

ATN Submission

Pre-budget submission by the Australian Technology Network of Universities (ATN)

The Australian Technology Network of Universities (ATN) welcomes the opportunity to constructively work with the Morrison Government on developing the 2020-21 Budget.

ATN is the peak body representing Australia's four most innovative and enterprising universities: Curtin University, RMIT University, University of South Australia (UniSA), and University of Technology Sydney (UTS). Together, we are home to nearly 200,000 university students.

Australia's university sector plays an important role in the economic development of our nation. We educate the pipeline of employable graduates, we work with our businesses to develop new products and drive productivity, and we are also employers. ATN universities directly employ almost 14,000 full and part-time staff and Australia's universities as a whole employ over 120,000 staff.

ATN universities have a strong record of producing Australia's most job-ready graduates, through innovative teaching and learning, as well as strong relationships with industry, including Australia's 2.3 million small to medium enterprises (SMEs).¹

ATN universities already partner with the Government in driving jobs, boosting productivity and overcoming the educational attainment divide in this country. Our approach can be summarised into three focus areas with the following recommendations:

- **Participation** – *improving equity access to tertiary education and maintaining a consistent pipeline of graduates to ensure Australia can quickly adapt to local and global changes*
 - **Recommendation 1: Guarantee the Higher Education Participation and Partnerships Program (HEPPP) by enshrining it in legislation**
 - **Recommendation 2: Recognise regional differences in higher education**
 - **Recommendation 3: Provide support for regional, rural and remote students to study wherever they choose**
- **Pathways** – *providing opportunities for all Australians to engage with our universities to support lifelong learning - when they need and how it suits them*
 - **Recommendation 4: Support pathways for all students**
 - **Recommendation 5: Provide Australians access to the right skills through lifelong learning**
- **Productivity** – *ensuring that Australian and international companies can access the research and capabilities they need to drive innovation and growth and provide better opportunities for all Australians*
 - **Recommendation 6: Support collaboration between industry (particularly SMEs) and universities**
 - **Recommendation 7: Provide more support for SME investment in the local economy and skill development**
 - **Recommendation 8: Help link industry into the global supply chain**
 - **Recommendation 9: Continue to support industry-funded research**

¹ Australian Small Business and Family Enterprise Ombudsman 2019, Small Business Counts: [Small business in the Australian economy, Australian Government, Canberra](#)

The higher education sector will play an important role in helping the Government deliver on its commitment to create 1.25 million jobs over the next five years. By continuing to invest in the work that ATN and other universities are already doing, the Government will have a strong foundation for its core mission of job creation and ensuring ongoing economic prosperity.

In a recent speech, Education Minister Dan Tehan said that “well-delivered higher education is one of the most important things we can offer Australians to help them and their children prepare for the future.”² He also emphasised the importance of collaboration, alignment and partnerships – which all underpin how ATN is approaching its relationship with the Government and industry, as we set out below.

The Department of Employment, Skills, Small and Family Business projects that over one million more people will be employed by 2024.³ The largest growth will be in the areas of health care, professional services, education and construction – all areas in which ATN universities are recognised leaders. Almost half of the employment growth (485,000) will require people with university-level skills – a 12 per cent increase from 2019, compared with 8 per cent growth overall.

A recent EY report⁴ commissioned by Minister Tehan found that improving the alignment between the skills of university graduates and the skills required in the workforce could fundamentally boost economic growth and productivity. The productivity increases from improving employment outcomes for university students could add \$3.1 billion per annum to the economy in 2030.

By 2040, 9 out of 10 working age Australians are expected to have changed occupations at least once, and those that stay will have to refresh their skills as the tasks within occupations change on average 18 per cent every decade.⁵ This is contributing to a need for Australians to more than double the share of learning they do after the age of 21 – formal education no longer just happens at the beginning of a career.

Analysis by the Mitchell Institute⁶ shows that the tertiary education participation rate for those aged 15 to 24 years old is declining. If current policy settings are maintained and current trends continue, the participation rate could be 26 per cent by 2031 – down 6 percentage points from its peak in 2012. The Mitchell Institute makes the case for reform that creates a coherent and connected tertiary system. Given the substantial lead times for investment and reform in education, this is an issue to be addressed in the context of the 2020-21 Budget and the medium term.

