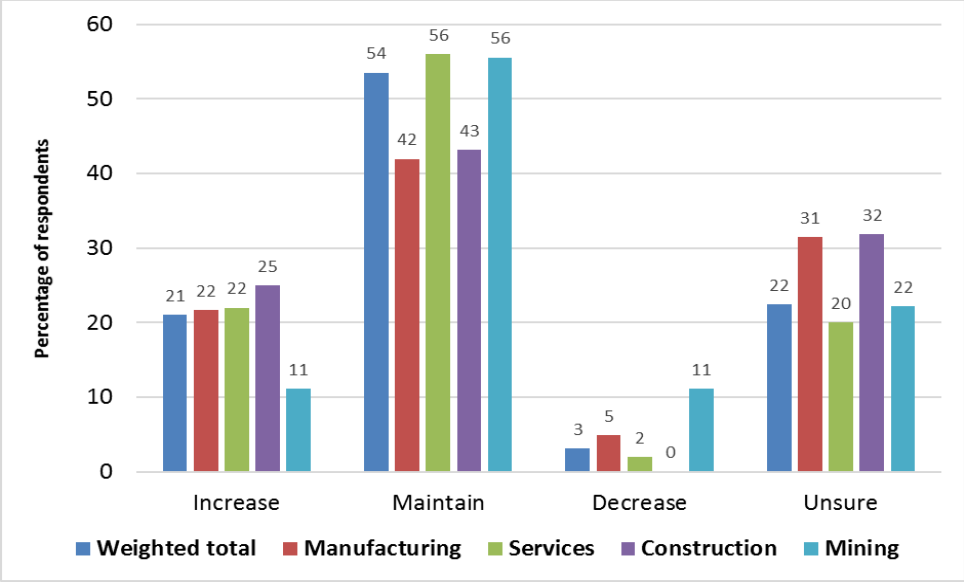
Chart 11



There is an urgent need to stimulate and support this vital training pathway. In the Ai Group survey of workforce development needs in 2016, only 21% of all employers intended to increase apprentices and trainee numbers over the next twelve months.[27]

[27] Workforce Development Needs Survey, Ai Group, 2016.

Chart 12: Employer intentions to hire apprentices over the next 12 months, 2016



Source: Australian Industry Group Workforce Development Needs Survey 2016

A contributing factor to this general concern is the data released about VET in Schools participation for 2016 across Australia. In 2016 there were 91,100 VET in Schools students in Queensland, a decrease of 13.7 per cent on 2015. In addition to this concern is the state of Queensland school-based apprentices and trainees. While having the largest share in the nation at 8,700, there has been a 21.4 per cent fall from 2015 to 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, NCVER

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.

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.[28]

Collaboration by Queensland in the roll-out of the Skilling Australians Fund has the potential to make a difference in the number of apprenticeships.[29] The potential of this initiative would be significantly enhanced by working directly with industry which would also increase the likelihood of national approaches.

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.[30] It is timely for Australia to review the governance arrangements for apprenticeships with a view to providing a genuinely national approach.

Recommendations:

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 apprenticeships/traineeships.

Facilitate direct industry and employer engagement through the Skilling Australians Fund.

Develop strategies to facilitate greater participation by schools and industry in school-based apprenticeships.

12.6 Developing Science, Technology, Engineering and Maths (STEM) capabilities

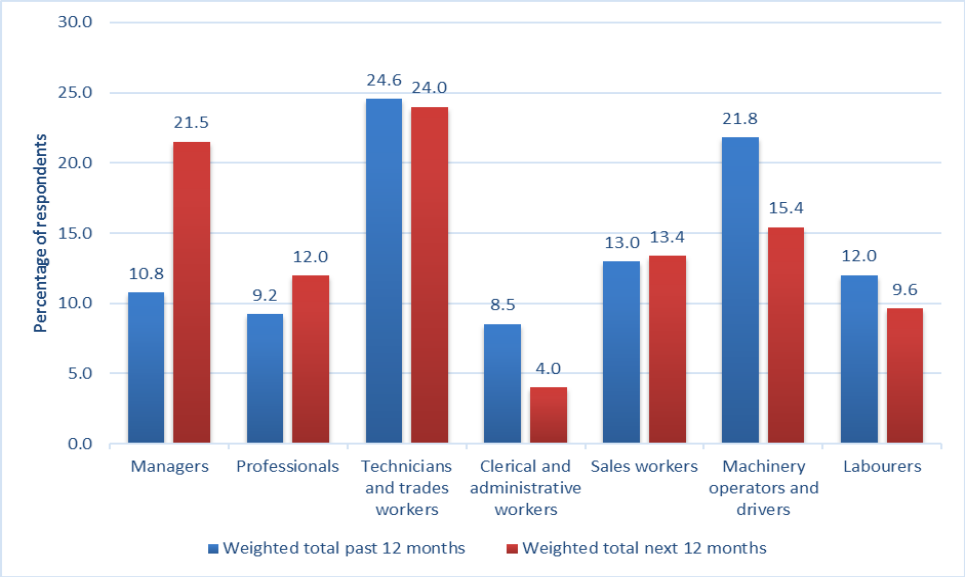
Some progress has taken place towards STEM capabilities, especially in the school sector, through the establishment of the STEM Partnership Forum as recommended in the Education Council's National STEM School Education Strategy.[31] The Ai Group research project Strengthening School-Industry STEM Skills Partnerships, produced a number of models and recommendations that need to be promoted nationally to encourage further participation.[32]

