

The Australian Industry Group

# Connecting for Productivity

University and industry partnerships

October 2016



**Ai**GROUP

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# Executive Summary



Graduate employability is fundamental to industry success. Faced with indicators showing that employability has declined, this issue has become a focus for the higher education sector. The Ai Group's key interest is a successful business sector to drive Australia's economy, and it recognises the importance of higher education graduates in this success. Higher education institutions provide the high level skills and research base and a culture of enquiry and innovation that economies need. Higher education is one of the key enablers in the development of our human capital - the essence of innovation that underpins our future capability and competitiveness.

Higher education in Australia is facing pressure to perform amidst the demands of a fast moving world economy. Universities Australia acknowledges that the sector must '*produce career-ready, globally competitive graduates to meet rapidly changing 21<sup>st</sup> century labour market needs*'. Australian industry too is adjusting to these demands which are heightening the focus on innovation as the essential component for growth, competitiveness and success.

The Australian Government's National Innovation and Science Agenda emphasised the need for improved and widespread business-university collaboration to be innovative into the future. This Agenda also brought into focus the concerns about the work readiness and employability of university graduates. The Ai Group's members survey indicates the main areas of dissatisfaction are related to graduates' self-management, problem solving, initiative and teamwork.

The employability of graduates is impacted by a number of factors within and external to the higher education system. The Australian economy is being impacted by disruptive global changes, including technological advancement and borderless commerce. The changes are rapidly transforming jobs, with uncertainty around the shape of jobs to come. Different skill sets are needed for the emerging economy with a base in STEM skills, entrepreneurship, critical thinking and adaptability.

Higher education policy settings are also under challenge by a raft of issues: growth in participation, misalignment to industry needs, recent uncertainty around the university funding model and de-regulation of fees, information for student choice, the impact on the VET Sector, student access, and the development and maintenance of quality.

This statement links employers' experiences with graduates and details the broad range of factors impacting on the quality of graduates. It concludes by outlining Ai Group's involvement with industry and other stakeholders to facilitate the changes needed for future-ready higher education graduates. Key to the changes are closer and bolder industry – university connections in order to increase employability from higher education.

Innes Willox

A handwritten signature in black ink that reads 'Innes Willox'. The signature is written in a cursive style and is positioned above a horizontal line that underlines the signature.

Chief Executive

Australian Industry Group

# Key Points

- Ai Group's research shows a steady need by industry for graduates.
- Employers say they engage higher education providers to partner for research, student placements and other student and course engagement activities.
- Whilst employers are generally satisfied with graduate recruits, they express their highest dissatisfaction around self-management and the capacity to learn by graduates.
- 21<sup>st</sup> century industry characteristics are impacting the relevance of graduates.
- Graduate employability is central to the national strategic discussion around higher education.
- Cooperation between industry and higher education must be bolder so that industry is integrally connected to deep learning and employability approaches.
- New models of connecting across industry and higher education providers are required.
- Employability is enhanced by teaching and learning practices that embed employability and Work Integrated Learning into the core of the curriculum.
- Authentic work environments must be universally recognised as the foundation of experience for higher education students.
- Higher education providers and students involved with companies need to be cognizant of company size and therefore their capacity to engage.
- Employers need support to engage across a range of activities with universities and students, in order to integrate work into the students' learning.
- To encourage action Ai Group is increasing its dialogue with a range of relevant higher education stakeholders.
- Ai Group is assisting companies through its employer guide for future graduates, and its Graduate Employment Services for current graduates.

# Recommendations

Industry, higher education providers and government working together need to realise the following recommendations.

## **National strategic discussion**

- Implement a national engagement framework which provides the architecture for closer connections as part of everyday operations.
- Ensure the engagement framework incorporates mechanisms that better prepare graduates for new economy characteristics including broad STEM capabilities, entrepreneurialism and adaptability.

## **Facilitating employability for students and graduates**

- Create a broader awareness of innovative models of connecting between industry and higher education providers. Ensure these models address cooperation for Work Integrated Learning and research, and cater for companies of all sizes.
- Support the widespread review of learning and teaching practices in higher education providers to embed employability, through Work Integrated Learning approaches, into the core of curriculum.
- Ensure Work Integrated Learning opportunities, wherever relevant, encompass global understandings of business communication, cultural styles and markets.

## **National system support for greater industry involvement**

- Implement incentives or funded grants or programs for employers to engage across a range of activities with universities and students, in order to address resource barriers experienced by many employers.
- Support the development of return on investment measures to enable employers to evaluate their involvement with higher education students.

# Introduction

The Ai Group has a key interest in a successful business sector to drive Australia's economy, and recognises the importance of higher education in this success. Higher education is one of the key enablers in the development of our human capital. The essence of innovation, human capital underpins our future capability and competitiveness. It is crucial to building the ideas and knowledge, the companies, and the society needed to take us forward successfully. A highly educated population leads to greater public benefits, a healthier economy and a richer society.

The Productivity Commission highlights international studies showing that an additional year of education can raise the level of productivity by 3 per cent to 6 per cent for a country like Australia<sup>1</sup>.

Higher education in Australia has a good standing internationally<sup>2</sup>, however it is facing much pressure to perform amidst the demands of a fast moving world economy. Australian industry is also adjusting to these demands which are heightening the focus on innovation as the essential component for growth, competitiveness and success. The public discussion<sup>3</sup> is not only about the employability and entrepreneurship of graduates but the better connection to research and its translation in industry in order to support innovation.

In the context of the changing world, higher education policy settings, funding, outcomes, priorities and relationships have all been reviewed and questioned in recent years. This policy statement addresses issues from the perspective of Ai Group member companies, including research undertaken as part of workforce development needs surveys. Industry understands its co-dependency on a relevant and vibrant higher education sector, as well as the mutual benefits in developing strong, enduring relationships.

Facing challenges that range from global environmental pressures through to internal structural factors, the sector in Australia needs to re-calibrate in order to shore up its relevance and effectiveness into the future.

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<sup>1</sup> Productivity Commission (2007), Potential Benefits of the National Reform Agenda, Research Paper, Canberra.

<sup>2</sup> 2015 QS Top Universities Australian rankings: ANU moved into the world top 20; half of Australia's universities (21) are now in the top 400; all six of Australia's technology based universities improved in rank

<sup>3</sup> Industry Innovation and Competitiveness Agenda, Australian Government, 2014 and Australian Council of Learned Academies, Securing Australia's Future Project 13 Review of Australia's Research Training System, 2014.

## Factors affecting Graduate Employability

### A changing world and transforming jobs

A plethora of reports confirms that the nature of work is rapidly changing. The CSIRO report, *Tomorrow's Digitally Enabled Workforce*<sup>4</sup>, draws attention to the rapidly growing digital economy as a key megatrend. The risk of digital disruption placing 44 per cent of jobs in jeopardy is a growing concern.<sup>5</sup> CEDA confirms this concern with its report that indicates 40 per cent of jobs will disappear in 10 – 15 years as a result of technological advancement.<sup>6</sup> For Australian companies to be innovative and internationally competitive they will need to treat innovations that disrupt their businesses and workplaces and reshape jobs as the norm. Their success lies in innovating and differentiating themselves from competitors. Their profitability leads to further job creation for the economy.

