Critical Role of Blue Tech and Digital Skills in Australia's Economic Recovery

Submission to the Australian Government

August 2020

TAFE DIRECTORS AUSTRALIA | CISCO | OPTUS

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This submission from Cisco, Optus and TAFE Directors Australia (TDA) seeks for the Australian Government to work with industry and TAFEs for greater action on the rising requirement for our nation to develop blue tech and digital skills.

This is with a particular focus on important sectors of the economy, particularly those sectors now more vital in our economic recovery as we move into the recovery phase; sectors such as advanced manufacturing for on-shoring, digital healthcare, and clean technology. It also includes those sectors where future job demand will be greatest due to the emergence of blue tech and digital skills, to re-ignite the employment of those recently displaced by strategies to manage COVID-19.

In entrusting this submission to the Australian Government Cisco, Optus and TDA make the following two recommendations:

Recommendation 1

The Australian Government to provide funding to assess the size of the blue tech market (i.e. technology-intensive jobs requiring sub-degree level qualifications) down to the individual job role, so TAFEs can more quickly prepare and respond to the anticipated demand. It will be critical to understand the opportunity this presents for the re-employment of Australians within industries affected by COVID-19.

Recommendation 2

The Australian Government to provide funding for the development and delivery of one or two micro-credentials for digital skills to help in the re-skilling and up-skilling effort as part of a wider productivity drive that will support the recovery of existing industries and the support of new industries as we move into the recovery phase.

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Blue tech jobs (noun): Occupations and skills that are technology-intensive but require a sub-degree qualification.

Context and the nature of the opportunity

Two clear opportunities have emerged over recent times that have been amplified by COVID-19:

1. Industry needs people equipped for a dynamic, digitised world, including with general digital skills that helps businesses to move up the value chain as industries further automate; and
2. As industry accelerates adoption of technology there is a rising tide of 'blue tech' or Digital Trades (technology-intensive jobs requiring sub-degree level qualifications), which are best met through the TAFE education model[1].

The Australian Government is in the unique position globally, through responsible economic management, of having economic fundamentals that remain strong and the financial capacity to respond and recover from COVID-19.

This structurally strong fiscal position, when post-crisis Australia will face a higher debt burden, will allow for a pathway back by growing the economy through productivity-enhancing reforms rather than through a higher taxation burden. This is especially important for the Government to be able to continue to provide health, education and the essential services expected by the Australian people. The largest productivity gains will be realised through:

- Meeting labour market demands by immediately training a `blue tech' workforce that will help make our economy even more knowledge-intensive and globally competitive.
- Rapid re-skilling and transitioning of workers who risk being `stranded' or displaced due to rapid economic restructuring.
- Enhancing the knowledge-based economy that will support domestic demand and present export opportunities as global economies emerge from the global pandemic.
- Ensuring all those who progress through Australia's TAFE system are equipped with basic digital competencies to make them job-ready from day one, thus removing a major on-boarding cost for employers.

Highly-paid and sustainable 'blue tech' jobs will potentially offset other jobs that are being lost due to automation and will be critical as businesses quickly mobilise to recover and return to profitability.

As the Treasurer, the Hon Josh Frydenberg MP, stated at the National Press Club on 5 May 2020[2], for the Australian economy to adapt to the enhanced digital and e-commerce environment as we move into the recovery phase these productivity enhancing reforms, in order to grow the economy, will need to deliver practical solutions to:

- Reskill those who have lost their jobs
- Upskill those in existing jobs
- Equip those entering the workforce for the first time with skills they need to get a job.

If the approach is to mobilise new and old reform proposals to allow Australia to continue to play to its comparative advantages, it is our view the Australian Government needs to work closely with the TAFE sector on enhancing blue tech and digital skills for all parts of the labour market. Investing in training now diminishes downstream costs to governments, employers and students. As noted in *Shifting the Dial:*

'The financial cost of training, the opportunity cost of the time taken and the perceived return on additional education and training for the individual and their employer can all reduce upskilling and retraining, particularly later in life... Traditional methods of acquiring skills and qualifications are costly and time consuming[3].'

In particular, the report noted 'For the university sector…a university bachelor degree taking about 3 to 4 years to complete… the lengthy nature of formal training remains.'

A National Centre for Vocational Education Research (NCVER) 2019 report, *Skilling the Australian workforce for the digital economy*[4] , noted that some employers appear hesitant to introduce technological change. Despite such change in all likelihood improving the productivity of their organisation, employers are concerned about the uniqueness of their workforce and their lack of basic digital skills. Digital skills training and upskilling through TAFE, with its close connection with local employers, is the clear and immediate answer in response to this predicament (see Attachment 1 for a definition of digital literacies).

Digital disruption is fuelling rapid changes to the skills landscape

Prior to COVID-19, Cisco commissioned Oxford Economics[5] to examine the impact of digital disruption on the future of Australian jobs.