[28] The effectiveness and cost-benefits of apprenticeships: results of the quantitative analysis, European Commission, September 2013.
[29] https://www.education.gov.au/skilling-australians-fund
[30] https://apprenticeships.blog.gov.uk/2017/11/23/the-institute-for-apprenticeships-breaking-the-chain/
[31] *National STEM School Education Strategy*, Education Council, December 2015.
[32] Strengthening School – Industry STEM Skills Partnerships, Final Project Report, Australian Industry Group, June 2017.

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 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.[33] A major focus needs to be on growing the STEM workforce. Modelling by PwC finds that shifting just 1 per cent of the workforce into STEM roles would add $57.4 billion to GDP.[34] Skilled technicians are often the most pressing area of shortage for companies rather than graduates as Ai Group workforce development surveys reveal. The latest data indicates that around a quarter of employers anticipated difficulties recruiting technicians and trade workers with STEM skills. Accordingly, there needs to be a renewed focus on apprenticeships and traineeships in STEM-related areas.

Chart 13: Employers reporting difficulties recruiting people with STEM skills, 2016



Source: Australian Industry Group Workforce development needs Survey 2016

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.

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.

[33] *Progressing STEM Skills in Australia*, Australian Industry Group, February 2015.
[34] *A smart move*, pwc, April 2015, page 4.

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.[35] 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 NCVER 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*."[36]

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.

Recommendations:

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.

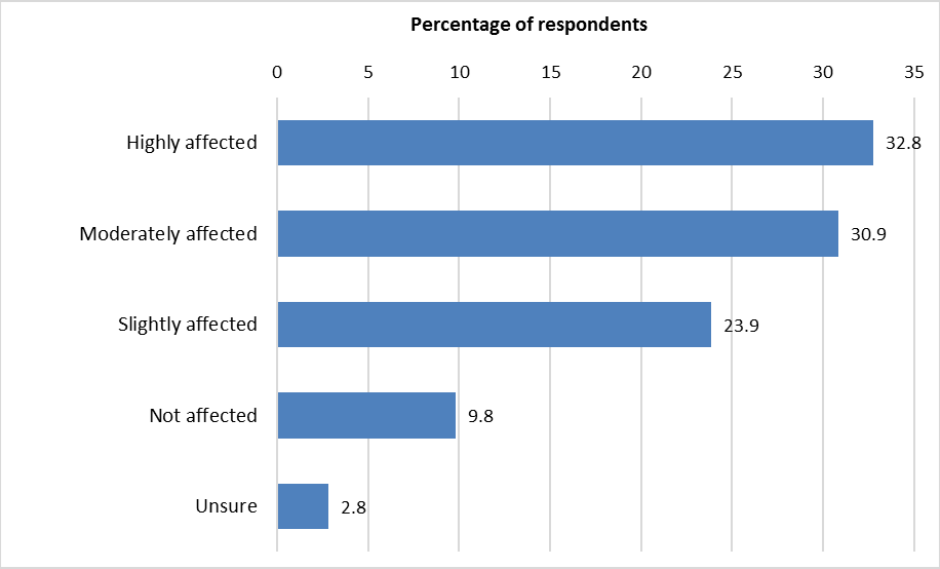
Develop specific measures to expand the STEM workforce in SMEs through cluster/network models.

12.7 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 over 87 per cent of employers reported low levels of literacy and numeracy having an impact on their business.[37]

[35] www.business.gov.au/advice-and-support/IndustryGrowthCentres
[36] Francesca Beddie et al; *Readiness to meet demand for skills: a study of five growth industries*, NCVER, 2014.
[37] Workforce Development Needs Survey 2016, Ai Group, December 2016.

Chart 14: Employers affected by workplace language, literacy and numeracy deficiencies, 2016



Source: Australian Industry Group Workforce Development Needs Survey 2016

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.[38] 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.[39] This combination of measures could be implemented through pilot programs in concert with industry.

[38] *Investing in Workforce Literacy Pays*, Australian Industry Group, August 2015.
[39] *Foundation Skills Pilot Program Success*, Australian Industry Group, July 2017.

