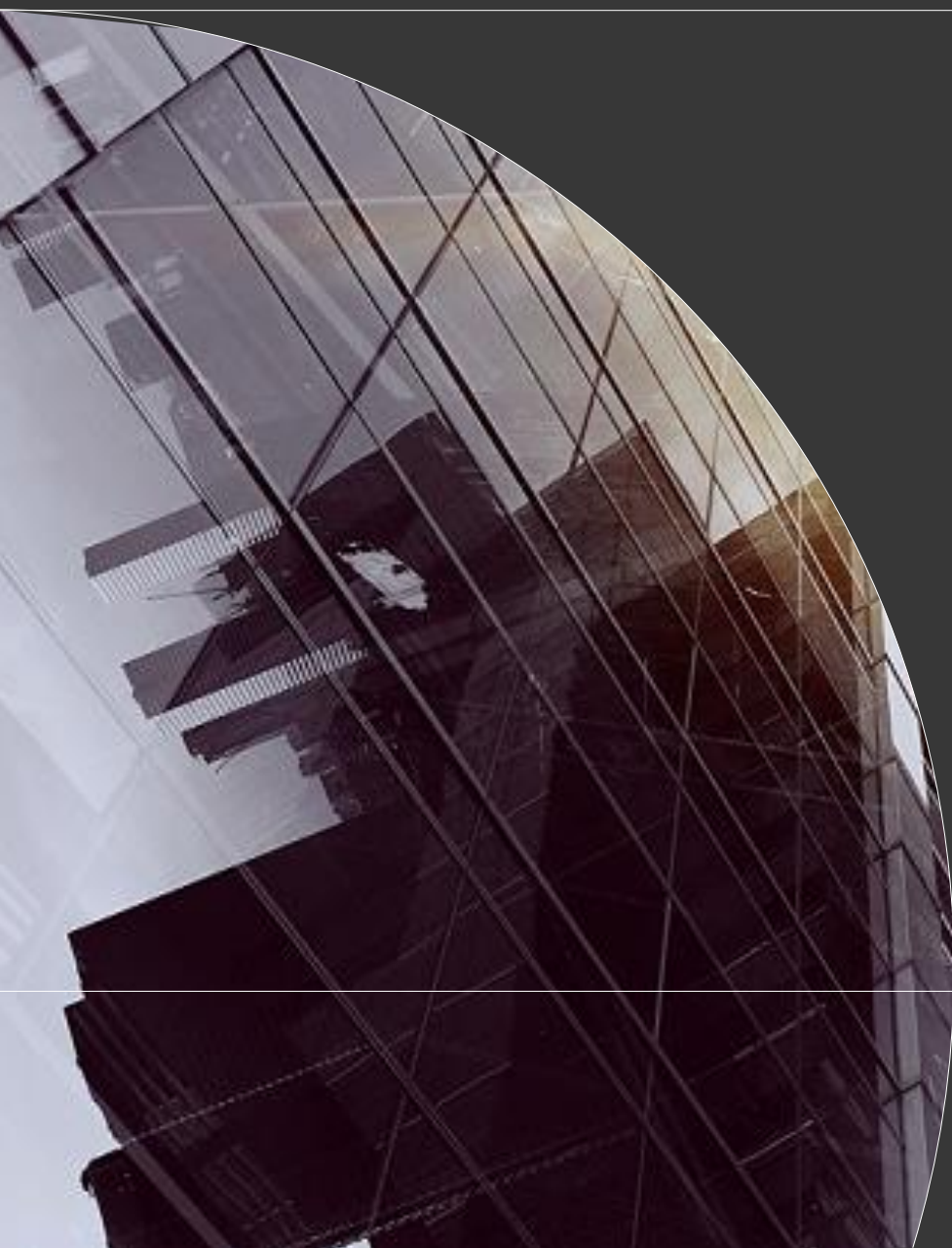


# Jobs and Skills Summit

Maximising opportunities in the  
industries of the future

August 2022



BCA

Business Council of Australia

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# 1. Overview – a reset on industry policy

## The problem

- Australia is too reliant on a small number of sectors. This includes in carbon intensive industries, which will be impacted as the world moves to net zero emissions or will face structural decline as demand slows.
  - A transition is required to shift those sectors to new decarbonised industries and energy production and an economy which is technology driven. But we are bogged in debates about ‘picking winners’.
- Most new jobs will be in health care and social assistance: areas among the hardest in which to grow productivity.
- Without enough digital workers in place, we run the risk of losing out on new industries and the ability to modernise and create new jobs in existing businesses.