The report highlighted that the number of newly created roles and occupations were likely to be significant, but this would be dwarfed by the number of existing roles transformed by digital technologies. As we move into the recovery phase, this transformation is only going to accelerate and create a greater challenge for workers to reskill and businesses to adapt. As the report noted, workers will spend less time and effort on routine, predictable functions and more on those tasks that are less codifiable – or at least less economical to automate at scale – in the parts of the economy that are experiencing growing demand. The result is a reshaping of the workforce across occupations and industries (see Attachment 2).

A failure to prepare adequately to address this amplified digital disruption will constrain the Australian economy in its ability to capitalise on opportunities that new technology can bring and for it to quickly return to long-term trend growth. Part of the challenge is facilitating the multifaceted nature of the skills transition to take advantage of the opportunity technology will bring.

Simply investing in new digital technologies is not the silver bullet in our next industrial revolution – often labelled as Industry 4.0. While a critical component, it fails to address knowledge gaps in the development, deployment, application and management of these platforms. Optus Business refers to this discord as the knowledge economy gap.

In Optus Business's first study, *Enterprise 4.0 – A Blueprint for Success in the Fourth Industrial Revolution*[6], it revealed the most successful businesses in Industry 4.0 will be those that empower employees through greater experimentation and risk taking, have flatter hierarchies fuelled by collaboration and knowledge sharing, and that utilise real-time data capture and analysis.

Today, leaders are aware of the need to up-skill, re-skill, and recruit employees with the required digital capabilities for this new way of work. The World Economic Forum's *Future of Jobs Report 2018*[7] states that 54 per cent of employees will need re-skilling by 2022, with training programs lasting upwards of six months. The most in-demand skills will include 'hard' digital skills and 'soft' skills such as analytical thinking, innovation, active learning, and broad learning strategies.

The Prime Minister, the Hon Scott Morrison MP, in his National Press Club speech on 26 May 2020 committed Australia to remaining an outward-looking, open, and sovereign trading economy[8], in what will remain a competitive global environment. It is paramount Australia maintains an economy in which new technologies can enhance productivity and smooth the path to the further building of sovereign capabilities. In on-shoring, the application of technology will dampen the inefficiencies that resulted in some production functions being moved off-shore. Firms and industry that embrace relevant skills quickly and effectively, especially blue tech and digital skills, will find a competitive edge.

The Treasurer in his May address at the Press Club acknowledged that, as we move into the recovery phase, skills will be an important area for getting people back into the workforce. His dialogue with businesses big and small reveals digital take-up is likely to accelerate in areas such as e-commerce and it will be important young and older workers have the skills to support this transition.

What we saw in digital and artificial intelligence (AI) disruption pre-COVID-19 is going to accelerate as we move into the recovery phase and we need to prepare the workforce now to help navigate through this disruption.

The rapid change in labour market demand also risks social disruption. This means we need to understand the profile, background, and geographic location of the winners and losers from this disruption. Through this understanding, applied learning and skills acquisition measures can be put in place to compensate those bearing the brunt of the change. There are not only economic and social downsides in failing to ensure widespread digital skilling of the workforce, but there is risk this strains democratic ties that bind Australian society.

As the impact of digital disruption varies by industry and occupation, and to a degree location, the community faces either a digital divide or a digital dividend, depending on how Australia responds to this opportunity. The report of Cisco and Garnter[9] noted Australia is well placed to reap the benefits of digitisation but those benefits are not being shared equally and may be placed at risk should Australia fail to build a more digitally inclusive society.

The digital development of some states and territories lags significantly behind others, with the risk some communities that do not match the highest levels of digital readiness will fall further behind. Within large states, or states with more dispersed populations, there is also the risk of an internal digital divide, if regional areas or outer reaches of large metropolitan areas are less digital developed. These risks are compounded by the high rates of unemployment driven by the response to COVID-19.

In a fully digital society all Australians will need to have at least some degree of digital literacy to contribute to economic and to social development and to enjoy the benefits of economic prosperity. This needs to be a key target for governments in their applied knowledge and skills acquisition strategies as we move into the recovery phase.

Critical roles of TAFEs: Re-imagining, preparing, and responding

TAFE qualifications are closely aligned and integrated with employer needs. In seeking practical solutions to enhancing the capability of the workforce, TAFEs are the ideal partner of government for applied knowledge and skills acquisition; even more so when seeking an enhanced blue tech and digital skilled workforce.

As the Treasurer noted, services represent over 70 per cent of Australian economic activity. Productivity-enhancing reforms are needed now for the services sector as much as these are needed in the industrial, agricultural, and mining sectors. In a predominantly service-driven economy workers need applied knowledge and then the skills to be productive. An enhanced blue tech and digital skilled workforce is primarily about applied knowledge and then the complementary skill acquisition; the bailiwick of TAFEs.