Recommendations:

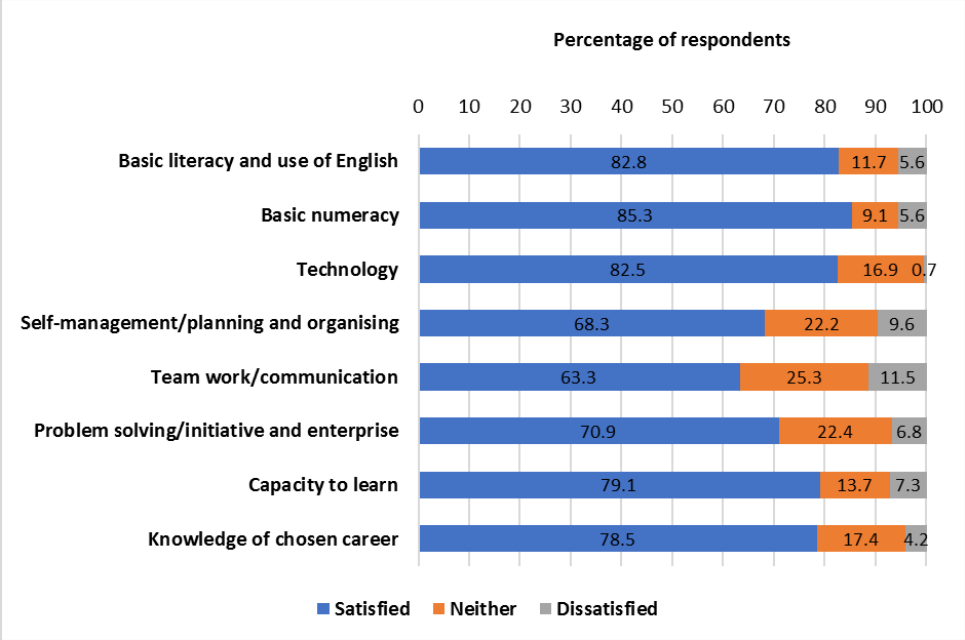
Foundation skills strategies need to be developed with sufficient budgets to support workforce literacy and numeracy programs.

Government commence discussions with industry and other appropriate stakeholders about the development of new workplace LLN programs.

12.8 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 continue to be questions around the ability of university graduates recruited to meet these challenges. Data from members gathered through Ai Group's 2016 Workforce Development Needs Survey found their highest levels of dissatisfaction focussed on graduates' levels of team work, self-management and problem solving.[40]

Chart 15: Employers satisfaction with graduate employment skills



The 2017 Graduate Outcomes data show that short term employment outcomes have declined in recent years with graduates taking longer to find full-time work. 41

Graduates need to be sophisticatedly technically proficient no matter what discipline, with higher level cognitive skills dominated by STEM. However higher level soft (or employability) skills are needing to be more closely integrated within an individual's technical specialisation. This is because changes being driven by automation are about new processes for the way we do things. Problem solving, creativity, communication,

[40] *Workforce Development Needs Survey Report*, Australian Industry Group, December 2016.
[41] Graduate Outcomes Survey – Longitudinal, QILT, Department of Education and Training.

collaboration, adaptability and initiative will all increasingly need to be part of an individual's package.

Employability skills are built over time[42] through a number of complementary activities.[43] 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 benefits of it have been well documented and researched.[44] 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.

Goodwill exists across the education and business sectors to expose students to authentic work environments. It is noted that all universities now include a major strategy to drive employability through WIL. Ai Group is working to build the frameworks that allow increased connections between industry and universities through our representation on national multi-sector strategy groups and projects; through a graduate employment service to help companies find and mentor suitable graduate; and by providing a guide for employers.

A newly released report on the state of university-business cooperation found differing motivations and differing time horizons to be the main barriers to collaborating. Successful relationships are driven by a business strategy existing for cooperation and shared goals that foster relationships.[45] Innovative models of connecting industry and higher education providers need to be more widespread, where, for example, university campuses are located in business and vice versa for each to be at the coalface of each other's activity. Innovative examples include micro-internships[46,] students running incubators for start-ups, and students researching IP issues for SMEs. There is also innovation around the organisers of work integrated learning activities. There are a number of successful online services connecting businesses with students, including Ribit (part of Data61/CSIRO) that runs speed-networking events. The documentation and national circulation of innovative models of cooperation would be of great benefit to both sectors.

Businesses involved with universities in WIL activities achieve benefits for the company and the individuals. However the capacities and resources of large, medium and small businesses to collaborate are broad and different. Many large companies have long standing projects with universities and run placement programs, or share facilities. For

[42] Yorke and Knight, 2006.
[43] Jackson, 2015
[44] 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.
[45] Plewa, C, Davy, T, Meeran, A and Golan-Muros, V, The State of University Business Cooperation, Global University Engagement Monitor, 2017.
[46] University of Oxford Micro-internship Programme.

SMEs providing work exposure for higher education students in the form of WIL activities is resource intensive. A key factor in business-university relationships at the local level involves exploring the range of possibilities that are not too onerous for each particular business, using flexible and differentiated strategies. This is more likely to develop into cooperative long term relationships.

The Canadian Government has allocated a significant budget to supporting companies to engage with students for WIL, linking the initiative to advancing its Innovation Agenda to spur economic growth.

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. Current delivery models are also facing complex challenges as the use of 'nano-learning', that is, two to ten-minute blocks of quick learning, grows. 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.

Recommendations:

Support industry through programs that model innovative ways of connecting between industry and higher education providers, with the view to establishing new models of learning.

Implement incentives to assist companies provide opportunities for students to experience the workforce and make meaning of their learning.