

Employment White Paper

30 November 2022

ATN recommends that the Government develop a whole-of-government strategy to promote the education and personal and social development of all Australians after the age of eighteen.

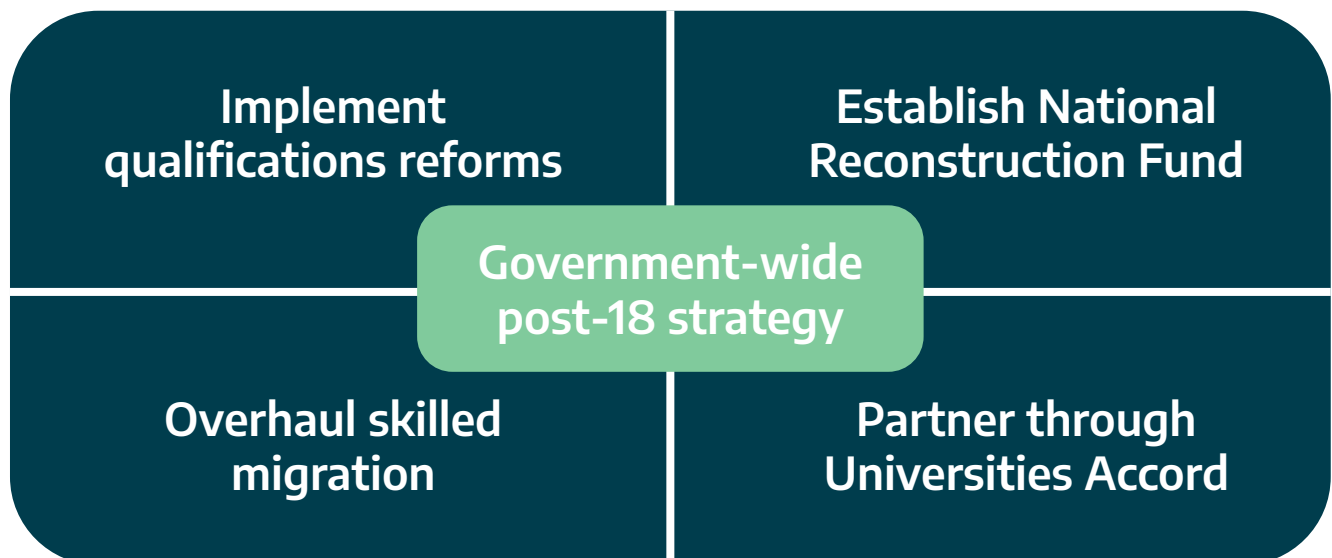
This post-18 strategy will focus the Government's goals of creating more opportunities for more Australians and coordinate meaningful action across portfolios including education, training, employment, social services, health, housing and industry.

It will be a beacon and mechanism for cooperation between federal, state and territory governments, education and training providers, schools, unions, employers, child care and disability service providers and community organisations.

It will ensure that strategies for women's economic and social participation and equality are shared and enacted across all areas of work and life. Likewise for strategies tackling social, economic and educational disadvantage, promoting regional and rural development, and empowering people with disability.

The Jobs and Skills Summit emphasised multi-lateral and cross-sector approaches to the economic and social challenges and opportunities we face as Australians and as a nation – the Employment White Paper must do the same. Universities are ready to take a leading role in a post-18 strategy.

ATN outlines four headline recommendations needed to enable this post-18 strategy to succeed.



info@atn.edu.au
www.atn.edu.au
Follow us @ATNunis

We will need almost 1.2 million new people in the workforce by 2026. Nine out of ten of these people will require a post-school education and over half of them will require a university level education.

All Australians will need access to post-18 education and support so they can fully participate in society and secure the new and emerging jobs being created. While participation in university has improved over recent decades, more needs to be done to ensure the benefits are more evenly shared across all communities and regions in Australia.

There are four pillars which represent universities' contribution to the education and personal and social development of all Australians:

- **Creating opportunity for people and skilling Australia** – delivering both excellence and equity in education to prepare Australians for the future of work and life
- **Investing in our own ideas, innovations and capabilities** – developing the industries and jobs of Australia's future through research founded in discovery, enterprise and impact
- **Leadership in global education, skills and knowledge** – strengthening Australia's skills and capabilities, and place in the region and globally to mutual benefit
- **Contribution to the Australian community, national security and sovereign capability** – fostering partnerships needed for a cohesive, connected and united response to shared challenges

These four pillars are underpinned by community and industry engagement and integration and in all cases look to deliver excellence through outcomes.