ATN is already working to address these opportunities and challenges.

We are supporting students from a wide variety of backgrounds to get the skills that they need for important and emerging industries. For example:

- University of Technology Sydney is supporting the advanced manufacturing, ICT and startup sectors in Sydney by teaching almost a fifth of the Engineering students and over a tenth of IT students in NSW
- RMIT is supporting road and rail construction in Melbourne by teaching almost two fifths of the Architecture and Building students in Victoria and just under a third of all Engineering students
- Curtin University is supporting the mining industry in Western Australia by teaching over half the Engineering students in Western Australia and over two thirds of the Architecture and Building students. Curtin is also supporting the growing population by teaching over a third of the Health students

²Tehan, D 2019, [Speech to the AFR Higher Education Summit](#)

³Department of Employment, Skills, Small and Family Business 2019, [2019 Employment Projections](#), Australian Government, Canberra

⁴EY 2019, [The productivity uplift from better outcomes for our university students](#), Ernst & Young Australia

⁵AlphaBeta 2019, [Future skills](#), AlphaBeta, Sydney

⁶Dawkins, P, Hurley, P & Noonan, P 2019, [Rethinking and revitalising tertiary education in Australia](#), Mitchell Institute, Melbourne

- UniSA is supporting Australia's defence capability through student internships and teaching partnerships with local defence industry. UniSA teaches almost half of the Architecture and Building students in South Australia and over two fifths of the Information Technology students, and is supporting the ageing population with over a third of the Health students.

We have been active in boosting participation in higher education, through the Government's Higher Education Participation and Partnerships Program (HEPPP). ATN currently teaches over 7,000 students from non-English speaking backgrounds, over 8,000 students with a disability, over 1,500 Indigenous students, over 23,000 low socio-economic status students, and almost 13,000 students from regional and remote areas.

In order to reach as many students as possible, ATN universities are proactively developing innovative delivery methods for higher education course provision. Examples of this include collaborative high-end video conferencing and intensive block teaching. Further, the use of university study centres, such as the Geraldton Universities Centre and Pilbara Universities Centre provide additional opportunities for students in regional and remote Australia to engage with universities.

ATN universities also offer a wide range of activities to support regional, rural and remote students in their studies, at both metropolitan and regional campuses. These include student scholarships, student wellbeing services, financial and career advice, peer mentoring, and travel bursaries. We outlined the work that we are already doing in our submission⁷ to the development of the National Regional, Rural and Remote Education Strategy lead by the Hon Dr Denis Napthine, and look forward to working with the Government on the implementation of the strategy.

ATN universities offer flexible and alternative entry pathways that can assist young people to explore and expand their range of options. For example, the South Australian Institute of Business and Technology (SAIBT) allows young people an alternative pathway into the second year of most UniSA bachelor degrees. In addition, UTS Insearch offers articulation arrangements from courses such as the Diploma of Business into a Bachelor of Business.

ATN universities are also contributing to growth in productivity. Over the past year, hundreds of start-ups were created by ATN students. Programs like UTS Startups, Curtin Accelerate, UniSA's Venture Catalyst and RMIT University's LaunchHUB support start-ups with grant funding and mentoring. Each provides a strong platform from which students, staff and alumni can turn their ideas into functioning products and businesses.

ATN universities are highly engaged with a wide network of businesses, especially Small and Medium Enterprises (SMEs). Thousands of SMEs have accessed UTS's Data Arena – a high-tech, large-scale data visualisation dome that uses big data to help business owners understand the multifarious implications of their decisions. RMIT University's Advanced Manufacturing Precinct speeds up the SME prototyping and manufacturing process. Innovation Central Perth at Curtin University brings together industry and researchers to solve business problems and test products for SMEs. At UniSA, the new Industry 4.0 Testlab is co-located with more than 80 SMEs in defence, aerospace, electronics, engineering and IT, providing them access to smart factory technologies.

These projects can be extended and enhanced with further investment. Below we outline some of the further actions that ATN universities can deliver on in partnership with the Government.