There will be many who will make the seamless transition as we move into the recovery phase, especially those who are already digitally literate (and most likely working full-time from home) and those who are digital workers. Small and Medium Enterprises (SMEs) and family businesses quick to adapt to changed consumer demand and delivery channels have already demonstrated the benefits of digital transformation of business models.

But many businesses and workers are at risk of being left behind, including those who were already struggling in an AI world and those impacted significantly by the dislocation caused in containing COVID-19 (see Attachment 3). For the following four cohorts, who are most at risk, TAFEs can support government to ensure more Australians reach the other side of COVID-19 with prospects for a brighter future.

TAFEs are well positioned to:

1. Meet the needs of early school leavers with little to no blue tech and digital skills and are at risk of long-term unemployment and disengagement but are keen to work if they could acquire these underpinning skills.
2. Equip Year 12 completers who may have strong literacy and numeracy skills but lack strong blue tech and digital skills to round out their preparation for work.
3. Re-equip displaced workers and those at risk of displacement to transition to new employment.
4. Meet the needs of those caught by frictional unemployment – that is, people who need to change jobs because of industry disruption but need strong blue tech and digital skills, to supplement other skills, to take up new opportunities.

Despite uncertain times, TAFEs remain the key partner of choice for industries and individual learners wanting to thrive in the digital economy. TAFEs are able to align curriculum, learning tools, pedagogies and credentials to meet industry trends. Close connections with local businesses also provide a feedback loop that helps contextualise courses to local needs.

As the Cisco-Oxford Economics report noted, if a digital competitive edge for Australian firms and industries is to occur, Australia's education and training institutions will play a critical role to ensure skilled workers are in place to fill emerging skills gaps as quickly as possible. Cutting-edge training solutions, such as remote or connected learning and augmented reality, will complement traditional approaches to enable organisations to get the most out of new technological capabilities. Educators, in embracing technology solutions to deliver training, will need to work in unison with employers to deliver relevant skills where these are most needed.

One of the positives of the COVID-19 experience is the rapid and comprehensive manner in which the TAFEs have embraced technology to deliver smarter, more technology-driven applied knowledge and skill acquisition and how the network of TAFEs have done this in close collaboration with their students and employer partners[10].

Support required from Government

There are two major gaps in terms of Australia's vocational education and training sector's capacity to meet the skills needs of Australian VET students to support industry and the economy.

These are:

- A detailed understanding of the scope and scale of the demand for blue tech skills by Australian industry; and
- The mechanisms to quickly provide access to critical digital skills in demand that are not necessarily taught or addressed through formal vehicles like training packages.

GAP 1: Calculating the size of the rising tide of 'blue tech' or digital trades

The Australian Industry Skills Committee[11] (AISC) each year produces *The National Skills Overview*. The report provides analysis of industry skills needs and the factors and trends affecting the demand for skills at a national and cross-industry level. The overview draws on Industry Reference Committee (IRC) Skills Forecasts and Proposed Schedules of Work and supports the design and development of training packages that meet the current and future skills needs of industry. The AISC's *2019/20 National Overview* has a strong focus on the demand for digital skills and digital literacy[12].

The AISC noted in its report:

'In a world of rapid technological expansion affecting all industries, it is vital to have a workforce that is agile, with the skills to drive and adapt to new technologies. Digital skills include coding and programming, development and use of robotic and automation technologies, leveraging ICT skills in business, and exploring the world of cloud computing and the "Internet of Things".'

In 2019-20 the vast majority of IRC Skills Forecasts identified technology as an issue affecting their industry sectors. Technology-related trends were raised more often than any other in the IRC Skills Forecasts.

These trends included:

- Emerging technologies
- Digitisation and the Internet of Things, mobility, and connectivity
- Big data and data analytics
- Artificial Intelligence (AI) and machine learning
- Automation and robotics (including drones)
- More technologically advanced materials and products
- Augmented Reality and virtual reality

As an example, the Manufacturing and Engineering IRC's 2019 Skills Forecast noted:

'Increasingly, employers are describing robotics and automation as imperatives for their businesses. Due to the likelihood that most manual processes will eventually be automated, employers are looking for laboratory services technicians, who are comfortable and practised in their use of automation. These workers will require higher skill levels to maximise the use of new technology.'

Across the AISC's 2019/20 National Overview, 21 industries identified more than one technology factor that currently impacts on their industry.

Pre-COVID-19, Deloitte Access Economics (DAE) prepared Australian Computer Society's (ACS) report *Digital Pulse 2019*[13], which provides a snapshot of Australia's digital economy workforce. DAE forecasts demand for technology workers will increase by 100,000 between 2018 and 2024, representing an average annual growth rate of 2.3 per cent.

In addition to the core technology workforce there is a broader group of Australian workers who rely on technology skills to perform their work and therefore require digital capabilities. The demand for this broader group of workers is forecast to increase by around 303,000 between 2018 and 2024 in trend terms, representing an average annual growth rate of 1.8 per cent.