PILLAR

HEADLINE RECOMMENDATION

Creating opportunity for people and skilling Australia

Implement the recommendations of the Review of the Australian Qualifications Framework (AQF)

Investing in our own ideas, innovations and capabilities

Establish the National Reconstruction Fund (NRF) to encourage investment in research

Leadership in global education, skills and knowledge

Overhaul the skilled migration system to capitalise on Australia's global standing in education

Contribution to the Australian community, national security and sovereign capability

Use the Universities Accord to agree what we want from our universities and how to achieve it

Pillar 1: Creating opportunity for people and skilling Australia

Headline recommendation: Implement the recommendations of the Review of the Australian Qualifications Framework (AQF)

Further recommendations:

- Uncap university places for all First Nations Australians
- Funding for innovative and industry engaged teaching and learning, including high-value shorter courses
- Planning for the skills development of the next generation through skills passports and individual skills accounts

The Review of the Australian Qualifications Framework (AQF) was released in October 2019 and the Government of the day accepted all its recommendations in relation to higher education in December 2019. The disruption of the pandemic notwithstanding, there has been only incremental and piecemeal progress towards realising the vision set out in the Review.

The AQF is widely used by the tertiary education sectors to underpin the validity, reputation and value of formal qualifications in the Australian education and training system. It is also used more broadly, particularly in the employment and international education sectors of the economy.

The AQF requires substantial revision to make it a relevant and useful framework as the education and training needs of the Australian population intensify and diversify, and to help address emerging national policy priorities, including:

- *improving pathways from senior secondary education*
- *improving the standing and effectiveness of the VET sector*
- *creating a more coherent tertiary education system*
- *ensuring that graduates have the knowledge and skills required for the future workforce and social participation.*

... the AQF should be revised to ensure that it can more effectively fulfil its core role in defining qualification types, reflect emerging skills needs, facilitate credit recognition – including of shorter form credentials such as microcredentials – and support learner pathways within and between the education and training sectors.

[AQF Review \(October 2019\)](#)

The words of the Review are more pertinent and urgent today than when they were written. Full implementation of the AQF Review is needed to better serve the skills needs of Australians through better cooperation and exchange between higher education, VET and industry and more coherent strategies for lifelong learning through shorter credentials and innovative education.

The bigger, better educated and more productive workforce envisaged by the Employment White Paper will start with a more comprehensive, more adaptable and better organised post-18 education and training system. A more modern, fit-for-purpose and responsive qualifications system will be the bedrock on which this is built.

We need to provide better connected, adaptable and flexible post-18 education and support to address the educational and opportunity divides across the nation, especially for students who are first-in-family, First Nations, and from regions affected by generational and industrial disadvantage.

The reforms begun by the former Labor Government through the Bradley Review are unfinished work – there is still persistent social disadvantage that must be addressed as a national priority.

Rates of post-school attainment vary considerably across the country:

- *from 38 per cent in Upper Hunter Shire to 68 per cent in North Sydney*
- *from 35 per cent in Corangamite to 62 per cent in Yarra*
- *from 32 per cent in Playford to 59 per cent in Burnside*
- *from 34 per cent in Esperance to 65 per cent in Cottesloe.*

Gains in university participation rates for low-income students have stagnated at around 17 per cent in 2020, short of the overall population target.

Regional and remote participation rates have been in steady decline since at least 2011, declining to 20 per cent in 2020.

[ATN-IRU joint statement \(March 2022\)](#)

The lifelong social and economic benefits of post-18 education, particularly contributions to job security, fair pay, closing the gender pay gap, providing equal opportunities, and income and productivity growth are well established.

The post-18 education and training system must be able to respond to these personal, social and community needs in ways that suit the economic, industrial and environmental opportunities and challenges we face.

The need for new ways of learning for all people, including upskilling and reskilling, has been reinforced by numerous short-term challenges such as disruptions to skilled migration, remote and flexible working, disruption to face-to-face service industries, increased and unpredictable demand for workers, and supply chain and freight restrictions.

New educational pathways are needed to prepare Australia for long-term challenges such as industrial transformation, regional development, and the changing demographics of the workforce. They must be part of a system that encourages and enables Australians to continue accessing high-quality and relevant education and training through their lives. These measures can support individual aspirations and community development.

Many of the new workers Australia will need in the healthcare, technology and manufacturing sectors will have existing skills and experience. We will need to offer more flexible, adaptive and innovative education options.

These options will need to include high-value shorter courses which are recognised and transferable with a plan to create enduring skills passports, industry-led approaches that allow businesses to co-design and access timely skills solutions, and planning the skills development of the next generation through individual skills accounts.