With business models and the nature of work changing at a faster pace, the structure of jobs will continue to change. As major advances in core digital technologies continue to permeate all industries different mixes of skills and knowledge are formulating. The OECD has highlighted the decline in routine skills and the growth of ICT and high level cognitive and interpersonal skills.<sup>7</sup> Australia's workforce needs to be a source of competitive strength: we need higher order and highly specialised skills that straddle traditional industry silos, as well as broadly applicable skills to innovate in order to meet transforming industries and jobs. With 5.1m jobs estimated to be at risk from digital disruption over the next 10 years<sup>8</sup>, the exploration of new higher education models that embed fluid knowledge and capabilities for enquiry, initiative, problem-solving and teamwork is likely to better equip graduates for change<sup>9</sup>.

The ability to exercise critical thinking and contribute to a civil society will be paramount. The jobs that experience growth will require high level thought and judgement. The concept of teamwork and social skills will be broader – not just within a workplace but across countries<sup>10</sup>.

McKinsey has categorised the jobs developing as a result of technology and global supply chains into Interaction jobs, Production jobs and Transaction jobs<sup>11</sup>. The Interaction jobs, involving more complex interactions and judgement, represent almost half the jobs in the economy but are the source of all employment growth. They suggest that a focus on these types of jobs will be a key to Australia's competitiveness.

<sup>4</sup> *Tomorrow's Digitally Enabled Workforce*, CSIRO, 2016.

<sup>5</sup> *A smart move*, PwC, 2015.

<sup>6</sup> *Australia's future workforce?*, CEDA, 2015.

<sup>7</sup> *OECD Skills Outlook 2013*.

<sup>8</sup> *Committee for Economic Development of Australia, Australia's future workforce? 2015*

<sup>9</sup> *Edge/SCRE Centre, Employers' perceptions of the employability skills of new graduates, 2011*

<sup>10</sup> *John Lydon, David Dyer, Chris Bradley, McKinseys, Compete to Prosper: Improving Australia's Global Competitiveness, 2014*

<sup>11</sup> *McKinsey Australia, Compete to Prosper: Improving Australia's Global Competitiveness, 2014*

In the increasingly challenging global environment, more than ever Australia needs its higher education sector to be able to produce world class graduates and researchers. However, without being able to predict the shape of many future jobs, the higher education sector needs to develop knowledge in its students that is adaptable in the face of changing work, as well as capabilities that allow graduates to quickly fit within the workforce.

### **Skill needs and graduate capabilities**

Australian businesses will require more high skilled labour in the decades to come. Some of the key indicators of this need include:

- Professional and managerial occupations now making up one-third of all employment and set to grow faster than average. Access Economics estimate annual growth rates to 2025 will be 1.3 - 2.5 per cent for managerial employment and 1.6 - 2.5 per cent for professional employment, compared with 0.7 - 2.0 per cent for total employment growth.<sup>12</sup>
- Access Economics predicts that the average annual change in industry demand for bachelor-qualified workers will be between 2.9 and 4.5 per cent every year until 2025.
- The trend toward an economy needing ever-higher levels of workforce skill has been particularly pronounced in recent years. A 2016 ABS report found that the majority of employment growth is in occupations usually requiring a degree and the vast majority of jobs growth over the next five years is expected to be in higher skilled occupations.<sup>13</sup>
- Modelling undertaken by the Australian Workforce Productivity Agency (AWPA) concluded that we are projected to have a deficit of higher-level qualifications (i.e. Diploma and above) from around 45,000 to 280,000 in 2025.<sup>14</sup>

As industry meets the challenges of new business models, new ways of working, and new technology, there are some questions around the ability of higher education graduates recruited to meet these challenges.

Industry needs graduates who embody T-shaped attributes - they develop in-depth disciplinary knowledge but also develop skills and abilities not simply specific to one area<sup>15</sup>. They work in teams and are capable of 'deep listening'. They have an entrepreneurial spirit to create new jobs and they can communicate. It is the mix of skills and capabilities needed for the future.

<sup>12</sup> *Economic modelling of demand and supply*, July 2012, Report by Access Economics.

<sup>13</sup> ABS, *Education and Work*; Department of Employment, Occupational Employment Projections.

<sup>14</sup> Australian Workforce Productivity Agency (AWPA), 2012, *Future Focus Discussion Paper*, AWPA.

<sup>15</sup> David Guest, *The hunt is on for the Renaissance Man of computing*, 1991.



Capabilities seen as important to foster in higher education students include intellectual openness, skills for retrieval, methods of enquiry ethics, and discovery<sup>16</sup>. Educators are being called on to stretch and inspire students. It could be argued that these have always been attributes central to tertiary study, however a new world means a new application for them. Fixed knowledge is predicted to have decreasing value with fluid knowledge becoming more important.

Add to the development of these capabilities the concept of ‘nano-learning’, that is, two to ten minute blocks of quick learning, and current delivery models face complex challenges. Educational content may need to be delivered faster, cheaper and on demand and with new learning experiences – ensuring more focus is on questioning, exploration and authentic environments.

With digital innovation increasingly central in every part of the economy, Science Technology Engineering and Mathematics (STEM) skills are also now seen as critical workforce skills important for digital capabilities and the basis for innovation and growth.

Industry also needs quality researchers who have the ability to work within industry and innovation systems in order to commercialise research.

Discussion focussing on the ability of our education systems to keep up with changing business needs is present in a number of fora and papers, including *Investment in Global Education: a strategic imperative for business*<sup>17</sup> which suggests that the global pool available through education will not be able to support the human capital needs of the private sector.

All graduates are better prepared to contribute productively in the workplace if they have had opportunities to integrate theoretical knowledge with practice. As stated in the 2014 Manufacturing Workforce Study by AWPA<sup>18</sup> ‘any work experience should enable students to join theoretical knowledge to the practical application of skills as well as significantly enhancing communication and business, or the soft skills, of students’.

The same report noted that cooperative education programs have become an integral part of university degrees in the USA and Canada. The National Association of Colleges and Employers reported that in the US, 63 per cent of 2013 graduates participated in an internship or co-operative Work Integrated Learning experience. The prevalence of SMEs in Australia can act as a barrier and the different industrial landscape creates more challenges and different responses.

### **Significant Growth in higher education participation**

The sector has experienced significant growth in university undergraduate participation in recent years, and particularly since the introduction of reforms flowing from the Bradley Review in 2009.<sup>19</sup> Overall the last available data indicates a total of 1,213,403 higher education students; of this total

<sup>16</sup> Dr Kaye Bowman, Background paper for the AQF Council on generic skills, 2010

<sup>17</sup> Rebecca Winthrop, Gib Bulloch, Pooja Bhatt and Arthur Wood, *Investment in Global Education: A Strategic Imperative For Business*, 2013.