## The reset we need

- Resetting industry policy in Australia starts by asking ourselves:
  - What are we already good at?
  - What can we be good at?
  - What must we be good at?
- Having an outward looking orientation, rather than focusing on how industry and industry policy serves domestic markets, is the key to success. We must acknowledge that being globally competitive is the only way to secure high paying jobs in Australia.
- Driving the creation of high wage, high productivity jobs and a more diverse economy, requires industry policy to be stable and focus on:
  - getting the macroeconomic settings right to drive productivity
  - having an investment mindset, not a focus on grants
  - coordination and facilitation to get the necessary scale and focus
  - starting with a focus on frontier industries and capabilities, not individual businesses
  - competitive advantage and where capabilities extend between industries
  - enabling a collaborative approach between industry, researchers, and government
  - driving innovation and the use of new technologies, and
  - building up sovereign capabilities.
- Supporting or subsidising sovereign manufacturing or services – rather than focusing on trying to subsidise uncompetitive industries – should be confined to:
  - reducing any overreliance on a single supply chain or market
  - improving our security where we can’t do without them, or
  - the foundational areas where a capability is needed for success.

## The guiding principles

- Australia must have world leading macro-economic settings to become a frontier economy.
- Government should focus on coordination and facilitation, not subsidisation.
- Policy settings should drive investment and innovation.
- Industry policy must focus on both advanced manufacturing and the service sector, recognising that the services sector is diverse – from care workers and data scientists to education, tourism and retail.
- Australia should have a strategic approach to diversifying our economy and innovation to close the technology gap inhibiting emission reductions in hard-to-abate sectors.

- The skills, migration, and academic systems should support the creation of the skills density needed to sustain priority industries.

## The actions

Getting Australia into position as a frontier economy will not be solved by a single program, fund, or budget measure. But there are some critical first steps that could be driven through the Summit. These include:

- The National Reconstruction Fund including as one part of its investment mandate a focus on a small number of internationally significant precincts.
  - Other government investments and interventions – such as infrastructure projects – should be prioritised based on how they enable these precincts.
- Appoint a National Future Industries Council, reporting to National Cabinet (or similar body), to provide expert advice on the steps needed to become a frontier economy.
  - As a first priority, the Council should advise on the steps needed to prepare Australia's industrial base for a clean energy future, including the actions needed to become a clean energy exporting superpower.
  - The Council should also be asked to review whether the existing mechanisms to incentivise R&D could be better designed to drive collaboration.
- Develop a strategy to build up the new and repurposed infrastructure for the transition to a clean energy future before we attempt to move away completely from incumbent systems.
- To increase the productivity of government-funded services and the care economy, National Cabinet undertake a work program focused on how the care sector can be enabled to use new technologies.
  - This means embracing new tools, such as looking at how care workers can use new technologies to do less paperwork and focus more on patients.

## 2. Key facts

- In 2020, Australia's top export, iron ore, accounted for one-third of goods exports. The top five goods accounted for nearly three quarters of our exports. Iron ore, coal and natural gas exports alone were worth \$314 billion or 53 per cent of exports in 2021-22.
- Services accounted for less than 10 per cent of exports, despite generating more than three quarters of Australia's economic output and employing eight in 10 people in a wide range of jobs. Services are the fastest growing component of international trade.<sup>1</sup> Primary production accounted for 2 per cent of economic output, mining 11 per cent, and manufacturing 6 per cent.<sup>2</sup>
- The two occupations projected to have the largest increases in employment ('aged and disabled carers' and 'registered nurses') are in the care economy.<sup>3</sup> The health care and social assistance sector grew by nearly 120 per cent in the 20 years leading to 2020.<sup>4</sup>
- The government has set a goal of 1.2 million tech jobs by 2030. This will require creating an additional 340,000 tech-related jobs. In the 20-year period before February 2020, employment in STEM occupations grew by 85 per cent (more than double the rate in non-STEM fields).<sup>5</sup> But we are still lagging other comparable countries in demand for tech workers on key metrics.<sup>6</sup>
- There has also been a change in the nature of manufacturing work in Australia, with a recent focus on adding more value in pre-and post-manufacturing activity, such as research and development.<sup>7</sup> The areas of strongest manufacturing growth are in areas associated with advanced manufacturing and design.<sup>8</sup>
- We are a net importer of new ideas: Australia has one tenth of 1 per cent of global patent applications.<sup>9</sup>
- More than 175 innovation precincts are active or in development in Australia, ranging considerably in their breadth, depth, and size.