[ATN pre-Budget policy statement \(September 2022\)](#)

It is also increasingly important to reduce barriers and disincentives for post-school study to promote better participation and engagement in the labour market. Australia's world class income contingent loan scheme (HELP) makes foundational qualifications affordable for school leavers, but does not address accessibility issues of cost-of-living while studying.

Australia's current funding and support systems also make it difficult to mix and match higher education and VET, engage in upskilling and reskilling, manage career transitions and industry disruptions, and provide work-integrated learning opportunities.

Australians will need to double the share of learning they do after the age of 21. We need to be catering for everyone – not just school leavers.

Learning models for foundational and continuing education and training need to evolve to ensure that Australia's workforce remains engaged and able to adapt to changing tasks and demands.

Increasingly, Australians will undertake more training later in life to fill specific skills gaps and emerging skill needs required by business through micro-credentials and other alternative, short-form courses.

ATN has committed to using its connections with industry to ensure that what we teach and how we teach students keeps up with the day to day on the job demands of industry and small to medium enterprises. This will include short courses, stackable credentials, inclusive learning pathways and stronger industry ties.

ATN is already invested and engaged in innovations in teaching and learning and meaningful connections with industry, but more support is needed.

There must be a recognition of the benefits to students and the cost to universities of providing high-contact, high-engagement industry experiences like work-integrated learning, authentic assessment and industry placements.

We need to expand the range of education and training products on offer to ensure that all learner needs can be met and to improve the opportunity to gain new skills and maximise employability.

[ATN pre-Budget policy statement \(September 2022\)](#)

Pillar 2: Investing in our own ideas, innovations and capabilities

Headline recommendation: Establish the National Reconstruction Fund (NRF) to encourage investment in research

Further recommendations:

- Place universities at the heart of Government initiatives including the National Reconstruction Fund, Critical Technologies Fund, Australian Strategic Research Agency and R&D incentives
- Provide scalable and sustainable support for successful ventures such as Trailblazer Universities
- Invest in a comprehensive and cohesive research strategy that aligns Government priorities and community benefit

Universities contribute \$13 billion (0.61 per cent of GDP) per year to Australia's expenditure on research and development (R&D) through Government funding, industry engagement and our own revenue (compared with total R&D spend of 1.8 per cent of GDP). For Australia to reach its R&D target of 3.0 per cent of GDP, universities will need to be a major part of the Government's plans.

The National Reconstruction Fund is the first step in Labor's plan to rebuild Australia's industrial base.

The National Reconstruction Fund provides a crucial financing vehicle to specifically drive investment in projects that will build prosperity across the country, broadening our industrial base and boosting regional economic development.

The \$15 billion Fund will provide loans, guarantees and equity to support projects that create secure well-paid jobs, drive regional development, and invest in our national sovereign capability, broadening and diversifying Australia's economy.

Australia has suffered nearly a decade of policy drift since the Liberals goaded the car industry to leave. We rank dead last in the OECD when it comes to manufacturing self-sufficiency.

We need to revive our ability to make world-class products and, in the process, create secure well-paid jobs for Australians.

Through the National Reconstruction Fund, Labor will partner with businesses to unlock further potential private investment of more than \$30 billion.

This investment will play to our strengths supporting new and emerging industries, transitioning existing industries to net zero emissions and by making it easier to commercialise innovation and technology.

[**ALP policy platform**](#)

Universities are at the centre of research, innovation, translation and commercialisation and the contributions they can make to securing Australia's future industries, especially in renewable energy, resources, space and critical minerals.

Australia's Economic Accelerator program, industry PhDs and industry fellowships, and the Trailblazer Universities Program are significant investments in research commercialisation and industry engagement and we welcome their confirmation in the October Budget 2022-23. They need to part of a series of scalable and sustainable investments in research to ensure Australia's prosperity.

Scalable means that the investment can change and grow with the success of the research and its output. Sustainable means that long-term investments from Government, universities and industry are enabled and encouraged. Together these two factors will ensure that we can recognise, reward and maintain successful and productive research.

The Australian Government is providing \$362.5 million over four years from 2022-2023 to 2025-2026 under the Trailblazer Universities Program to build new research capabilities, drive commercialisation outcomes and invest in new industry engagement opportunities.

Trailblazer Universities will become leaders in research commercialisation, with dedicated investment in strategic priority areas. Each Trailblazer University will receive \$50 million, which will be matched by university and industry partners.

When these Trailblazers create new products, innovations and partnerships, the Government must be ready to build on this success with support from initiatives like the National Reconstruction Fund.

ATN universities are leading four Trailblazers in key future industries for Australia – resources and critical minerals, recycling and renewable energy, and space technology. These Trailblazers support important research and industry partnerships, but their full impact and legacy will be through the jobs, skills and opportunities they create in Australia.