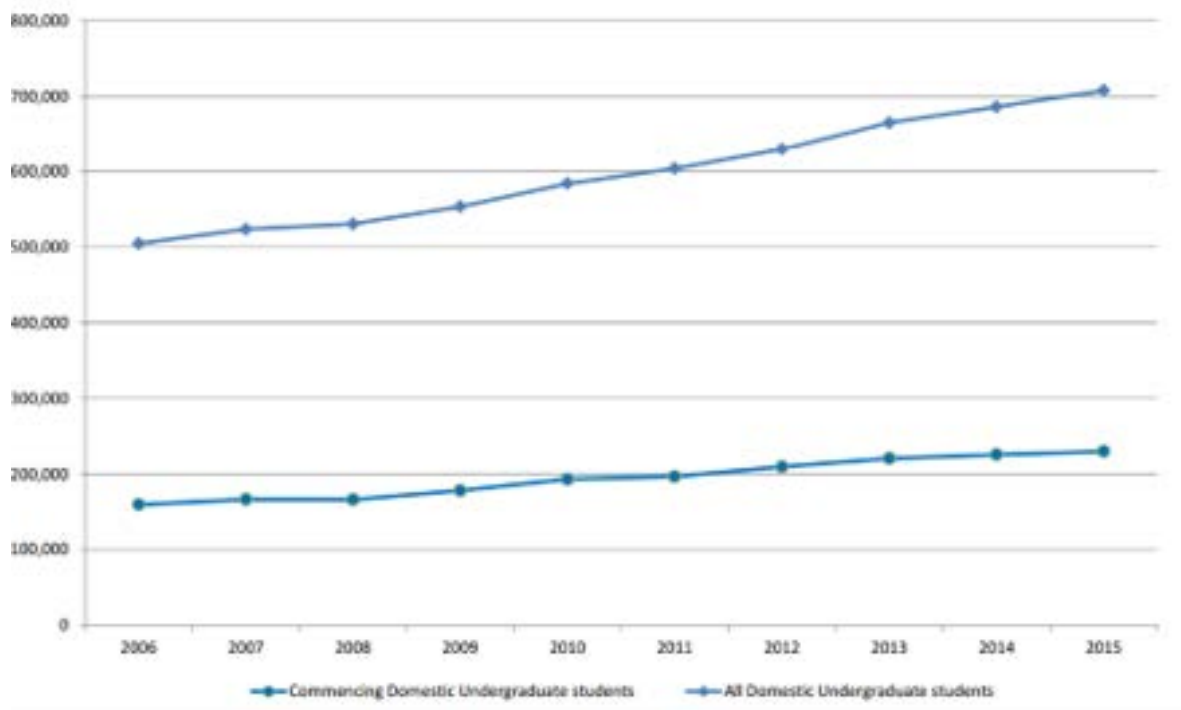
<sup>18</sup> Australian Workforce and Productivity Agency, *Manufacturing Workforce Study*, April 2014

<sup>19</sup> The Hon Dr David Kemp and Andrew Norton, *Review of the Demand Driven Funding System*, page 43.

77 per cent are domestic students and 74 per cent are undergraduate students. This represents a growth of over 28 per cent from 2006 to 2015.<sup>20</sup>

Over the same timeframe domestic undergraduate students have increased from 504,341 to 707,651 – also an increase of over 28 per cent.

**Chart 1: Higher education first half year student data, domestic undergraduate students by year 2006 – 2015**



In 1970 only 3 per cent of Australians held undergraduate degrees whereas now the figure is 37 per cent.<sup>21</sup> It has been predicted that between 2015 and 2025 Australia will add between 238,000 and 360,000 more people per annum with higher level qualifications to meet the demands of the economy and that higher skilled occupations will grow at 1.6 times the rate of low-skilled jobs.<sup>22</sup> In this context university education is approaching mass education which undeniably increases pressure on graduates to find employment.

**Graduates experience difficulty in securing employment**

<sup>20</sup> Derived from [www.education.gov.au/selected-higher-education-statistics-2015-student-data](http://www.education.gov.au/selected-higher-education-statistics-2015-student-data)

<sup>21</sup> A smarter Australia: An Agenda for Australian Higher Education, Universities Australia 2013 – 2016, page 13.

<sup>22</sup> A smarter Australia: An Agenda for Australian Higher Education, Universities Australia 2013 – 2016, page 14.

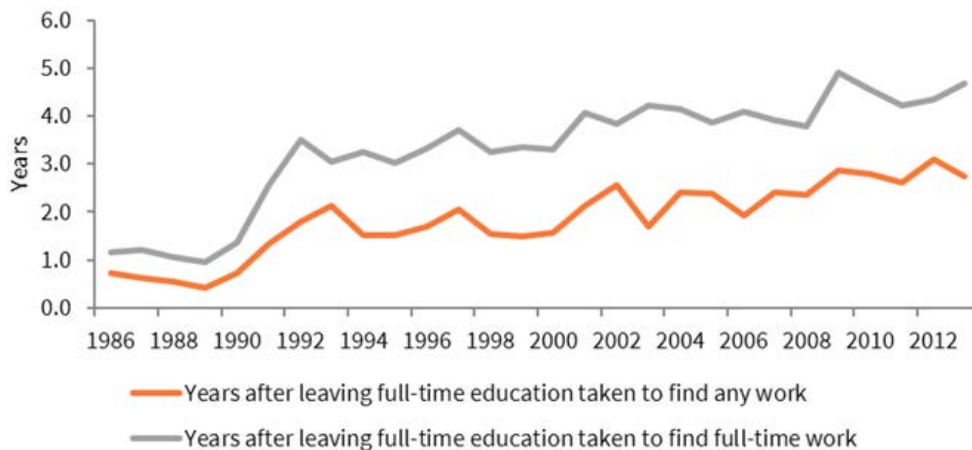
Graduates from full-time education (aged 15 – 24 years) have been taking longer to find full-time employment after the completion of their studies.<sup>23</sup>

*“Graduates from education are finding it harder to find full-time work. It is taking on average 4.7 years for young people to move into full-time work after completing full-time education and 2.7 years to find any work (compared to one year respectively in 1986).”<sup>24</sup>*

This also means that young people are leaving full-time education at a later age and entering full-time employment later than in the past.

**Chart 2: Years taken to find employment following full-time education 1986 - 2013**

**Years taken to find employment after leaving full-time education, Australia, 1986-2013**



Source: ABS Labour force, ABS Cat No 6291.0.55.001, 2015

Graduate Careers Australia surveys paint a slightly more optimistic view of the time taken to secure employment. They estimate that two thirds of university graduates find work within four months of graduating and that four fifths find work within three years of graduation. Their Graduate Destinations 2014 report<sup>25</sup> noted that those bachelor degree graduates with some work experience gained before or during their study years had an advantage in the labour market after graduation.

Research students similarly need a broad set of skills. The Discussion Paper of the Review of Australia’s Research Training System refers to both generic training and transferable skills as the components of research training models across and within different research systems<sup>26</sup>. Whilst businesses increasingly need high level competencies in research graduates to keep pace with

<sup>23</sup> The Hon Dr David Kemp and Andrew Norton, Review of the Demand Driven Funding System, page 33.

<sup>24</sup> How young people are faring in the transition from school to work? Foundation for Young Australians, 2015.