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<sup>1</sup> McLachlan, Rosalie et al 2020, *Australia's Service Sector: a Study in Diversity*.

<sup>2</sup> Productivity Commission 2022, *Trade and Assistance Review 2020-21*

<sup>3</sup> National Skills Commission 2021, *The state of Australia's skills 2021: now and into the future*, p110

<sup>4</sup> National Skills Commission 2021, *The state of Australia's skills 2021: now and into the future*, p32

<sup>5</sup> National Skills Commission 2021, *The state of Australia's skills 2021: now and into the future*, p4

<sup>6</sup> National Skills Commission 2021, *Digital skills in the Australian and International economies*, p23

<sup>7</sup> National Skills Commission 2021, *The state of Australia's skills 2021: now and into the future*, p36

<sup>8</sup> National Skills Commission 2021, *The state of Australia's skills 2021: now and into the future*, p121

<sup>9</sup> Data available at WIPO Patent Report: Statistics on Worldwide Patent Activity <https://data.worldbank.org/indicator/IP.PAT.RESD>

### 3. Key issues

The Treasurer has indicated one focus of the Jobs and Skills Summit will be:

Maximising jobs and opportunities from renewable energy, tackling climate change, the digital economy, the care economy and a Future Made in Australia

For Australians to have higher wages and better conditions at work, the nation must get to work building a stronger, more productive economy.

We know there are big changes on the horizon which will create new pressures for Australia's economy and society. These include:

- an ageing population, mitigated only through skilled migration
- digitisation and new technologies
- a decarbonising economy, and
- changing geopolitics and a rising Asian middle class.

Yet we are also looking at a decade of slow wages growth. To address this, we need to reshape the economy into a high wage, high productivity one.

We need to strengthen our competitiveness by having the most talented people to meet future challenges, but also by leading the development and application of world-class technologies.

To have a future made in Australia, Australian workers must make the goods and provide the services that are needed globally. We must be honest and acknowledge that Australia's domestic market is not big enough to grow the future industries that will secure prosperity for future generations: we need to look at how we can export to the market opportunities that are at our doorstep.

Only by doing this can we get the scale we need to grow the industries that will provide high-paying, secure jobs for Australians. We must look at where we can be competitive in global markets. We must make the differentiated, high value goods that are critical for global supply chains.

Australia has prospered from using its strong natural resources to develop economic opportunities in carbon intensive industries and agriculture. But this reliance on these resources has led to a concentration of economic activity in these sectors.

These sectors have delivered Australia prosperity in past decades. They will continue to be part of supporting Australia's prosperity. Going forward, we can also seize the opportunity to use these sectors as a foundation as we redefine Australia as a frontier nation. This means being at the cutting edge of driving new means of wealth and value creation, adopting innovation and new technologies, and growing new industries and skills.

## 4. Priorities

The Summit needs to deliver a vision of what a modern and diversified Australian economy looks like, and the steps that will be taken to get there. This will lay the groundwork for delivering more productive, higher paying, and more secure jobs.

Rebalancing the economy will mean getting the macroeconomic settings right for Australia to create new jobs in sectors where we can play to our strengths. If we fail to do this, Australia will continue to fall behind our competitors. This is already happening.<sup>10</sup> Australia is being overtaken because other countries are doing better, while we are staying stationary. Australia needs:

- a competitive tax system
- well planned infrastructure, coordinated between state and federal governments
- a high-quality skills and education system
- a productive workplace relations system
- access to affordable and reliable energy, and
- effective and efficient regulation.