The impact and legacy of these Trailblazers and other research and innovation initiatives, relies on having the local expertise and capability needed to adapt, translate and operationalise Australian and overseas solutions and innovations. The post-18 strategy must develop emerging and future industries and jobs as it develops the people with the skills to thrive in them.

Developing and diversifying Australia's economy and workforce will require ongoing investment in skills, research and people. Universities that combine excellence in teaching and impact in research with a focus on enterprise are in an ideal position to drive a post-18 strategy in partnership with the Government and community. We can develop and make the most of our own skilled workforce, deliver on national priorities, and build our national knowledge and innovation base.

There is a valuable opportunity to align Government, university and industry investment in research and education across a range of programs, innovations, and high-value and strategic industries. This will help to deliver outcomes for Australia in key priorities like healthcare, aged care, childcare, disability care, manufacturing, and cleaner energy.

The [Curtin-led Resources Technology and Critical Minerals Trailblazer hub](#) will match \$50 million of government funding to more than equivalent support from the university and industry partners for a total value of the initiative of over \$200 million.

Curtin University will partner with The University of Queensland and James Cook University, and 33 company partners across Australia involved in value chains requiring lithium, nickel, cobalt, vanadium and hydrogen resources.

Curtin University Vice-Chancellor Professor Harlene Hayne said the Curtin-led Trailblazer will drive the cultural shift needed to facilitate the pathway from resources technology research to commercial outcomes and to opportunities for university staff and students to start and succeed in their own businesses.

Curtin Deputy Vice-Chancellor Research, Professor Chris Moran said the Trailblazer will catapult the partner universities into commercialisation success by first carefully listening to industry demand and then delivering the right research outputs and digital edge.

“The mission of the collaboration is to conduct and translate the research needed to link the value chains so desperately needed if Australia is to become a genuine international leader in efficient production of critical minerals, precursors and ultimately, metals”, Professor Moran said.

“In doing so, Trailblazer will add significant value, resilience, and sovereign capability throughout Australia’s critical minerals and hydrogen energy value chains. It will deliver the skills and the future workforce required to realise the potential benefits from our resources.

“The Trailblazer will be a key gateway for industry- opening up access for industry to the wealth of expertise inside universities to ultimately support the start-up and growth of Australian businesses.”

The Curtin-led Trailblazer will drive benefits through delivery under the three pillars:

- University Transformation – affecting deep and lasting change in the way commercialisation and industry-led research is embedded, facilitated, taught and rewarded in universities;
- Technology Readiness – partnering with industry to de-risk new technology and make it more attractive for SMEs, investors and industry to adopt and implement new ways of working; and
- Commercialisation – becoming a world leader in the translation of research outcomes into new products, services and industry processes.

Through Trailblazer, Deakin will establish the [Recycling and Renewable Energy Commercialisation Hub \(REACH\)](#), the largest recycling and clean energy advanced manufacturing ecosystem in Australia.

The \$50 million in Federal Government funding for REACH will be matched with support from industry and university partners for a total project value of \$380 million.

Deakin Vice-Chancellor Professor Iain Martin said the Budget investment in Trailblazer was vital recognition of the university as a national leader in research commercialisation and collaboration. “The Budget announcements made by Treasurer Jim Chalmers are an important step in the right direction as the sector, government, and our partners approach those critical questions, challenges and issues in the development of a Universities Accord - most pressingly, how to craft a tertiary education sector fit and relevant to the needs and ambitions of Australia in the 21st century,” Professor Martin said.

“The Trailblazer funding will enable Deakin to work with progressive, innovation-driven industry partners, leveraging enormous market opportunities for recycling and clean energy technologies to deliver carbon-neutral solutions.

“As a result, REACH will lead a sustainable manufacturing revolution, pushing the limits of technological innovation and driving solutions for a cleaner, greener future.”

The initiative will drive significant innovation and job creation in Geelong, Western Victoria and beyond. The research-industry partnership is expected to generate more than \$1.4 billion in revenue and 2,500 jobs in the next decade.