To respond to the digital challenge outlined by the Treasurer, investment is needed to deliver the applied knowledge and skills required in the economy at the job and employer level.

It would be valuable to form a picture at the national level as we move into the recovery phase of blue tech and digital knowledge and skill requirements.

The analysis would:

- Identify the vocational education programs currently in place and whether these need to be amplified and, if so, how.
- Identify gaps in blue tech responses and propose responses to capitalise on digital transformation across the economy.
- Build off the long history in trades training of collaboration between TAFEs, industry and employers to explore structured training pathways for blue tech jobs.

This submission seeks Australian Government funding to assess the size of the blue tech market (i.e. technology-intensive jobs requiring sub-degree level qualifications) down to the individual job role so TAFEs can more quickly prepare and respond to the anticipated demand. It will be critical to understand the opportunity this presents for the re-employment of individuals within industries recently affected by COVID-19.

GAP 2: High demand skills are not being fulfilled through current mechanisms

As the Prime Minister stated in his National Press Club speech on 26 May 2020:

> At a federal level, we are focusing on three key issues[14].
>
> Firstly, the complexity of a system that is clunky and unresponsive to skills demands. Ask any business, they will tell you that...Currently, the average timeframe to develop or update training products is 18 months, with a third taking over two years to update... compounded by a lack of visibility over the quality of training providers and the employment outcomes for those courses.

The Prime Minister said there was a lack of information about what future skills were needed and added the funding system was '…marred by inconsistencies and incoherence, with little accountability back to any results'.

Given the AISC's acknowledgement of rapid technological expansion impacting all industries, it is vital Australia has a workforce that is agile and has the digital skills to drive and adapt to new technologies.

Through the AISC, industry has voiced the demand for these new capabilities in the workforce. This is not an issue fixed by just further prescribing of competencies through training packages but needs course design and content so the task can commence as soon as possible.

It will be valuable at the federal level that government work with industry and TAFEs to make the acquisition of blue tech and digital applied knowledge and skills an urgent priority.

In the context of the upheaval caused by COVID-19 this is an urgent priority, especially for:

- Reskilling those who have lost their jobs.
- Upskilling those in existing jobs who may need to transition to new jobs and in a different industry.
- Equipping those entering the workforce for the first time with skills they need to get a job.

In doing so, it is worth noting the Prime Minister at the National Press Club stated, 'Three pilots have been established - in human services, digital technologies and mining - and they have already begun to show the benefits of this system.' In responding to COVID-19 the Prime Minister noted 'the human services pilot was actually used to lead development of a national skill set… and this work was delivered much faster than under the old arrangements that were progressed under the previous VET schemes.'

Over the longer term a digital strategy could be developed to guide the whole sector similar to the ten-year plan *National Foundation Skills Strategy for Adults*[15] and form part of the National Skills Commission's work. As we move into the recovery phase the economy cannot wait for the extensive consultation and industry-state-federal agreement required for such a plan to be agreed.

It is our view the same urgent response to the various calls for action is now needed. This includes national industry bodies represented through the AISC and IRCs, and through reports such as *Shifting the Dial and Digital Pulse 2019*, by the work of NCVER, and the work of Cisco and Garnter and of Cisco and Oxford Economic. All of these stakeholders, in one form or another, have expressed urgency on the need for action on blue tech, or digital trades and, more generally, on digital skills for all.

This submission seeks the Australian Government to provide funding to develop and deliver one or two micro-credentials for digital skills to help in the re-skilling and up-skilling effort as part of a wider productivity drive that will support the recovery of existing industries and the support of new industries.

Conclusion

Greater action is sought to develop blue tech and digital skills with a particular focus on sectors vital in our economic recovery.

This includes the sectors where future job demand will be greatest due to the emergence of blue tech and digital skills that will assist to re-ignite employment for those recently affected and displaced by strategies to manage COVID-19.

In developing and implementing responses to the Treasurer's call for the Australian economy to adapt to the enhanced blue tech and digital environment, it will be valuable if the Australian Government worked with TAFEs and their industry partners to determine the level of blue tech and digital knowledge and skill acquisition needed by industry.

The priority is to develop courses that align with known industry demand in the area of digital skills rather than wait for updates to training products. It will be valuable if the Australian Government work with industry and TAFEs to make the acquisition of blue tech and digital applied knowledge and skills an urgent priority.

We make two recommendations: one for the Australian Government to provide funding to assess the size of the blue tech market and the other to provide funding to develop and deliver courses for one or two micro-credentials for digital skills to help in the re-skilling and up-skilling effort.