⁷[ATN Submission 2019](#)

Participation

Recommendation 1: Guarantee the Higher Education Participation and Partnerships Program (HEPPP) by enshrining it in legislation

HEPPP provides funding to assist universities to improve access for people from low socio-economic status backgrounds, as well as improving the retention and completion rates of those students. Enshrining HEPPP in legislation would ring-fence this important funding from decisions of future governments, providing the sector with a clear signal of the Government's desire to encourage students from all backgrounds and supporting all enrolled students to achieve their best. This would complement and enhance the Government's equity goals in the performance-based funding framework. A long-term approach is needed to tackle entrenched disadvantage.

Recommendation 2: Recognise regional differences in higher education

Australia is a diverse country with a highly localised higher education system – the vast majority of students study within their home city or state. The rates of Bachelor degree and above attainment vary across states and territories, for example 26.8 per cent in Victoria and 18.0 per cent in Tasmania (amongst people aged 15 years and above).⁸ The labour market is also diverse with trend unemployment rates currently varying from 3.2 per cent in the ACT to 6.4 per cent in Queensland.⁹ To address these disparities and provide more opportunity for work and further education across Australia, it is necessary to ensure that funding mechanisms do not exacerbate existing disadvantages between states and territories. The new performance-based funding model increases the Commonwealth Grant Scheme funding in line with national population growth, so alternative measures should be considered to address regional differences.

Recommendation 3: Provide support for regional, rural and remote students to study wherever they choose

The Government's National Regional, Rural and Remote Higher Education Strategy recognises the need to improve access to higher education for regional, rural and remote students. Initiatives such as the Regional Study Hubs are an important part of delivering this strategy. However, in order to provide the widest opportunities, we believe that all these students should be supported to study at their university of choice – taking advantage of the opportunities that are best for them and their region. The Government should recognise the need for some students to travel to access the best educational opportunities for them – their local campus will often not be the right option for these students due to diverse teaching and research strengths. Together with the performance-based funding framework, this will encourage universities to prioritise regional, rural and remote students and maintain domestic demand. This helps to build a cohesive society and break down barriers between regions.

⁸Australian Bureau of Statistics 2020, '[Census of Population and Housing, 2016, TableBuilder](#)', ABS, Canberra

⁹Australian Bureau of Statistics 2019, '[Labour Force, Australia, Nov 2019](#)', cat. 6202.0, ABS, Canberra

Pathways

Recommendation 4: Support connected tertiary pathways for all students

Around half the domestic undergraduates commence enrolment in higher education do so not on the basis of their ATAR or previous higher education, and almost a quarter come from secondary school (without an ATAR) or vocational education and training (VET).¹⁰ Supporting these pathways is an important part of an inter-connected tertiary system, which the Government does through Commonwealth supported places.

The Government could build on existing programs run by ATN universities by:

- Continuing to enable flexibility in the allocation of enabling and sub-bachelor Commonwealth supported places and supporting other pathways programs and initiatives. For example, one of the recommendations of the Australia Qualifications Framework review, which was accepted by the Government, was to consider developing a new qualification type for enabling programs with a set of common outcomes to increase portability between institutions. Properly supported and funded initiatives such as these would increase the ability of the higher education sector to respond to students' needs and provide flexibility across the tertiary sector.
- Encouraging more authentic assessment throughout the course of study and providing greater access to employment networks. Assessment should prepare students for the real world. ATN advocates authentic assessment and industry engaged learning and assessment at universities and recommends its adoption where possible in the school system.

Recommendation 5: Provide Australians access to the right skills through lifelong learning

The Alice Springs (Mparntwe) Declaration endorsed by the Education Council in December 2019 puts lifelong learning and pathways at heart of our education system. This complements and follows on from the recommendations in the review of the Australian Qualifications Framework (AQF) that the Government also recently endorsed. ATN supports a full and effective implementation of the recommendations of the AQF review to enable lifelong learning and effective pathways.

The Government can support and encourage universities to meet and match student and employer needs by ensuring that the funding follows the student. If universities can allocate their Government funding in accordance with students' priorities, rather than a potentially inflexible fixed system based on historical funding flows, then they will be fully able to respond to needs of the community. Funding should not be the determinant of student choice and opportunity.

A crucial part of lifelong learning is a tertiary sector in which higher education and vocational education and training (VET) can retain their key characteristics and distinctive contributions and work constructively and collaboratively as two halves of one sector. For flexible lifelong learning it is important that learners can engage with different types of education and move between sectors as needed (including opportunities for credit).