REACH builds on Deakin’s end-to-end manufacturing capabilities in renewable energy and recycling and its thriving ‘Future Economy’ commercialisation ecosystem across its Waurn Ponds, Warrnambool and Burwood campuses, which includes:

- ManuFutures - Australia’s leading advanced manufacturing incubator/accelerator hub
- Institute for Frontier Materials - a leading materials science research institute
- Institute for Intelligent Systems Research and Innovation - leading research and development in robotics, haptics and human machine interfaces
- Applied Artificial Intelligence Institute - leaders in transformational industry-focused AI
- BatTRI-Hub - world-class battery technology research and translation hub, including energy storage commercialisation
- Renewable Energy Microgrid - a 7.25 megawatt solar energy system and associated research centre
- Hycel - one of Australia’s first new hydrogen technology testing, manufacturing, optimising and training facilities
- Carbon Nexus - carbon fibre and composite research facility
- Circular Economy Initiative - focusing on energy materials, carbon fibre and composites, organics, and others
- AquaFI Hub - state-of-the-art aquaculture research and innovation centre
- Faculty of Science, Engineering and Built Environment - research expertise in renewable energy, recycling and manufacturing

The University of Newcastle and UNSW were awarded \$50 million to produce clean energy and recycling innovations through the creation of the [Australian Trailblazer Recycling and Clean Energy \(ATRaCE\) Program](#).

ATRaCE will see the University of Newcastle partner with UNSW to accelerate new clean energy and recycling technologies from the research phase to the market.

The partnership will include a total investment of more than \$200 million including university and industry investment.

Professor Zelinsky said the ATRaCE Trailblazer would drive the cultural shift needed to facilitate the pathway from research to commercial outcomes.

“This program will transform the way technology readiness, commercialisation and industry-led research are prioritised, taught and rewarded in our universities with targeted opportunities for university staff and students to succeed.”

“Working in partnership with major energy and recycling companies, SMEs, end-users and international entities, ATRaCE will transform the way research is commercialised. It will provide clear pathways for academics and industry partners to work together to supercharge their capabilities and deliver new technologies, faster to Australians.”

The funding brings together the nation’s best recycling and clean energy researchers with businesses to create an entire innovation ecosystem for recycling and clean energy. Stretching from the Hunter to Sydney, it will unlock a full spectrum of existing facilities and infrastructure to support the sector.

Technologies developed in ATRaCE are projected to support more than 1,600 and up to 5,200 jobs in recycling and clean energy industries and their supply chains, in addition to greater workforce mobility between businesses and universities. ATRaCE will also see universities offering industry-endorsed courses in priority areas.

Key facts

- Partners include 27 industry partners (80% SMEs) and CSIRO, who will develop specialised facilities to support work on electrification and solar.
- Analysis (PwC Australia) found ATRaCE will support 380 direct jobs and 100 indirect jobs during each year of the program.
- The program will contribute \$212M to GDP after four years, not counting the more than \$200M program budget.
- Importantly, ATRaCE will seed long term potential, creating 52 new patents, moving 54 technologies up the value chain, and bringing 57 new products to market.
- The technologies developed in ATRaCE are projected to support up to 5,200 jobs in recycling and clean energy industries and their supply chains.
- Across a 20-year timeframe, ATRaCE will contribute up to \$15B to GDP.

The University of South Australia will help propel Australia into a new orbit in satellite technology, playing a major role in a \$180m national space manufacturing hub.

UniSA is one of three universities and 23 industry partners tasked with building a sovereign space industry for Australia, involving rockets and launch facilities, rapid satellite manufacturing, communication technologies and integrated sensing systems.

iLAUNCH hub, supported through the Trailblazer Universities Program, is led by the University of Southern Queensland (USQ). Together with the Australian National University (ANU) and UniSA, the hub and its industry partners will drive the commercialisation of space research in Australia.

The Federal Government has committed \$50 million from its Trailblazer Universities Program and the remainder will come from cash and in-kind from the three universities and industry partners.

UniSA Industry Associate Professor Colin Hall will lead the South Australian node, hosting three core projects involving five industry partners, valued at \$20 million over four years.

- Teaming up with manufacturing specialists Amaero, SMR Australia and Defence Science Technology Group (DSTG), UniSA will develop the next generation of 3D printed materials to build compact optical systems for satellites.
- Port Adelaide firm QPE Advanced Machining will also set up a 3D print facility with UniSA for lightweight satellite components, using the latest electron beam melting technology deployed to print turbine blades for jet aircraft.
- Working closely with Electro Optic Systems (EOS), UniSA will also manufacture laser mirrors and filters that can handle high-powered lasers, reducing Australia's reliance on overseas suppliers, and speeding up manufacturing time.

All projects will be supported by CSIRO through additional funding.

It is estimated that the new hub will generate more than \$3.65 billion in economic benefits across Australia through the creation of thousands of space engineering jobs.

Professor Marnie Hughes-Warrington, UniSA Deputy Vice Chancellor: Research and Enterprise, says being part of the USQ-led space manufacturing hub is a natural alignment for UniSA.

“UniSA works closely with the Australian Space Agency, headquartered in Adelaide; we initiated the SmartSatCRC, and we are at the forefront of new satellite technology being developed, which will dovetail nicely with the Trailblazer Universities Program”.