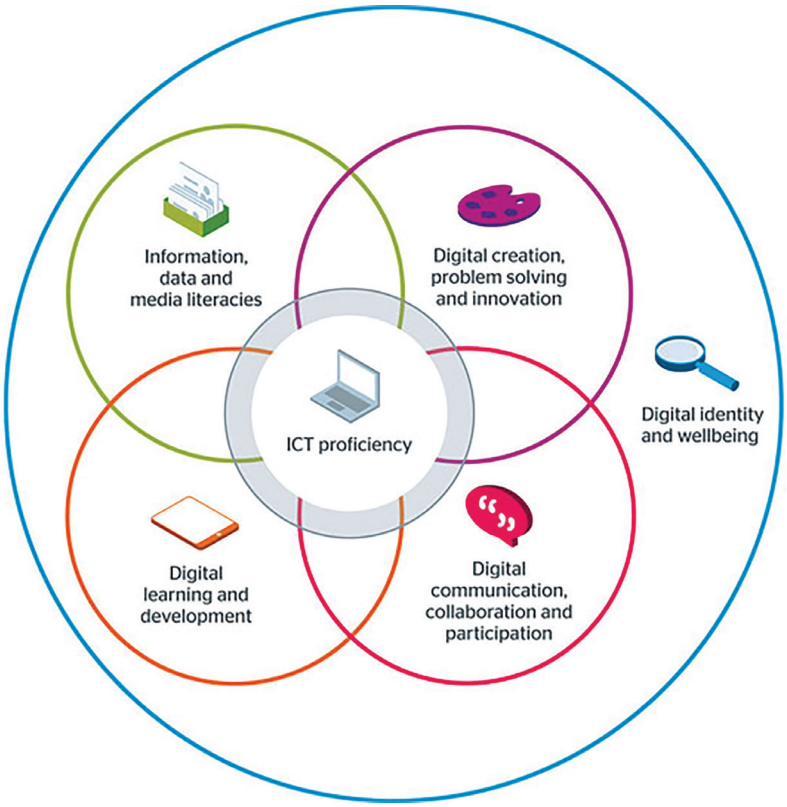
Background on nature and importance of digital skills

The Joint Information Systems Committee[16] (JISC) is the United Kingdom's higher and further education and skills sectors' not-for-profit organisation for digital services and solutions.

The JISC defines digital literacies as the capabilities that fit someone for living, learning, and working in a digital society. To help with thinking about this, the JISC outlined six elements for consideration[17], as shown in Diagram 1. This means a set of practical skills to develop and apply to diverse and changing technology.

The JISC notes, while employability is an obvious driver, developing learners who can learn and thrive in a digital society is a key role of educators. This should be a key knowledge driver, along with the key employability skills of the digital worker.

Diagram 1: Digital Literacies Capabilities



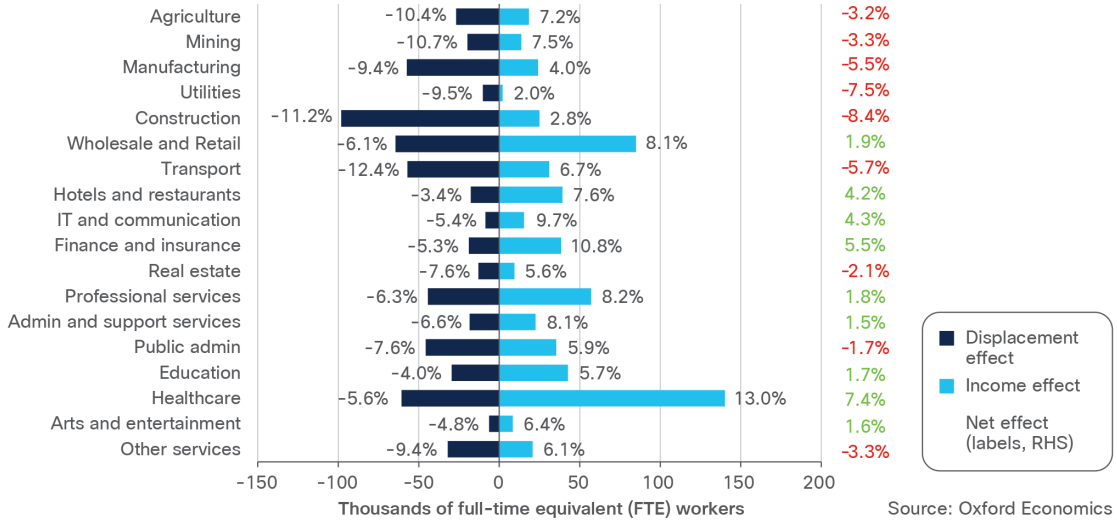
This digital future is being imagined right now across the network of TAFEs, for example:

- Immersive technologies at TAFE NSW https://www.tafensw.edu.au/enterprise/for-industry/digital-lab
- Augmented reality welding simulators at TAFE Queensland https://tafeqld.edu.au/news-events/news-blogs/2020/rheinmetall-defence-partnership.html
- Transitioning to automation by South Metropolitan TAFE WA with Rio Tinto https://www.southmetrotafe.wa.edu.au/testimonial/automation-careers-are-jobs-future