<sup>25</sup> Graduate Careers Australia, Graduate Course Experience, 2014

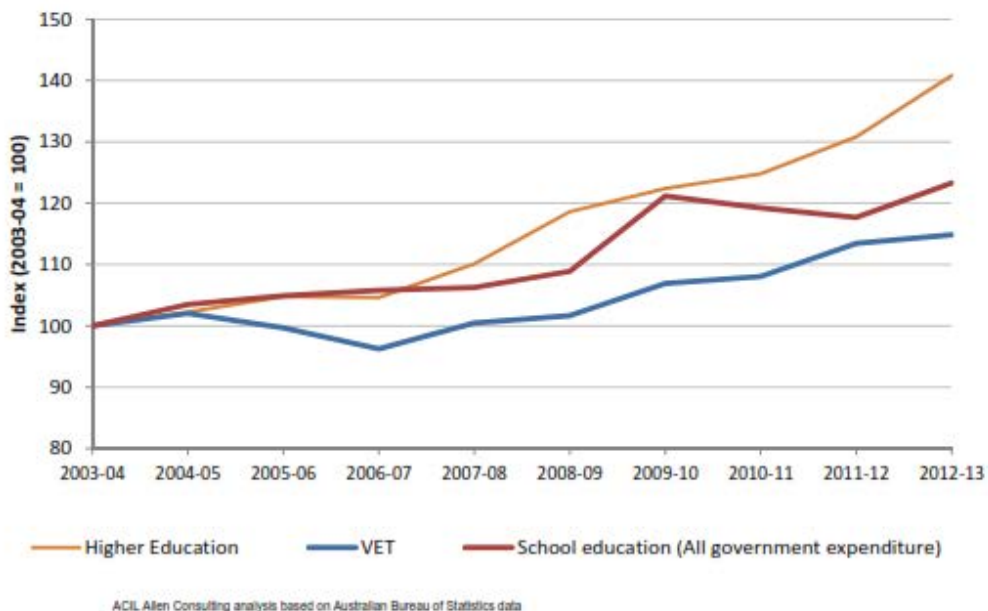
<sup>26</sup> Australian Council of Learned Academies, Review of Australia’s Research Training System, 2015

technology advances, our evidence is that they equally value, and need, broader skills to ensure the effective translation of research to commercialisation.

### Alignment to Industry Needs

A key factor to consider is the alignment between university provision and the needs of the workforce and economy. What is particularly important is that the provision of Higher Education is linked to the needs of industry. One indication of this relationship is the level of expenditure on the various sectors.<sup>27</sup>

**Chart 3: Expenditure on education and training in Australia, 2003-4 to 2012-13**



This data clearly shows in particular, a widening gap between expenditure on Higher Education and VET. This is partially explained by the increasing demand for higher level skills and aspirations for Higher Education. However, this widening gap can lead to an oversupply of skills from Higher Education not aligned to the needs of the labour market.

This is closely related to the persistent issue of skills shortages in the Australian economy. Ai Group’s 2016 survey of employer’s workforce development needs asked about the prevalence and location of skill shortages within workforces. Surveyed employers were asked to identify their experience of skill shortages in the past 12 months by occupational grouping.

<sup>27</sup> P. Noonan and S. Pilcher, Financing tertiary education in Australia – the reform imperative and rethinking student entitlements, Mitchell Institute, February 2015, page 11.

The results found that there were significant skills shortages in technicians and trade workers. These labour demands are typically met through provision in the VET sector so there is a danger of misalignment. There are also skills shortages in professional (20.4 per cent) and managerial (15.9 per cent) skills. These occupation areas occur at the higher end of the skills spectrum and are typically met through Higher Education course provision.

Mismatches between educational supply and workforce demands need to be better monitored as failure to address the supply of skills in these areas can severely risk business productivity and contribute to resource wastage. A Review of the Demand Driven System highlighted that higher education has increased its flexibility and providers are no longer restrained by an enrolment profile and a capped Commonwealth grant.<sup>28</sup> The system needs to be able to adjust continuously and automatically to meet needs assuming that young people make informed decisions about labour market opportunities. The Review concluded that the demand driven system has responded effectively to most recent skills shortages. It is important to monitor the impact of this new growth on the VET sector and its supply of graduates to the workforce.

An important issue to monitor as the reform progresses is whether this increased student demand aligns with industry demand. The Government has also introduced the *My University*<sup>29</sup> website to provide greater information about institutions, courses and outcomes to assist student choice. High-quality information is an important factor in the effective operation of a market-based system such as has been introduced in higher education. The effectiveness of the new policy relies on student choices dictating the flow. Prospective students need to understand where employment opportunities lie so they are more likely to make rational and informed choices. The introduction of the Quality Indicators for Learning and Teaching (QILT) website collates survey results from current students and recent graduates and provides information about employment and salary outcomes. This should also assist students to make informed choices about higher education learning.

To date the increase in student places has revealed expansion across the full range of disciplines.<sup>30</sup> Increased demand has been concentrated in three main areas since 2009: health, engineering and science.<sup>31</sup> These are within the Science Technology Engineering and Mathematics (STEM) disciplines which have been the subject of considerable recent concern.<sup>32</sup> However, this seems to be the result of good fortune rather than good planning. Other STEM-related areas such as Information Technology and Agriculture have very little growth and are characterised by low levels of participation.

<sup>28</sup> The Hon Dr David Kemp and Andrew Norton, Review of the Demand Driven Funding System, page 27 - 31.

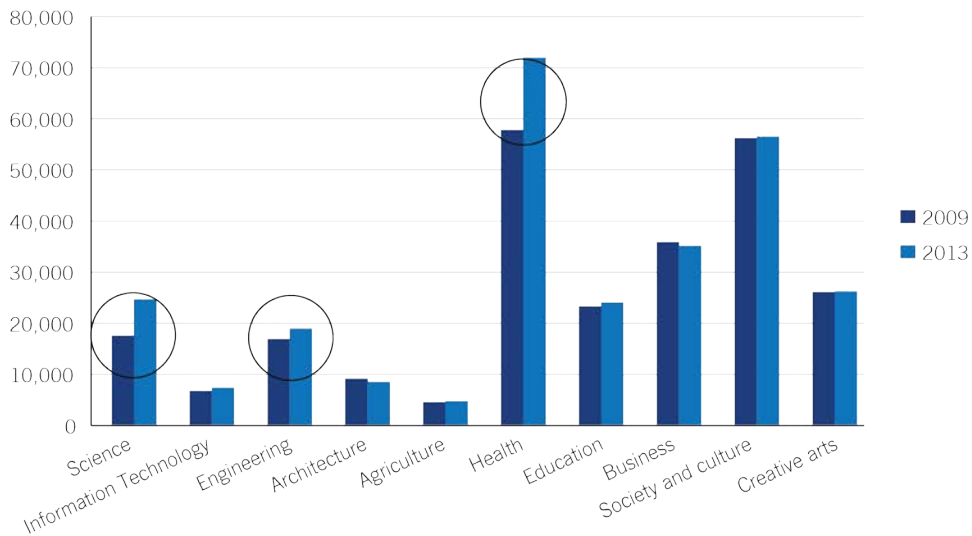
<sup>29</sup> <http://www.myuniversity.gov.au>

<sup>30</sup> Conor King and Richard James, *Creating a demand-driven system*, in Tertiary Education Policy in Australia, Simon Marginson (Ed), Centre for the Study of Higher Education, University of Melbourne, July 2013.

<sup>31</sup> The Hon Dr David Kemp and Andrew Norton, Review of the Demand Driven Funding System, page 28.

<sup>32</sup> See for example *Science, Technology, Engineering and Mathematics in the National Interest: A Strategic Approach*, Office of the Chief Scientist, July 2013 and *Lifting our Science, Technology, Engineering and Maths (STEM) Skills*, Australian Industry Group, March 2013.