Pillar 3: Leadership in global education, skills and knowledge

Headline recommendation: Overhaul the skilled migration system to capitalise on Australia's global standing in education

Further recommendations:

- Support the creation of a tripartite Skills Forum with Government, industry and universities
- Invest in a high-quality approach to international education that builds Australia's reputation at home and abroad
- Support international awareness, recognition and investment in Australian education through ongoing government-to-government dialogues

The Government has already recognised that Australia needs to overhaul our migration system to better serve the needs of Australians and those who seek to live here. A fundamental part of any new migration system will be a cohesive and joined-up skilled migration system.

This new skilled migration system should be built on the strengths and quality of our international education system provide an ideal foundation on which to meet the needs and aspirations of Australians, local industry, students and migrants.

Our international education system, combined with a cohesive, streamlined and easy to navigate migration system, is ideally placed to bring new people and ideas into Australia to drive local jobs and industries and enrich society and communities.

Australia is entering a period of considerable change and uncertainty. This includes economic, demographic and social challenges associated with an ageing population, slowing population growth, and waning productivity. Australian business and industries across the economy are grappling with critical skills shortages, and our economy would benefit from greater diversity and innovation. These are issues mirrored across countries in the Organisation for Economic Co-operation and Development (OECD).

Australia's migration system has the potential to help address these challenges. Complementing employment, education, and training opportunities for the existing Australian labour force, migration can support a national transition to a more diverse economy, enhancing our sovereign capabilities and driving innovation and productivity.

To do so, we need a new strategic approach that reflects our longer term interests and core values. This will shape a simpler migration system that has broad public confidence, enhances our international engagement and competitiveness and unlocks the potential of migrants to effectively contribute to Australia both economically and socially.

[A migration system for Australia's future](#)

Vital features of an overhauled migration system are flexibility, adaptability and coordination with the needs of Australians, industry and employers. While maintaining its cohesiveness, fairness and ease-of-use, the migration system be able to respond to changing needs, requirements and circumstances.

Migration policy and settings must also be created in line with educational and social development opportunities available to Australians, international students and migrants.

This is why Ai Group and ATN have jointly urged the Government to support the creation of a tripartite Skills Forum as way of developing strategy and coordinating action on Australia's skills development. This would include the role of international education and skilled migration as complements to local education and training.

The Skills Forum would establish a three-way partnership between industry, universities and government to drive the national skills agenda. It would help secure Australia's skills future and realise Australia's potential through practical and sustainable actions and reforms. This is a shared challenge and opportunity that we are ready to address with the help of the Government.

Australia's workers and businesses need a coherent skills strategy that can quickly plug urgent and persistent skills gaps in the economy with a balanced and fair pipeline of domestic and international workers.

This must be supported by reforming post-school education so that universities can flexibly meet emerging and priority skills need through the innovative and adaptive ways our universities are pioneering.

Together with the Government, we can balance the needs of Australian workers, migrants, businesses, regions, and the workforce to create a system that is high-quality, targeted, measured and responsive.

Australia's skilled migration settings post-pandemic need to be guided by an integrated, pragmatic, and coherent migration policy - one that voices the characteristics and ideals that all Australians can support and one that supports economic growth and skills transfer. The Skills Forum is important to reaching a consensus on these issues.

A three-way partnership between universities, industry and government is a crucial part of the integration of international education, and delivering better outcomes for industry, students and the economy. Using this 'triple helix' approach, the focus on student outcomes would be sharpened to include opportunities for work integrated learning, part-time work and ultimately improved graduate outcomes.

Pathways to permanent residency in priority areas need to be re-cast – embracing longer periods for post-study work rights for international students who as skilled graduates will contribute to the workforce that Australia so deeply needs is a good first step from the Jobs and Skills Summit.

Universities and industry are ready to work in partnership with the Government to ensure we have high-quality, skilled migration pathways for students and graduates that are sustainable, adaptive and attuned to the needs of Australia's economy and society.

[Ai Group-ATN joint statement \(March 2022\)](#)

International education is a valuable source of locally educated, locally experienced skilled migrants, as well as a way of creating connections with overseas partners.

As the Productivity Commission recently observed, Australia must remain open to new people, ideas and innovations if we are to prosper and grow. While we perform above our weight in university research, we are still reliant on innovations and supply chains overseas.

Australia (like most nations) is a net consumer of the vast majority of critical technologies, rather than an originator or producer – the critical technologies list and any policy or regulation flowing from it will need to accommodate international partnerships.