Digital disruption of specific occupations and industries

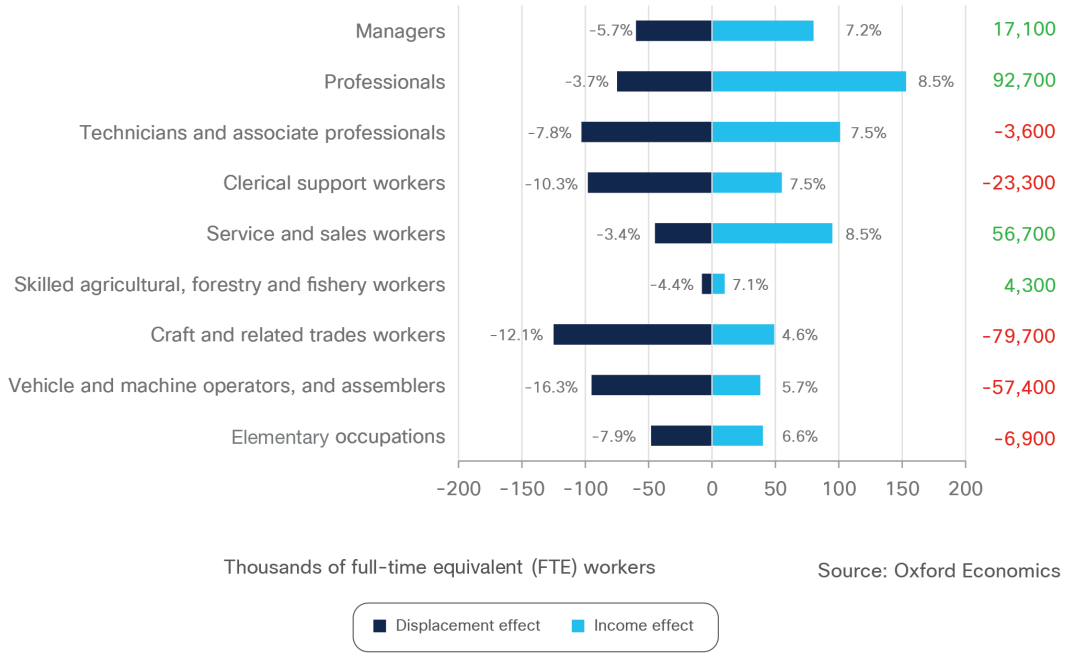
Prior to COVID-19, there was already strong evidence of what the impact will be of artificial intelligence (AI) on industry and occupations across every sector of the economy[18].

Figure 2: Net effect of technology scenario on jobs, by industry (number of workers and share of workforce, 2018-2028).



Source: Oxford Economics

Figure 3: Net effect of technology scenario on jobs, by occupation group (number of workers and share of workforce, 2018-2028)



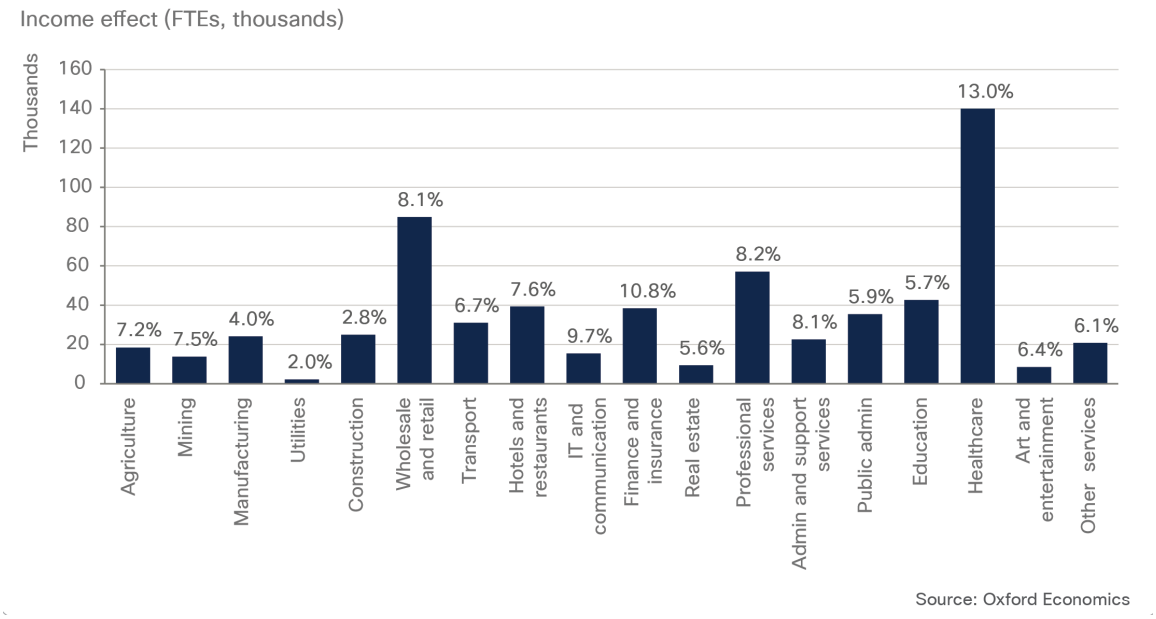
Source: Oxford Economics

As can be seen, every industry and every occupation group was expected to have some displacement effect from the impact of AI and automation.