In addition to the macroeconomic settings, doing better will mean growing the jobs needed to take advantage of a decarbonising global economy. It will mean ensuring businesses can take advantage of new technologies. And it will mean making the right investments to support the care economy.

### 4.1 Resetting the debate on ‘industry policy’

Appropriate government intervention in Australia’s industrial base and support for areas of strength have been hampered by a fragmented and uncoordinated approach (across successive governments) to intervention. Being able to address this has been held back by a fear of ‘picking winners’.

Industry policy needs to be about shaping a different future and leaning into the changes we know are coming. Done right, it is an economic enabler. It helps us prepare and adapt to an economy increasingly driven by technology and the shift to a net zero economy.

Knowing where and how to stage interventions requires Australia to know what kind of country it wants to be, and agreement about the big goals we want to achieve. Rather than viewing government’s role as leveling the playing field, success will be defined by Australia’s ability to tilt it in our favour.

We need to ask ourselves:

- What are we already good at?
- What can we be good at?
- What must we be good at?

This is not a dramatic change in public policy behaviour. Australia already provides substantial support to specific industries, including through fiscal measures and tax incentives.<sup>11</sup> What is needed are systemic public policies to achieve specific and articulated goals, coordinating long-term investments as well as the wider tools of government – like infrastructure and planning, skills, and regulation.

We also need to be willing to look beyond traditional sectors and take risks in areas where we have potential to be world leaders. We have examples where we have taken ideas and turned them into commercial success – such as the Cochlear implant. We need to be bold in looking at what else we can scale up.

Getting from where we are today to where we want to be will require a coordinated effort across portfolios at every level of government. Federal, state and territory, and local governments must drive towards the same priorities, with complementary – not competing – programs and supports.

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<sup>10</sup> Eg the IMD World Competitiveness Rankings: <https://www.imd.org/centers/world-competitiveness-center/rankings/world-competitiveness/>

<sup>11</sup> Productivity Commission 2022, *Trade and Assistance Review 2020-21*

This also applies inside governments. Siloed bureaucracies driven by budget cycles need greater literacy about *how* to grow future industries and what pressure points need to be addressed.

To build this literacy and ensure governments have a trusted source of expert advice, a National Future Industries Council should be established, reporting to a body like National Cabinet. Akin to the National Science and Technology Council, this should be composed of experts from industry and the research community on commercialisation, industry development, and the long-term issues facing Australia's capacity to develop the industries needed for future prosperity.

The Council must report to a body like National Cabinet to ensure Commonwealth, state and territory first ministers receive the same advice and are able to discuss and collaborate on the overall settings needed for Australia to become a frontier nation.

## 4.2 Moving to a net-zero economy

We are only part of the way through a global transition driving us towards net zero emissions — one which is being spearheaded by the global investment community. Our economy is heavily reliant on emission intensive industries for much of its wealth creation — with one in four jobs currently in emission intensive industries.

Fully decoupling economic growth from emissions growth will not be easy. It requires a strategic approach to diversifying our economy and innovation to close the technology gap inhibiting emission reductions in hard-to-abate sectors. It will mean building up the new and repurposed infrastructure before we attempt to move away completely from incumbent systems. A planned approach to a clean energy future is needed.

We can be at the forefront of reducing the carbon footprint of our carbon intensive products by using renewable energy to become a clean energy exporting superpower.

The National Future Industries Council should also be asked, as a first priority, to develop advice on the steps needed to prepare Australia's industrial base for a clean energy future, including providing initial advice to lay the groundwork for Australia to become a clean energy exporting superpower.

We know there are parts of the economy that are going to withdraw or need to be substituted. We need to acknowledge what we know will be exiting and what opportunities we have. This will affect some areas more than others. Many carbon-intensive jobs are in regional areas, which will create challenges for these areas to generate new employment through the transition.