**Chart 4: Trends in tertiary admissions centre applications by broad field of education**



Source: Department of Education (2013d)

It is essential that industry’s need for the skills generated by higher education are not lost in a system dependant on student demand.

## What are employers saying?

### The Need for Graduates

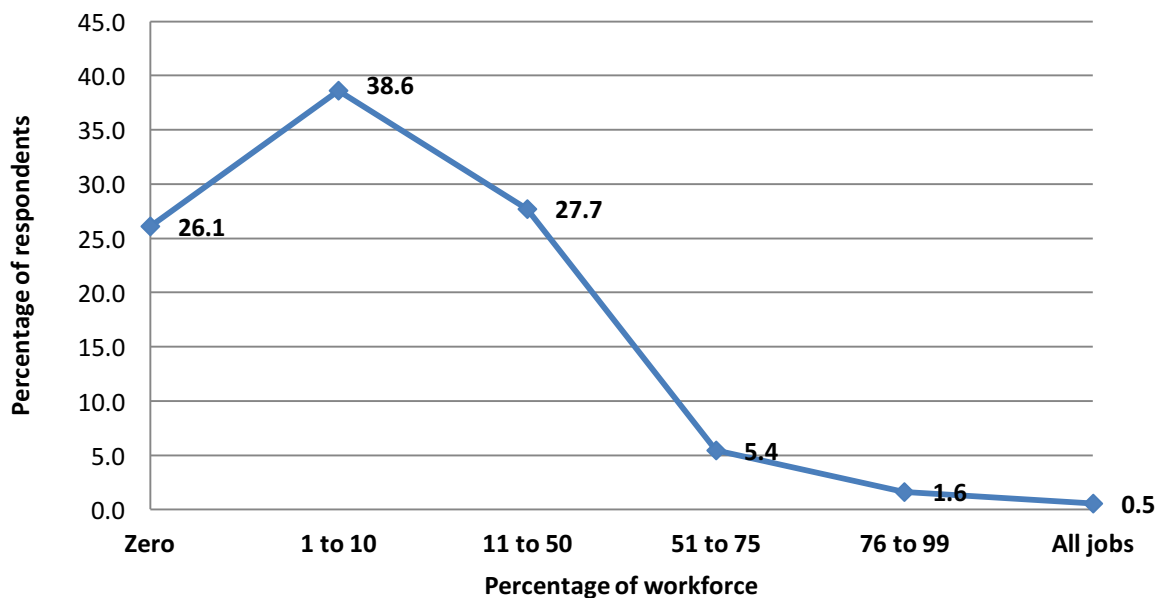
There has been recent public discussion about the relevance of degrees, in their current form, into the future. The debate has been fuelled by the prospect and reality of rapidly changing jobs as well as new business structures that are changing workplaces. At the same time anecdotal evidence suggests that businesses are increasing their appetite for shorter, sharper education and training.

Ai Group undertook research this year on a range of workforce development needs of its members. Respondents included small, medium and large companies from a range of industry sectors.

This research found that in the current environment employers need graduates with degrees. Employers were asked what proportion of full-time jobs require a degree qualification. The highest group of respondents (39 per cent) indicated that up to 10 per cent of full-time jobs require a degree qualification. A further 28 per cent reported that up to 50 per cent of employees require a degree.

These results compared with Ai Group’s previous survey are quite similar, with the top three categories remaining the same. The up to 10 per cent category experienced a slight increase from 35 per cent in 2014.

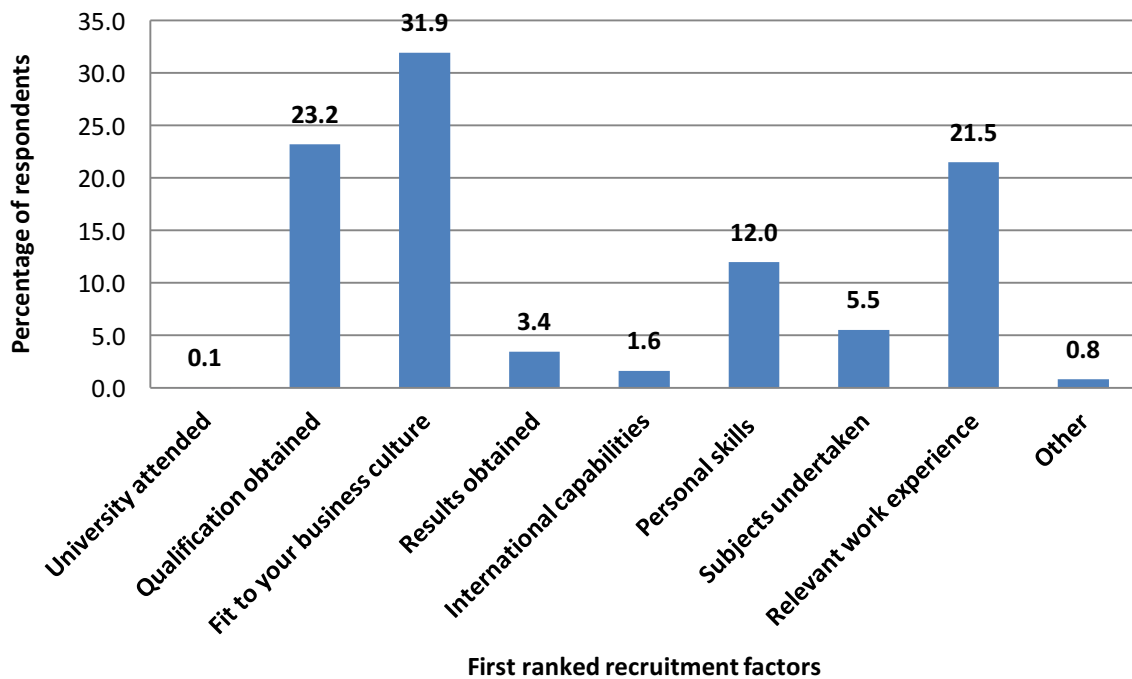
**Chart 5: Proportion of full-time jobs requiring a degree**



**Important factors when recruiting graduates**

Ai Group’s survey sought from businesses the most important factors when employing higher education graduates. Fitting in with business culture was ranked by almost 32 percent of respondents as the most important factor when recruiting higher education graduates. Obtaining a qualification was ranked first by 23 percent of respondents, while 22 per cent ranked relevant work experience first. These results were similar to those reported in Ai Group’s 2014 survey with the same recruitment factors ranked first.