This is made clear in the Productivity Commission's interim report 5-year Productivity Inquiry: Innovation for the 98% that reveals between 1 and 2 per cent of Australian businesses are currently producing 'new to the world' innovation. We must consider how international partnerships can help the other 98 per cent improve performance and productivity.

The report states that "many ideas and technologies will come to Australia from overseas" so it is important not to unduly restrict our own access to innovation.

The Productivity Commission's report also recommends that "skilled migration policy should be reframed as a way of diffusing innovation and best practice among Australian businesses". This is important to bear in mind regarding potential uses of the critical technologies list.

ATN submission **List of critical technologies in the national interest consultation**

International education is also core to our international trade and development efforts and has the ability to raise the skill levels, wealth and productivity of Australians and our important trading, regional and strategic partners.

Education is a creative and productive enabler and the greater recognition and investment in Australia's education system here and abroad will increase the opportunities for Australians and people throughout our region.

A revised skilled migration approach should consider not only expanding and diversifying Australia's international education system, but also creating short, bridging courses to recognise, certify and update the skills of existing and future migrants.

Australian universities, through Australia's international education sector, provide a critical pillar that supports Australia's development, diplomatic, trade and investment effort.

Australia's role in fostering the potential of younger generations through the now defunct AsiaBound, Endeavour Scholarships and Australia Awards cannot be understated. Through the work of these mobility programs, research collaborations and DFAT's global alumni strategy, Australia's universities make a significant contribution to Australia's international development, foreign policy and soft diplomacy objectives.

COVID-19 has been the most significant disruptor to Australia's international education sector since the opening of international education places in 1989. There has never been a more important time to build a resilient international education sector by incorporating opportunities to learn and grow through overseas experiences that build on Australia's social enterprise.

There is a valuable opportunity to support the Government's \$1.4 billion investment over four years from 2022-23 to rebuild Australia's international development program, re-establish Australia as a partner of choice in the region and enhance regional security and cooperation. Notably, this funding includes \$900 million to increase support to the Pacific region and \$470 million to increase support to Southeast Asia.

...

Given education services are Australia's biggest service export, there is clearly a role for Australian universities to cater to the lifelong learning needs and requirements of our Asia-Pacific neighbours. This will allow a deep familiarity to develop with the Australian education system, including qualifications and institutions, which contributes to their prestige and standing internationally. It will encourage overseas students to consider Australia as their primary education destination - which maintains Australia's competitiveness against other destinations like Canada - and will also increase the desirability and employability of Australian graduates overseas.

There is clearly a role for Australian universities' provision of flexible lifelong learning to be applied here that would benefit not only Australia's domestic students but also our significant international student population. The aspiration would be that Australia's international alumni, across the Asia-Pacific region would significantly benefit from these measures, but that they would not need to leave their home country to secure these skills.

ATN submission

Consultation on the development of Australia's international development policy

A new post-18 strategy must consider how we capitalise on Australia's leadership in global education, skills and knowledge to educate and develop Australians, skilled and other migrants, and people overseas. The benefits of a high quality, diverse and accessible international education system flow to both local students and those abroad.

Education is the greatest renewable and transformative resource we have and its value is only multiplied the more it is shared and utilised.

Pillar 4: Contribution to the Australian community, national security and sovereign capability

Headline recommendation: Use the Universities Accord to agree what we want from our universities and how to achieve it

Further recommendations:

- Sustainably fund universities' community and industry engagement
- Use universities' capacity to enhance national security and sovereign capability

The Universities Accord is a once in a generation opportunity for universities to work side-by-side with the Government, leaning on the best and brightest in the sector in order to forge the future path and build a better, more inclusive and brilliant system for all Australians.

As part of a broader post-18 strategy, the Accord should situate the place and role of universities within the broader education system and the wider economy. This is an opportunity to articulate the pathways and connections we want to foster between school, vocational education, the workforce and industry, and higher education.

A greater shared understanding of the roles and strengths of individual universities, and what all Australians post-18 need from them and the sector as a whole, will enable a greater clarity of purpose and action. We need a holistic understanding of what we want to achieve as nation, the sector's role, and then individual universities' role.

We must recognise and adapt to the changing nature of education, learning and work in order for universities to have the flexibility and capacity to adapt and respond to contemporary and future needs. Education, in collaboration with future-focused research, creates the innovative graduates needed for nation building.

The post-18 strategy should recognise the role of universities as community pillars and partners in their cities and regions, especially in establishing precincts that prioritise community, economic and industrial development.

ATN universities have a strong commitment to working within and transforming the communities in which we are based. We are an active voice in promoting partnerships between industry and research to grow our economy and deliver significant economic, social and cultural benefits to local and global communities. We encourage the use of our campuses to drive interaction and deeper relationships with our communities and often act as a catalyst for innovation.