Part of this will need to include contemplation of the jobs and skills that will be needed to support the transition. Globally, the International Energy Agency (IEA) estimates 14 million new clean energy roles will be needed by 2030.<sup>12</sup> While this will more than offset the jobs lost in fossil fuel productions, there will not be a direct transfer between the two sectors, with many of the new jobs requiring new skills and expertise.<sup>13</sup>

Many of the jobs in the renewables sector do not have high formal training requirements – across solar PV and onshore and offshore wind, the majority of jobs require lower certifications and do not need 'STEM professionals'.<sup>14</sup> However, in the areas of growth 60 per cent of energy employment to 2030 will require at least two years of post-secondary education.<sup>15</sup>

The Australian government and businesses will need to understand and anticipate what skills will be needed and appropriately train and recruit to meet these needs and support areas where carbon-intensive industries may decline. Government, industry and communities must work together to manage the disruption to regional economies and workers dependent on carbon-intensive industries.

We have previously recommended the creation of a National Regional Transition Taskforce, under the purview of the Climate Change Authority, to develop a low-carbon regional roadmap for the most affected regions — for example the Hunter Valley and the Latrobe Valley. This could also take the form of a standalone authority or ministerial taskforce reporting to National Cabinet. Regardless of the format, governments will need to rise to this challenge.

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<sup>12</sup> New clean energy roles include renewables, energy efficiency, low-carbon fuels, nuclear power, battery storage and carbon capture, utilisation and storage; IEA 2021, *Net Zero by 2050: A Roadmap for the Global Energy Sector*

<sup>13</sup> IRENA 2021, *Renewable Energy and Jobs Annual Review 2021*

<sup>14</sup> Sydney Energy Forum 2022, *Sydney Energy Forum Evidence Base*

<sup>15</sup> IEA 2021, *Net Zero by 2050: A Roadmap for the Global Energy Sector*



## 4.3 A country that makes things

We need to foster greater diversification in our economy, both to take advantage of new opportunities and to allow us to fund increased budget outlays. The government has suggested '*Australia must be a country that makes things*'.

Australia is not going to go back to the old way of manufacturing things. Australia is not going to go back to building a car from bonnet to boot. Countries with low labour costs will outcompete us, and efforts to return to this will just drive down Australian workers' wages. We must push back on proposals underpinned by the idea we need to return to an idealised past – manufacturing is still alive and kicking in Australia.

Australia's competitive edge is our highly educated workforce. Success in manufacturing will no longer be determined by the cost of labour. Instead, it will be determined by the ability to deploy new technologies to make high value-added products. This is why the greatest demand in the manufacturing sector is for workers in *advanced manufacturing*.

This should be a welcome change for Australia: labour costs will become an increasingly small part of the costs of production. Instead, competitiveness will be determined by our ability to harness and use new technologies. This will require Australians with the right skills and training. If we make this change, Australians can have higher wages and better conditions.

Despite the fears of some, traditional sectors like manufacturing are not in terminal decline. Instead, the nature of many of these sectors is evolving. While the manufacturing jobs of yesterday are not going to come back, strong growth is expected for Australians with advanced manufacturing and design skills.<sup>16</sup> This reflects an existing trend for the manufacturing sector: there has been a greater focus on pre-and post-manufacturing activity, such as research and development, design, sales and after-sales service.<sup>17</sup>

It will be critical that the Summit recognises that making things means advanced manufacturing.

To deliver on this ambition, there are a number of steps all parts of Australia must work together on. These include establishing and growing a small number of internationally significant precincts, bolstering research commercialisation, and improving our standards and approvals processes.

### *Internationally significant precincts*

The National Reconstruction Fund must include, as part of its investment mandate, a clear expectation that part of its funding will be directed towards the development of a small number of internationally significant precincts. These must focus the work of businesses, government, and the education system to bring together common activities into a single region.

This will mean ensuring all parties have a clear understanding of why a precinct can, and will, be important in a global context. This is not just the pure number of jobs created, but also the significance it has for global trade. This means showing export potential, through access to a strategic port or airport, years of investment behind them, or demonstrated success and agglomeration.

For example, the government has already committed \$100 million in equity investments to establish a 'battery precinct'. The precinct will see local manufacture of batteries via a larger existing manufacturer. The precinct would also become home to SMEs currently undertaking work in the sector.