**Chart 6: Recruitment factors for higher education graduates**



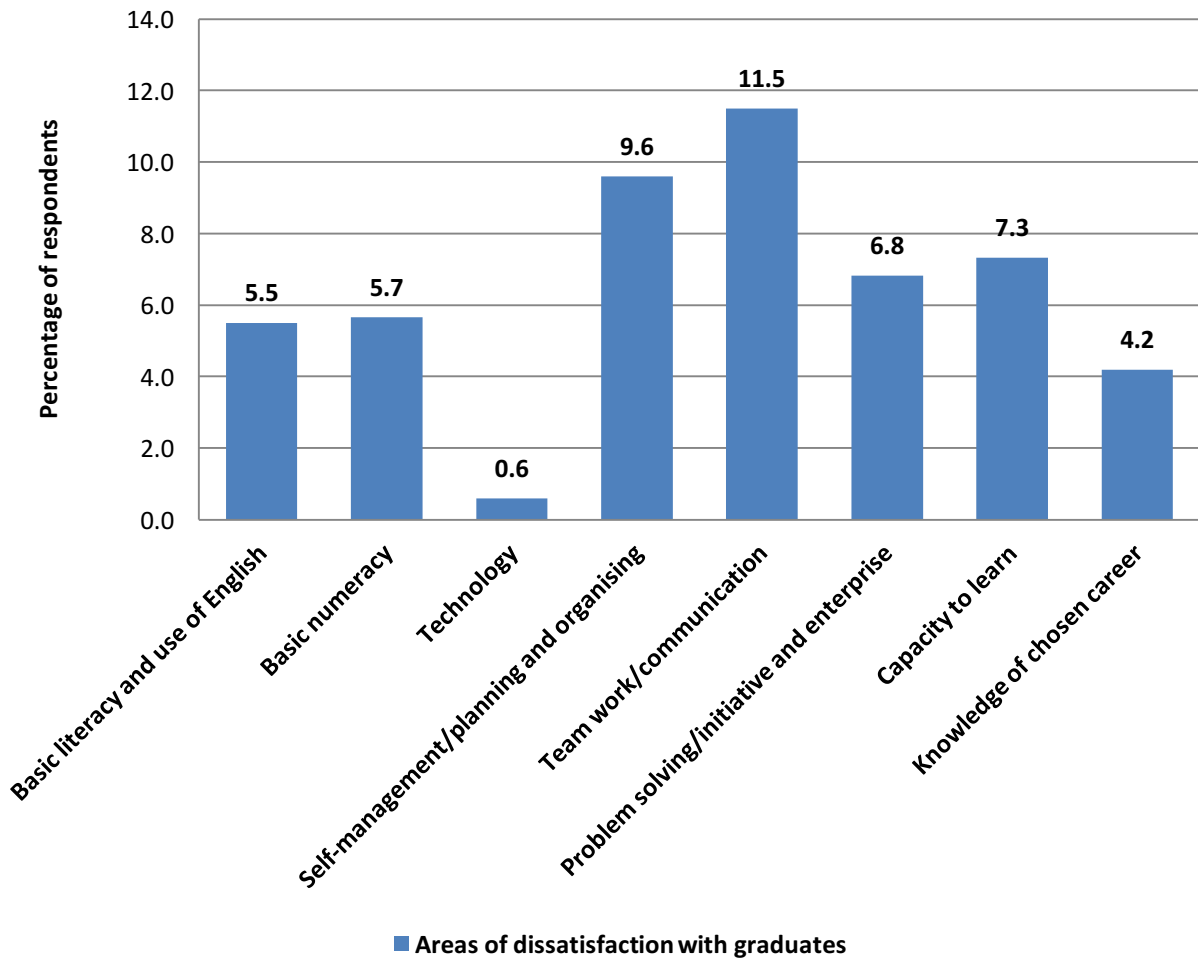


**Satisfaction with graduates**

Employers were asked to provide their levels of satisfaction and dissatisfaction with higher education graduates. In comparison to the results for 2014 there has been an increase in satisfaction by employers across all categories.

In relation to areas of dissatisfaction Teamwork and Communication (11.5 per cent), Self-Management (9.6 per cent) and Capacity to Learn (7.3 per cent) were among the highest ranked areas by employers.

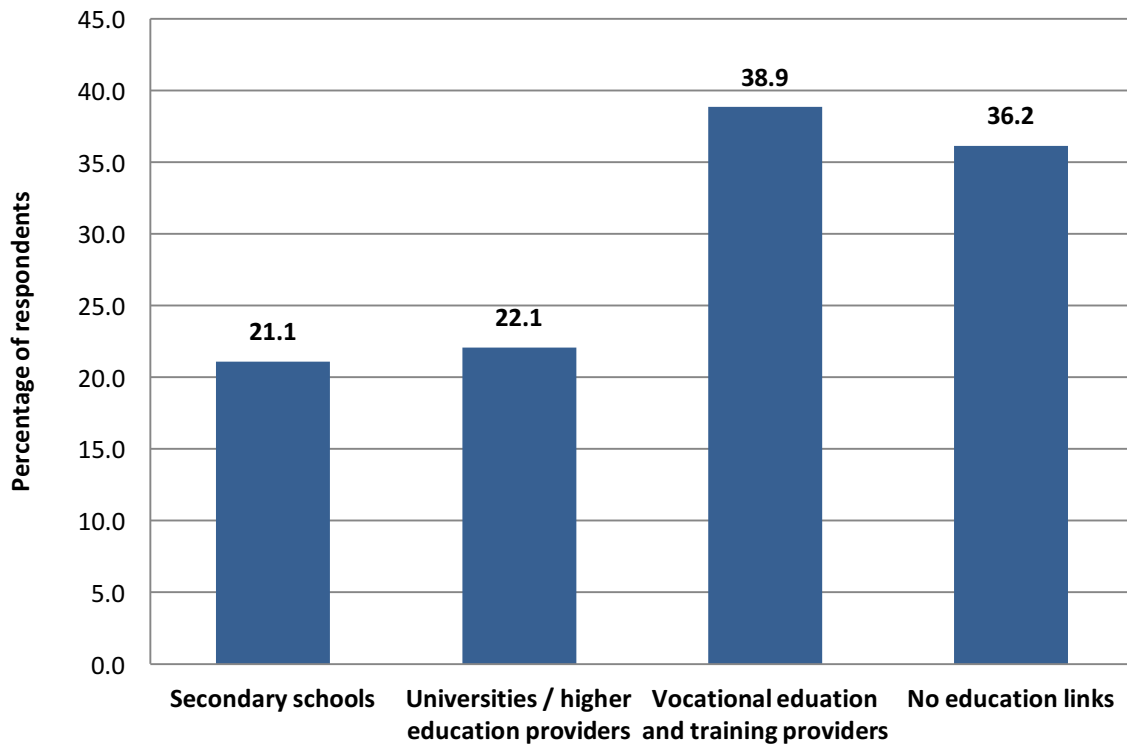
**Chart 7: Areas of dissatisfaction with higher education graduates**



**Relationships with education providers**

Industry – university links are known to be a critical factor in industry competitiveness. Ai Group’s survey found that while 22 per cent of respondents reported they have links with higher education providers, 39 per cent have links with vocational education and training providers. Overall, 36 per cent of the employers responding had no links established at all with education and training providers. When comparing these results with Ai Group’s previous survey in 2014, there has been a decrease in the links developed with higher education providers (down from 26 per cent).