For some industries, these changes were coming on the back of industry restructuring from globalised logistic chains for goods and service and, in some instances, lack of comparative advantage for those industries on-shore in a globalised world.

In Figure 4 below, Oxford Economics analysis indicates the main growth sectors for jobs over the next decade will be healthcare, wholesale and retail, and professional services. Across these three sectors, 280,000 new jobs will be created due to new technology's income effect, 45 per cent of the gross job creation over the next ten years. Australia's ageing population is a key driver of the growing demand for healthcare services, with the population aged 65-and-above predicted to grow by 34 per cent over the coming decade compared to 14 per cent for the entire population. When the income effect is considered in relative terms, other sectors such as finance and insurance and IT and communication also rise to prominence.

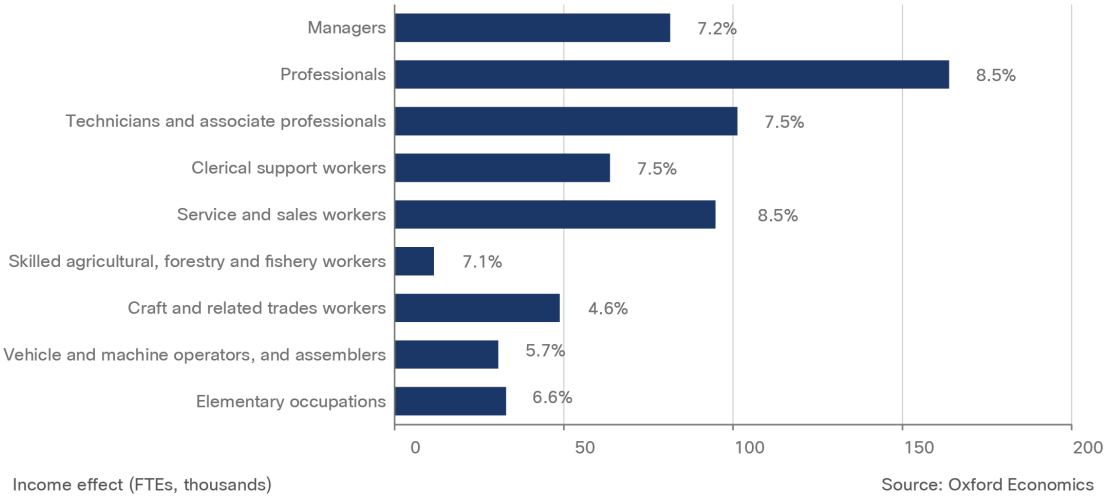
Figure 4: Gross impact of income effect on jobs, by industry (Number of workers and share of workforce, 2018-2028)



Source: Oxford Economics

Figure 5, below, shows the Oxford Economics analysis of the impact of technology's income effect on different occupations depends on the types of goods and services that people demand. Rising levels of spending on healthcare and professional services in the next ten years will result in a marked increase in demand for professional occupations. This includes accountants, lawyers and marketing professionals with an expected similar relative increase in demand for service and sales workers despite the levels of automation taking place among this broad occupation type. As the economy grows people will spend much of their extra money within the wholesale and retail sector, which contains many of these jobs.

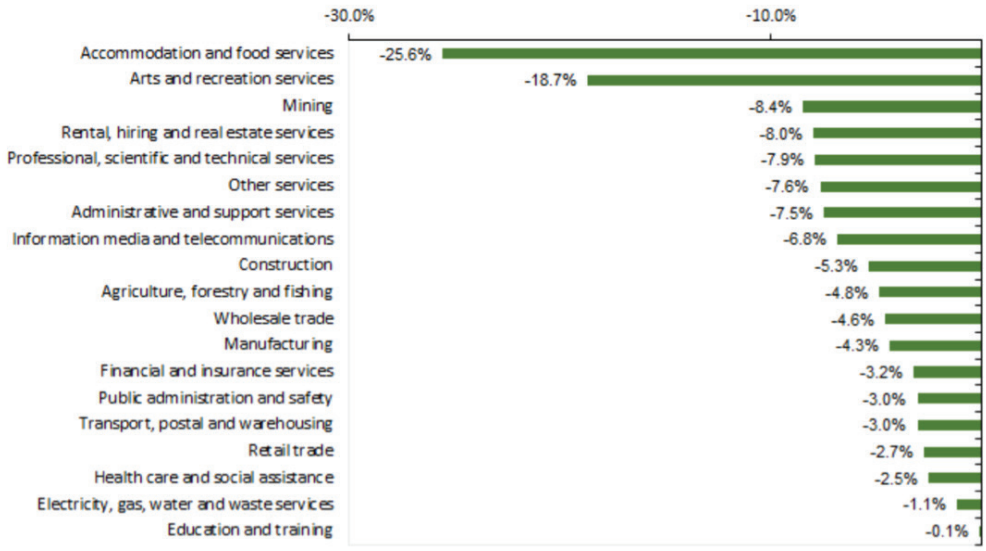
Figure 5: Gross impact of income effect on jobs, by occupation group (number of workers and share of workforce, 2018-2028)