¹⁰Pilcher, S, & Torii, K, 2018, Crunching the number: [Exploring the use and usefulness of the Australian Tertiary Admission Rank \(ATAR\)](#), Mitchell Institute, Melbourne

Productivity

Recommendation 6: Support collaboration between industry (particularly SMEs) and universities

Collaboration and engagement with industry is part of the DNA of ATN universities. We already have programs in place such as:

- work-integrated learning to embed students' knowledge and skills in practical contexts
- authentic assessment that reflects real world applications to ensure our graduates are industry-ready
- precincts and hubs where the universities are anchor institutions bringing together industry, start-ups and community organisations.

Universities are generators of learning, teaching, research, and applied innovation, and occupy important places in the social and economic fabric of their communities. Further unlocking this potential will ensure a continuing public return on investment.

This is why ATN is renewing the call for the Government to provide a premium rate for the R&D incentive to encourage collaboration with universities. We acknowledge that the Government currently has legislation before the Parliament to reform the R&D incentives and provide better incentives for large, R&D intensive companies, but this is another opportunity for the Government to supercharge its existing investment in education. Encouraging collaboration with universities, and providing options tailored to SMEs, means that Australia makes the most out of its investment in research, staff and public infrastructure by leveraging co-investment by private enterprise.

Recommendation 7: Provide more support for SME investment in the local economy and skill development

Business groups have been calling for a business investment allowance to stimulate economic activity. MYEFO revealed that the business investment growth forecast has been downgraded from 5.0 per cent to 1.5 per cent for 2019-20. Some form of business investment allowance would help meet the forecasted growth of 6.0 per cent in 2020-21.

Targeting this investment directly to SMEs makes sense, especially given that the Government's proposed changes to the R&D incentives provide more support to large, R&D intensive firms. SMEs are more likely to be embedded in their local economy and community and the direct benefit from this investment will be felt earlier in these communities. The benefit of direct investment in SME activity is that the investment will remain in the Australian economy and growing SMEs will be spending money locally.

These kinds of collaborations between universities and SMEs ensures the knowledge transfer goes both ways. SMEs and workers gain access to world-class research, knowledge and technology, and the researchers gain a better understanding of how their work can impact industry and society.

Recommendation 8: Help link industry into the global supply chain

ATN welcomes the Government's ongoing support for free trade and acknowledges the recent agreements with Indonesia, Hong Kong and Peru. We are also ready to support the Government in its consultation and implementation on the new international development policy with its focus on the Indo-Pacific region. Universities will play a key role in the delivering on these international partnerships.

For example, education was a key focus of the Prime Minister's recent visit to Vietnam including collaboration through partnerships such as the Aus4Innovation Partnership Grants program. Universities will also play a key role in other priorities raised during that visit, such as public service leadership and innovation, urban planning, and entrepreneurship.

ATN already has a global focus – it has partnerships with the E9 (an alliance of nine Chinese technology-focused universities) and the TU9 (an alliance of nine technical universities in Germany) and has strong engagement with Indian institutes of technology.

Advanced manufacturing has globalised the manufacturing supply chain – primary resources, capital, machinery, parts and expertise are exported across the world. It is important that Australian businesses and universities can link into this global supply chain by sharing research, expertise, resources and manufacturing capacity. Any Government efforts to support international linkages into the global supply chain would be welcomed.

Recommendation 9: Continue to support industry-funded research

The research output of Australian universities is measured on metrics including patent activity, research commercialisation, impact and engagement. We can continue to ensure our performance on these key indicators by continuing to support industry-funded research. By its nature, this is research that has a high impact on the economy and society. Industry funding for research is the most direct indicator of need for that research. We encourage the Government to target the R&D tax incentive to support industry-funded research in a more focused way and encourage increased connectivity with universities.

Conclusion

As Australia's four most innovative and enterprising universities, the Australian Technology Network of Universities is ready and able to collaborate with the Government, partner with industry, and ensure our teaching and research is aligned to workforce needs.

We have a strong focus on widening participation in education, providing flexible and engaging pathways for our students and boosting the productivity of the economy with world-class graduates and research. We have set out a considered and responsible set of recommendations that will help us prepare for the opportunities and challenges Australia faces in the coming years.

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