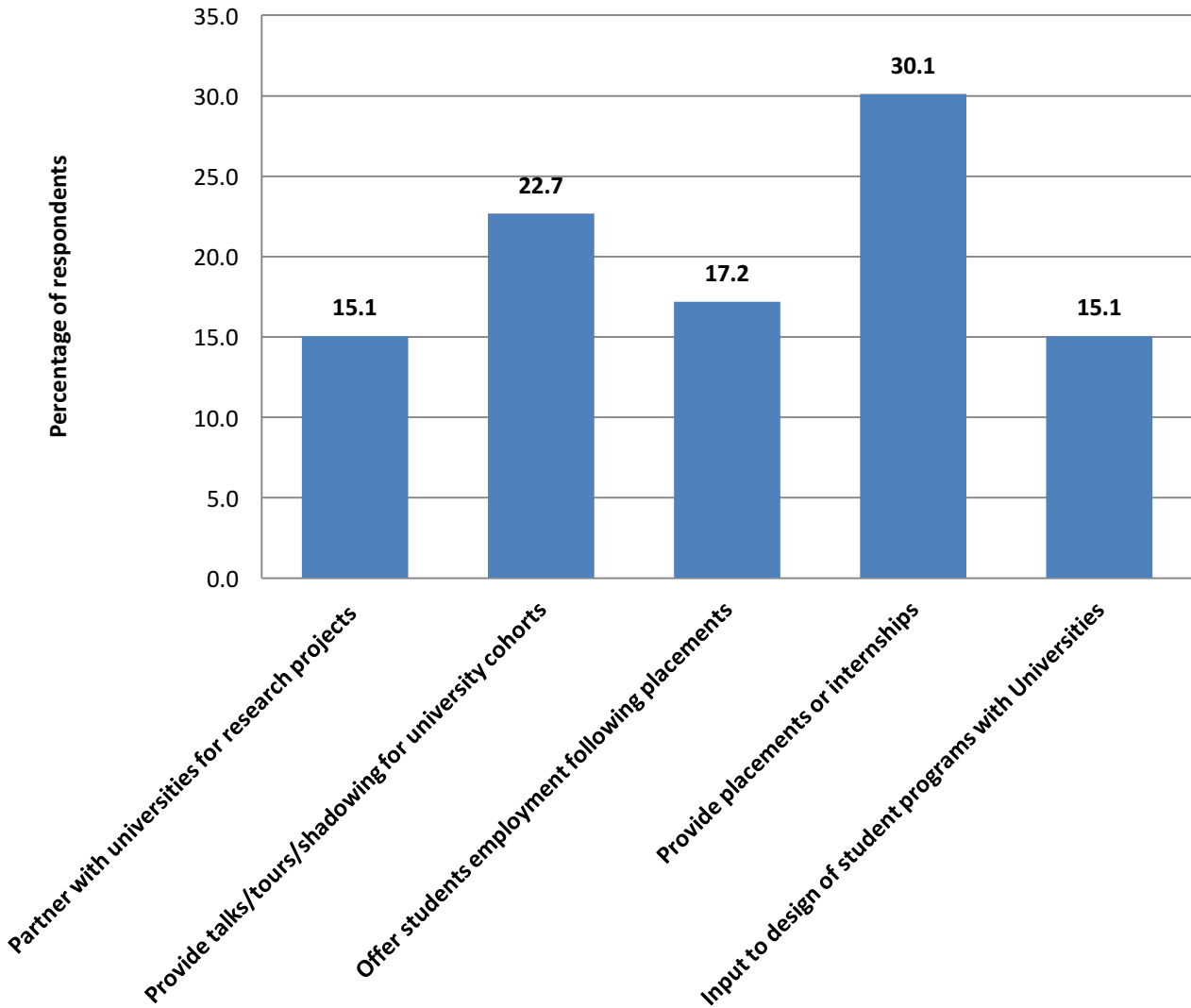
**Chart 8: Links with education providers**



**Links with higher education providers**

A key solution to a lack of work readiness in graduates is to expose students to the workplace and to integrate the experience with their studies. Employers were asked about the types of links they have with higher education providers and reported a range of involvements. Of those employers who identified links with universities 30 per cent of them provide placements or internships for students. Almost 23 per cent provide talks, tours or shadowing for university cohorts and 17 per cent offer students employment at the end of their final year of study. Finally, 15 per cent provide input to the design of student programs and 15 per cent partner for research.

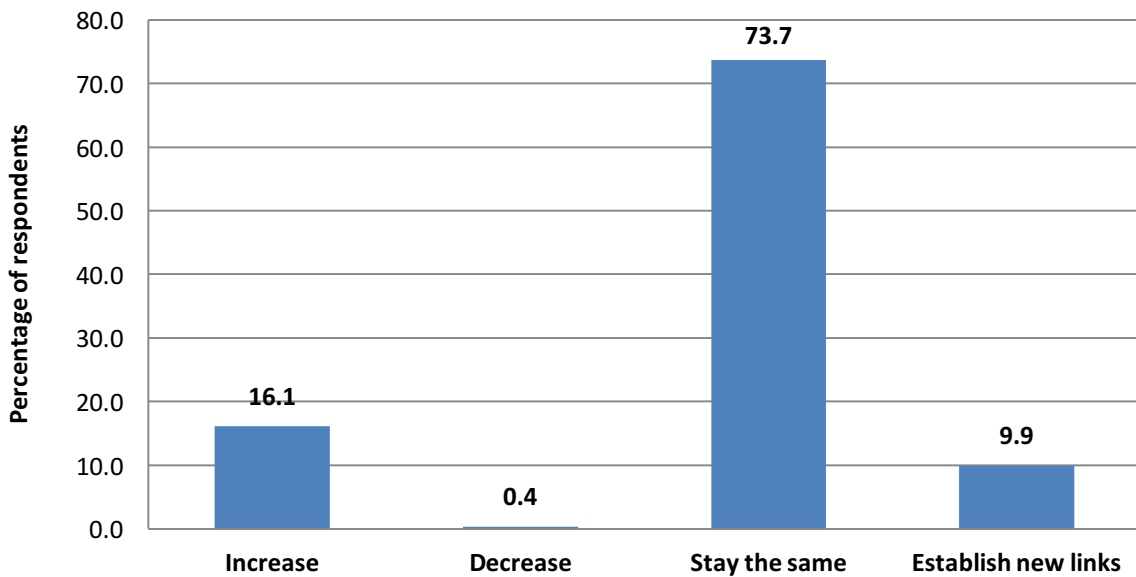
**Chart 9: Nature of links with higher education providers**



**Planned links over the next twelve months**

An increase in business-higher education links is needed to drive competitiveness and innovation in the Australian economy. Whilst the majority of respondents to Ai Group’s survey indicated that they will not be changing their links with higher education providers over the next twelve months (73.7 percent), a total of 26 per cent said that they intend to either increase their current links, or establish new links. This percentage has doubled in the two years since Ai Group’s previous survey.