This is a sensible measure. But it needs to be backed in with other arms of government, such as through supportive infrastructure investments. These will be crucial to ensuring workers have access to the raw materials needed to make batteries, and provide the gateways to ship these to markets both in Australia and overseas.

We welcome the government's commitment to house SMEs at the precinct. We also need an eye to the long-term by including key research partners and providers of skills and training to establish the precinct not just as a one-off hub, but to create an ecosystem that supports and sustains itself into the future.

This highlights the need for all parts of government to back in and stick to the priorities set out under the National Reconstruction Fund and in the Modern Manufacturing Strategy. We also need to grow the capabilities that are needed across industries to drive productivity growth – such as data, quantum, and battery technologies.

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<sup>16</sup> National Skills Commission 2021, *The state of Australia's skills 2021: now and into the future*, p121

<sup>17</sup> National Skills Commission 2021, *The state of Australia's skills 2021: now and into the future*, p36

What is needed to complement these policy settings is a clear strategic overlay to policy and funding decisions. The establishment of the National Reconstruction Fund is a positive step and one we support. But it is only part of the picture.

#### *Research commercialisation*

Australia has a proud history of creating new innovations: from photovoltaic solar panels to the Cochlear implant.

But we need to get better at commercialising and scaling up. Despite our early success with developing the fundamental technology underpinning solar panels and Australians' enthusiasm for adopting these technologies (with the highest level of solar photovoltaic capacity per person of any country in the world<sup>18</sup>) China now makes 80 per cent of the world's solar panels. Australia missed out on its chance to be at the leading edge of technology that will be fundamental to a transition to a net-zero economy.

Though we missed this opportunity, there are others where Australia can seize the chance to build on our research successes, particularly in important new fields like quantum computing, hydrogen, photovoltaics, wind, and battery technologies.

The solution isn't the government putting more taxpayers' money up. Instead, it must be about enabling and encouraging businesses working with the research community to drive collaborative research. Backing this in must be an attitudinal shift inside government.

To address this, an early task of the proposed National Future Industries Council should be to review whether existing incentives – such as R&DTI – could be better set up to deliver the non-taxpayer funding sources needed to drive collaborative research, and what additional measures are needed across governments to deliver this.

#### *Standards*

If Australia is serious about making things and growing new industries, we also need to make sure other settings allow and encourage this. If Australia wants to be a productive, high-wage economy, then standards and getting regulatory approval need to support this.

Australia does face significant global competition for investment attraction. Overcoming this competition requires Government to consider the totality of the industry's policy environment and its culture of engagement with industry.

This runs from approvals for medical devices and medicines through to mutual recognition. An inability to fix this issue doesn't just cost Australians jobs and prosperity. It also affects the lives and wellbeing of all citizens: for example, on average across 20 OECD countries, over 60 per cent of medicines become available to patients within six months. In Australia, it is just 22 per cent.<sup>19</sup> The point that is yet to be addressed is the need for responsive systems and policies to support access to things like new therapies and treatments (or other products or services) that may be produced in the country.

If we can get these settings right, then it will give businesses confidence that government values and is committed to supporting innovation. This is doubly important for businesses contemplating where to research and develop new therapies: it would be a poor outcome for Australians to be among the last in the world to get access to a life-saving innovation developed by their next-door neighbour.

This needs to be a key focus for National Cabinet. Some steps were taken in the early days of the pandemic on mutual recognition, but momentum needs to be increased.

## 4.4 Buying Australian

The government wants to support Australian businesses. This includes by using government procurement, defence spending, and increasing the production of domestically made trains, trams, and ferries. The government will also be asking the National Reconstruction Fund to prioritise medical manufacturing capabilities and to develop an investment plan identifying what needs to be made in Australia.

Localising manufacturing needs to be done carefully, not recklessly. When selecting the things Australia should be building, it can't be driven by nationalism and poor choices. We should be cautious about rejecting foreign goods or investment.