Our universities have diverse community integrations even within single universities – be it an inner-city hub for innovation in our business and commercial centres, a suburban campus co-locating learning, research and industry, or an anchor institution in a regional centre or gateway city.

The resilience and transformative capabilities of university-community partnerships is a powerful force for addressing the inevitable structural economic changes to come. Such transformational capabilities are created by investment in skills and research-intensive innovation and driven by a collaborative effort between local universities, industry and multiple tiers of government.

Support for these community partnerships will lay a foundation for our future national economic success and social cohesion. Universities act as innovative gateways, identifying research pathways and solutions to help Australia meet the significant economic, social and environmental challenges to come.

Further enquiries should be addressed to:

Executive Director

Australian Technology Network of Universities

info@atn.edu.au

Supporting information

National Skills Commission employment projections show that over 90 per cent of addition jobs over the next five years will require a tertiary qualification and that almost 60 per cent of those will require a university-level education.

Occupations requiring a university-level education will grow by almost 620,000 jobs (13.5 per cent increase) compared with 460,000 jobs (6.9 per cent increase) for all other occupations requiring a tertiary qualification.

Any analysis of current, emerging and future workforce supply and demand must include a consideration of higher education.

Skill Level	Employment level - November 2021 ('000)	National Skills Commission Projections		
		Projected employment level - November 2026 ('000)	Projected employment growth - five years to November 2026	
			('000)	(%)
Skill Level 1	4591.7	5210.1	618.4	13.5
Skill Level 2	1638.0	1772.1	134.1	8.2
Skill Level 3	1910.8	1984.1	73.4	3.8
Skill Level 4	3137.5	3390.2	252.7	8.1
Skill Level 5	1939.5	2037.0	97.6	5.0
Total Employment	12,951.8	14,128.0	1,176.2	9.1

Skill Level 1 is commensurate with a Bachelor degree or higher qualification

Skill Level 2 is commensurate with an Advanced Diploma or Diploma

Skill Level 3 is commensurate with a Certificate IV or III (including at least 2 years on-the-job training)

Skill Level 4 is commensurate with a Certificate II or III

Skill Level 5 is commensurate with a Certificate I or secondary education

The National Skills Commission's Skills Priority List also highlights the importance of university education to future skills demand.

Strong future demand is common in professional occupations (43 per cent of occupations) which often require a university-level education. This is reflected in the strong future demand for Skill Level 1 occupations.

Occupations in national shortage with strong future demand in the Skills Priority List include:

- Managers in areas such as corporate services, ICT project and quality assurance
- Accountants and auditors
- Surveyors, and urban and regional planners
- Engineers in disciplines such as civil, geotechnical, structural, transport, electrical, mechanical, mining and petroleum
- Agricultural consultants and scientists and veterinarians
- Health and allied occupations like sonographer, optometrist, orthoptist, pharmacist, speech pathologist and clinical psychologist
- Information technology and related occupations like multimedia specialist, developer programmer, software engineer and ICT security specialist.

Future demand

265 occupations have strong projected future demand (33% of assessed occupations), 481 have moderate future demand (60%), and 53 have soft future demand (7%).

- Strong future demand is most common in Labourers (50% of assessed occupations), Community and Personal Service Workers (44%), and Professionals (43%). Large employing occupations in these groups include Child Care Worker and Developer Programmer.
- Strong future demand is also most common in higher skilled occupations (43% of Skill Level 1 occupations and 31% of Skill Level 2 occupations).

57 occupations (7% of assessed occupations) have strong projected future demand and are currently in shortage nationally.

- This includes occupations such as ICT Project Manager and Aged or Disabled Carer.

<https://labourmarketinsights.gov.au/our-research/skills-priority-list/>

Many in-demand professions have career and study pathways spanning higher education and vocational education and training, including nursing, aged and disability care, early childhood education, technology and engineering.

For example, articulation and recognition of prior learning arrangements are in place for Diploma of Nursing graduates to upskill by enrolling in a Bachelor of Nursing. This includes:

- Preferential entry to Deakin's Bachelor of Nursing from Bendigo TAFE, Box Hill Institute, Chisholm Institute, Kangan Institute, TAFE NSW, South West TAFE and The Gordon
- Preferential entry to RMIT's Bachelor of Nursing from RMIT's Diploma of Nursing
- Advanced standing for UTS' Bachelor of Nursing for Diploma graduates.

Workforce planning must include consideration of these upskilling pathways which can provide more opportunities for people to improve their skills and knowledge, take advantage of the study they have already completed, earn while they are learning, and progressively build their career.