Industries impacted by strategies to contain COVID-19

On 21 April 2020, the Australian Bureau of Statistics (ABS) released new statistics on jobs and wages based on Single Touch Payroll data from the Australian Taxation Office[19]. The ABS noted the largest impact of net job losses, in percentage terms, was for people aged under 20, for whom jobs decreased by 9.9 per cent. This is not surprising given the industry sector changes as set out in Figure 6. This is in the context of youth unemployment at the end of 2019 at about 12.4 per cent.

Figure 6: Changes in jobs between 14 March and 4 April, by industry



In more normal times, ABS data shows there are around four to five million movements into, and out of, employment every year[20]. This frictional unemployment, which exists in any healthy economy due to people being in the process of moving from one job to another, may result from, for example, quitting a job, a voluntary form of frictional unemployment; termination, an involuntary form; seasonal employment; or term employment, a job ends that was only temporary in the first place (often casualised work).

Frictional unemployment is healthy for an economy as it allows for more efficient allocation of labour inputs in the economy. For frictional employment to function there needs to be job opportunities and the confidence of the worker that they have the skills to regain employment.

Some key challenges for the Australian labour market on the other side of COVID-19 highlights why the Australian Government, TAFEs and industry need to work together.

- Pre-COVID-19 digital disruption will continue. This will more than likely be amplified by the changed profile of consumption and by the changed mode of distribution, to be more digital with a great e-commerce focus, for the consumer but also the producer, and by the willingness of market forces to reshape firms and industries that are seen as weak or vulnerable, including by forces external to Australia.
- Pre-COVID-19, several industries were already facing projected declines in employment, with some of these industries having a strong regional focus. For most of these industries the effect of AI and automation is already playing out.
- A more nationalistic focus on bringing back on-shore essential industries, especially manufacturing, brings with it risks of inefficient industries without counterbalancing investment that focuses on the quality of production and the productivity of production, both in capital infrastructure (AI and automation) and in human digital capital.

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4 https://www.ncver.edu.au/__data/assets/pdf_file/0026/5744123/Skilling-the-Australian-workforce-for-the-digital-economy.pdf

5 https://www.cisco.com/c/dam/m/en_au/cda/cisco-future-of-australian-jobs-report2019.pdf

6 https://www.optus.com.au/content/dam/optus/documents/enterprise/pdf/optus-business-enterprise-40-report.pdf

7 https://www.weforum.org/reports/the-future-of-jobs-report-2018

8 https://www.pm.gov.au/media/address-national-press-club-260520

9 https://www.cisco.com/c/dam/m/en_au/digital-readiness/pdfs/digital-readiness-report.pdf

10 Demonstrations of this are evident in the cases studies at https://tda.edu.au/tafe-responding-to-covid-19/

11 https://www.aisc.net.au/ The AISC is a Council of Australian Governments (COAG) Industry and Skills Council formed body with a formal role to approve training packages for implementation.

12 https://nationalindustryinsights.aisc.net.au/sites/default/files/AISC_NIIR_National%20Overview%20Report_2020.pdf

13 https://www.acs.org.au/insightsandpublications/reports-publications/digital-pulse-2019.html

14 The three key issues stated are the complexity of the VET system; industry defining the qualifications; and Commonwealth funding of the VET system.

15 https://docs.employment.gov.au/documents/national-foundation-skills-strategy-adults

16 https://www.jisc.ac.uk/. Accessed JISC members consist of representative members, including Universities UK, GuildHE and Association of Colleges, and institutional members open to every UK higher education and further education institution.

17 https://www.jisc.ac.uk/guides/developing-students-digital-literacy accessed 8 April 2020, 1720 AEST.

18 https://www.cisco.com/c/dam/m/en_au/cda/cisco-future-of-australian-jobs-report2019.pdf

19 https://www.abs.gov.au/ausstats/abs%40.nsf/mediareleasesbyCatalogue/400084FDCC1353C9CA2585500026370F?OpenDocument (Accessed 29 April 2020)

20 Department of Employment, Skills, Small and Family Business calculation from ABS, Labour Force, Australia (Cat. No. 6202.0), 12 months of original estimates