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<sup>18</sup> Commonwealth Treasury 2021, *Intergenerational Report*, p57

<sup>19</sup> <https://www.medicinesaustralia.com.au/media-release/australians-deserve-fast-access-to-the-latest-medicines-vaccines-and-treatments/>

Measures to build up sovereign capabilities must be made only after careful consideration of what needs to be made in Australia, particularly whether we are over-reliant on a particular supply chain, or if it is a foundational area where we must have a capability to succeed. As always, government also needs to consider whether there are other policy options which are more cost effective.

Larger firms contribute a larger share to aggregate investment in Australia. This is particularly the case for the manufacturing sector.<sup>20</sup> Measures that discourage larger firms – including international firms – from investing in Australia will be unhelpful. It not only cuts into job-creating investment, but also restricts Australia's access to economy-changing new technologies and services.

For this reason, any measures to support Australian businesses need to recognise the important role large multinational firms bring to Australia – in both raw investments, but also new ideas, talent, and capabilities. 'Australia first' policies must support local firms to partner with international firms.

## 4.5 The care workforce

Australia has an ageing population. This means that not only is there greater demand for carers, but as the demand increases the available workforce shrinks as a portion of the population. In 1981-82, the ratio of working age people to every person aged over 65 was 6.6. In 2060-61, this is expected to shrink to just 2.7.<sup>21</sup>

By 2026, around a quarter of new jobs will be in the health care and social assistance sector, with the largest growth being for aged and disabled care workers.

The government has committed to having a registered nurse on site 24/7 in every aged care facility, and that every resident receives an average of 215 minutes of care per day. The government has also committed to funding higher wages for aged care workers. Delivering on these commitments will increase the already high demand for carers and pressure on the budget.

In meeting the growing demand for the care workforce, Australia needs a coordinated approach involving both short term measures to meet immediate demand (such as migration) and longer-term efforts to ensure future needs are met (including through the education and training systems).

To ensure there can be long-term and real wage rises for care workers in the economy, governments across the federation need to commit to working together to reform the sector. As these jobs are human-centric, they are challenging to automate. But technology is not only about automation. We can use new innovations to lift productivity and make the lives of workers easier.

As in other key industries, this can be supported by improved productivity achieved through the adoption of technology – particularly technology which enables business system improvements. As an example, a new technology trialled in aged care which included digital patient information and care records, cut down the handover time between shifts from 90 to 10 minutes, allowing more time for carers to spend with residents instead of doing paperwork.<sup>22</sup>

Getting this kind of technology rolled out across the care economy will be critical to improving the 'productivity' of the sector, effectively improving care outcomes. This highlights the importance of looking at the entire ecosystem that supports and enables carers to do their job.

In the health sector, for example, carers need the medication, the latest technology, and the right systems. Boosting productivity in the sector will mean making the country more attractive for businesses to focus R&D effort in Australia and to get new innovations to citizens.

We need to take a step back and look at the entire system end to end. Australia has a highly skilled population, with excellent researchers. But if businesses are going to make the investments in growing and commercialising new innovations in Australia, the downstream issues need to be resolved.

As noted above, part of this will mean streamlining the approvals systems. It will also mean maintaining a recognition that the health and medical sector is a key priority and future industry for Australia. To this end, government needs to use the existing commitments on the care workforce as a springboard to launch the development of an overarching policy, setting out government's intent on where it wants to take the whole system, refreshing areas where there is a chance to do things better.

<sup>20</sup> Dynan, Lachlan 2021, *RBA Bulletin: Which Firms Drive Business Investment? New Evidence on the Firm-size Distribution*

<sup>21</sup> Commonwealth Treasury 2021, *Intergenerational Report*, p31

<sup>22</sup> <https://www.abc.net.au/news/2021-05-08/canberra-aged-care-home-sees-improvements-from-it-trial/100120756>

## 4.6 The digital opportunity

The government has set a goal of 1.2 million tech jobs by 2030. This will mean creating an additional 340,000 tech-related jobs. And these jobs will not just be people sitting on beanbags in start-ups – most ‘tech’ workers are employed in Australia’s existing businesses, enabling them to meet the changing demands of their customers, such as through buying things they want online. For example, around 40 per cent of Transurban’s workers are in technology roles.

The lack of access to workers is the key barrier to growing the digital economy in Australia (both to create new businesses and modernise existing ones).