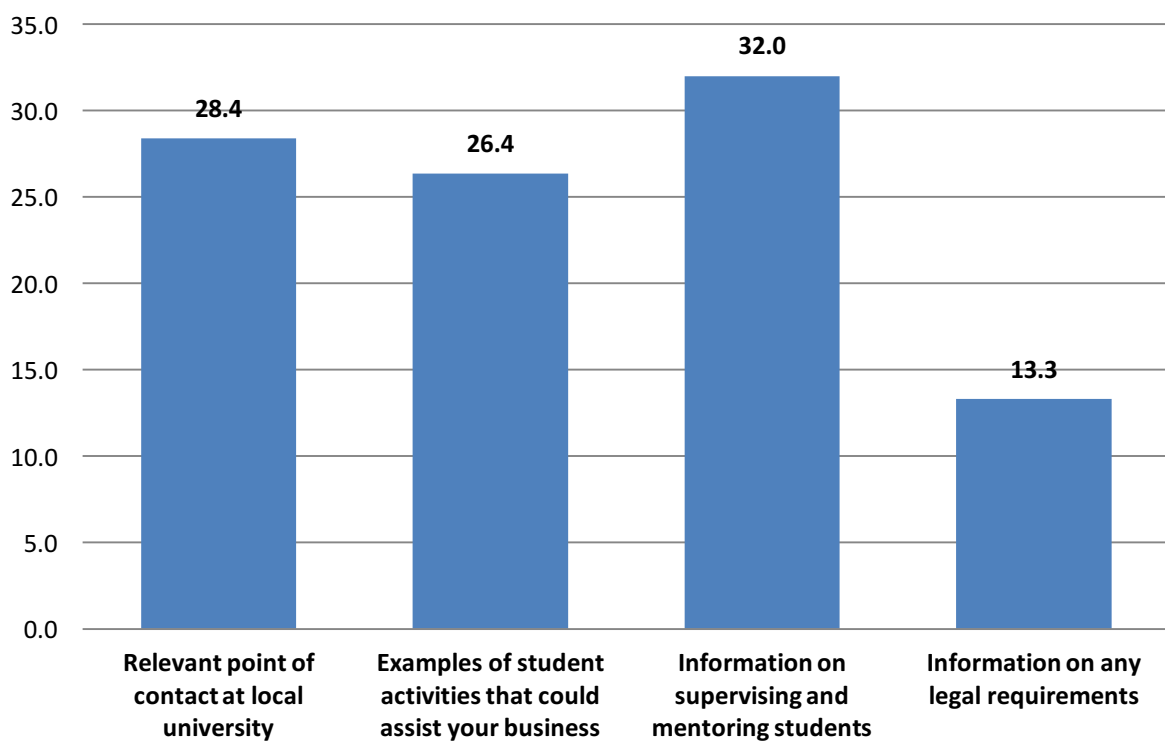
**Chart 10: Plans to change links with higher education providers over the next 12 months**



**Support needed by industry**

Employers were asked the type of support they need to involve university students in their business. Some 32 per cent of the respondents stated they need information on supervising and mentoring students; over 28 percent state that they need a relevant point of contact at a local university and 26 percent need examples of student activities that could assist the business.

**Chart 11: Types of support needed to involve university students in enterprises**



## What needs to be done?

Given the range of issues facing the higher education sector there are a number of measures to be implemented to improve the quality and capacity of the system.

### Industry –Higher Education Partnerships

In order to enable the best outcome for a future competitive Australian workforce, closer collaboration between universities and industry is required at all levels. Ai Group is in close dialogue with Universities Australia, and is partnering a number of initiatives including the National Strategy for Work Integrated Learning which has collaboration at its heart. Ai Group also maintains an ongoing dialogue with relevant higher education stakeholders including Vice Chancellors and Deans Councils. The extent to which Australia is able to adapt and develop, will depend in large part on how well our institutions and business sectors collaborate. Partnerships grow effectively in conducive policy environments, where there are clear and practical strategies.

Policies and strategies that encourage and better enable more employers to develop links with both schools and higher education providers would assist with their priorities to employ graduates that fit the business and that have had work experience. Providing information to employers around the benefits and best practice models, facilitating connections and providing incentives, are all strategies that would build employer involvement.

By establishing strong partnerships between companies, educators and the community the quality and capacity of our education systems can be improved. Whatever policy and funding arrangements are in place, the key is the enabling of these synergistic partnerships to leverage each partner's expertise and strength.

An important illustration of these partnerships is the Innovative Manufacturing Cooperative Research Centre. Ai Group is working to ensure that this initiative remains tightly connected to industry needs, involving high value product development and industry transformation across a wide range of businesses of all sizes. We are also active in connecting businesses to Industry Growth Centres and over eight years we have established links between companies and researchers under the Australian Government's Entrepreneurs Programme and its predecessors.

### Alignment to Industry Needs

A key outcome sought by industry is an adequate supply of quality graduates to the workforce. The economy increasingly requires a knowledge based workforce requiring higher order skills provided through the higher education sector. At the same time the greatest skill shortages in the economy are for trades and technical worker occupations. Qualifications for these occupations are provided through the VET sector. What is needed to satisfy the workforce demands of the economy is a balanced supply of graduates from both sectors.

This balanced supply would be enhanced by providing effective pathways between the VET and higher education sectors. There is a need for those with initial vocational qualifications to acquire

higher-level university qualifications as they advance in the workforce. To date these arrangements have been ad hoc and localised. Universities Australia has reported that in 2008 only 9 per cent of undergraduate students were admitted on the basis of a vocational education award course.<sup>33</sup> The introduction of demand driven funding in higher education provides a new impetus to establishing adequate pathways from vocational education and training to higher education.

### Graduate Employability

Many universities have taken strategic action to address graduate employment figures. Research of the business sector has indicated that capability gaps exist, and that they are often gaps in generic or employability skills. Work Integrated Learning (WIL) is an umbrella term for a range of approaches and strategies that integrate theory with the practice of work within a purposefully designed curriculum<sup>34</sup>. WIL, as a pedagogical approach, is aimed at improving the employability of graduates by giving them authentic experiences that directly relate to courses being studied at university.

The WIL agenda is integrally linked to the STEM skills agenda as these skills are increasingly important for the competitiveness of the Australian economy, and to the Australian workforce. These skills need to be applied by students to enable higher quality graduates.

Work Integrated Learning is widely recognised as a strategy which is happening in many forms at the local level, but which needs national coordination to maximise its effectiveness. Ai Group is a partner to the National Strategy for Work Integrated Learning in Universities along with Australian Chamber of Commerce and Industry, Business Council of Australia, Universities Australia, Australian Collaborative Education Network, The Office of the Chief Scientist and the Department of Education and Training.

Many universities now include WIL as a key strategic priority with some establishing WIL dedicated staff. Many employers and universities practise a range of local work placements and projects to assist graduates to be work ready. Businesses recognise that productivity can be higher sooner if their new recruits understand business environments and cultures, can problem solve, take initiative and work well in teams.

Whilst many models of WIL exist, many of which take an innovative approach, it is clear that these initiatives are relatively underdeveloped in Australia. A report to the Department of Industry by PhillipsKPA on Engaging Employers in Work Integrated Learning<sup>35</sup> (cited in the National Strategy) corroborated earlier information on WIL:

- it is not well recognised
- internships are the most popular form
- larger businesses or those in operation for a longer time are more likely to participate

<sup>33</sup> A smarter Australia: An Agenda for Australian higher education, Universities Australia 2013, page 19.

<sup>34</sup> Patrick, C. Peach, D. & Pocknee, C., THE WIL (Work Integrated Learning) report: A national scoping study, Australian Teaching and Learning Council, 2009

<sup>35</sup> PhillipsKPA, Engaging Employers in Work Integrated Learning: Current State and Future Priorities, Report to Department of Industry, September 2014

- most business rely on universities or students to initiate
- resources and time are major barriers.

Ai Group has developed information to assist companies recognise the mutual benefits and increase their involvements with higher education students who will become more employable graduates in the future. In order to help companies find quality graduates now, graduate employment services have been implemented which focus on screening, recruitment and ongoing mentoring of quality graduates for industry.