If Australia is to remain competitive – both globally and in the region – governments, business and the community must not just embrace, but drive digitisation. Future productivity growth will rely on all businesses adopting new technologies, whether that is through deploying new software tools, taking advantage of data, or increasing the cyber resilience of highly interconnected systems. Fundamental to this will be giving Australian workers digital skills.

This is not a new trend: STEM skills have long been an integral part of Australia’s labour market. In the 20-year period before February 2020, employment in STEM occupations grew by 85 per cent (more than double the rate in non-STEM fields).<sup>23</sup> As it currently stands, there are not enough workers with the right digital skills. Worse, we risk being left behind by global competitors. Australia lags countries like the United States and Singapore in demand for cutting-edge digital skills.<sup>24</sup> This suggests there is still a wider gap between where we think we *want* to be and where we *need* to be.

Equipping workers with tech and digital skills will be key to driving a reset of Australia’s economy structure. Productivity growth will rely on businesses adopting new technologies, taking advantage of data, and protecting themselves from cyber risks.

The problems and challenges of meeting existing demand are well known:

- low levels of awareness about ‘tech’ jobs
- a lack of diversity in ‘tech’ professions (particularly for women, older, regional, and indigenous Australians)
- a limited domestic talent pool for experienced tech workers and COVID-19 has made it hard for highly skilled migrants to come to Australia, and
- lack of a coordinated effort to plan how to meet these skills needs between government, education providers, and industry.

The lack of diversity in the sector is one key challenge and there is a need to get underrepresented workers into fields of high demand. For example, the future tech and digital workforce will need to have greater gender equity. Less than a third of IT workers are women.<sup>25</sup> Bridging this gap will not only help skills needs – it also ensures products are better designed and able to meet a broader range of needs. This applies to other areas of underrepresentation in the workforce, like Indigenous candidates and those in regional and remote areas.

There is a raft of existing programs run across government, businesses, and the skills system to offer training for Australians, like the existing Digital Cadetships Trial, CyberCX’s Cyber Academy, and Cisco’s partnership with RMIT (among many others). New government measures should also look at how these programs can be scaled – rather than adding another result for Australians to wade through in their search results.

What is needed is a way to forge a link between the training that is provided by various businesses and training providers and ensure that those Australians receiving this training can demonstrate that they have attained these skills to employers.

Further, to reap the benefits of a digitised economy, Australia will need to drive the adoption and creation of new digital technologies. There is no single change that will unlock the digital opportunity, and it is not just a question of building domestic talent or skills. Australia will need to bolster other key pillars of the digital economy.<sup>26</sup> This includes ensuring Australians can connect and engage with confidence; policy and regulatory settings encourage and support businesses to adopt and use new technologies and services and are not unnecessarily adversarial; and government needs to work

<sup>23</sup> National Skills Commission 2021, *The state of Australia’s skills 2021: now and into the future*, p4

<sup>24</sup> National Skills Commission 2021, *Digital skills in the Australian and International economies*, p23

<sup>25</sup> ACS Digital Pulse 2022

<sup>26</sup> Our views are in line with the initial findings of the Productivity Commission’s second interim report of the 5 Year Productivity Inquiry, available at: <https://www.pc.gov.au/inquiries/current/productivity/productivity-interim2-data-digital>

with industry and the research community to ensure Australia remains at the leading edge in emerging fields like quantum computing.

Government needs to think differently about how it approaches the challenges and opportunities digital businesses present. We need to lock in the productivity enhancing incentives that encourage businesses – particularly smaller businesses – to pick up new digital tools, such as eInvoicing.

Government also needs to avoid putting in place rules and regulations that make it hard for businesses to export digital products or do business in Australia. Where government pursues poor quality regulation, it drives off businesses from investing in Australia, and makes it harder for businesses already operating here to modernise or adopt new technologies.

Australia also needs to have the digital infrastructure in place to support the industries of the future, including high quality connectivity, access to new services (like cloud computing and data centres), and frameworks that support the use of data all enable businesses are critical to businesses modernising. But they are even more critical for regional economies. Getting this right will unlock regions and enable them to be at the frontier.



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