AUSTRALIA LEADS THE WAY WITH EDUCATION TECHNOLOGY SOLUTIONS FOR POLICY MAKERS, GOVERNMENTS, INSTITUTIONS, SCHOOLS, EMPLOYERS, LEARNERS AND INVESTORS.

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Globally, technology is revolutionising the way education is experienced, consumed and purchased.

Growing connectivity and urbanisation across developed and developing countries is boosting participation in formal and non-formal education. Internet access has improved, along with user interfaces and the content and services provided in online environments. Service delivery is also enriching the experiences of learners who are studying in traditional ‘on-campus’ modes. Data analytics and alternative platforms allow learners to adapt content to their own personal learning style. This is where technology and consumer demand meet.

**EDUCATION IS EVOLVING**

There is increasing:

- Emphasis on skills and capabilities and decreasing emphasis on acquiring a body of knowledge. This is connected to a rise in the significance of credentials relative to qualifications
- Power for individuals to curate their own learning, while the power of institutions as gatekeepers of knowledge is decreasing
- Focus on rapid acquisition and application of skills to meet employer needs and the pace of economic transformation
- Global mobility - producing global citizens less defined by national experience
- Competition and the need to vie for the attention and interest of learners
Education technology – or edtech – is the provision of technology solutions for education purposes.

Edtech covers a variety of elements across the educational life cycle and can be classified under broad categories:

- Student recruitment and admissions
- Data analytics
- Testing and assessment
- Internship management
- Teaching and learning
- Student financing and parental engagement
- Accreditation and credentials management
- Infrastructure tools such as learning management systems

While they sometimes provide a completely integrated solution, Australian edtech companies generally excel at solving one element of the value chain, applied across one or more of the sub-sectors within the education industry.
THE BENEFITS OF EDTECH

- Supports and improves the provision of online learning
- Enables delivery in markets that were previously inaccessible, such as those in developing countries
- Allows connections with customer segments that are not easily engaged in classroom learning, such as adult learners with established careers
- Supports large-scale improvements in labour productivity, particularly for non-classroom based education
- Enables assessment at scale and with integrity
- Increases student engagement and retention
- Enables personalised and adaptive approaches to learning
- Facilitates lifelong learning
- Supports efficiencies in administrative functions
There are several reasons - specific to Australia - that have enabled Australian edtech companies to design world-leading products, platforms and applications.

1. A SOPHISTICATED NATION

- Australia is a wealthy country with a high standard and uptake of education as well as a culture of lifelong learning
- A national school curriculum and national training packages allow for large-scale trials and rollouts of edtech products and services
- Online learning and blended delivery is recognised by government, corporate and education sectors
- World class research and development institutions focus on areas of emerging information technology relevant to education (such as machine learning, augmented reality and virtual reality) as well as government investment in the associated infrastructure to support this
- Australian consumers are technology-savvy and are willing to adopt early and buy new technologies

2. A CONNECTED NATION

- Nearly 75 per cent of Australians use mobile phones to access the internet, making Australia one of the most mobile connected countries in the world
- By 2020, the average Australian household will have approximately 29 internet-connected devices and will spend A$3.2 billion on connected devices and services
- Australian online consumers spend an average of 24.2 hours a week and A$19.9 billion per year on online retail
- In 2016, Australia ranked sixth ahead of Singapore, the UK and South Korea in BSA’s Global Cloud Computing Scorecard. This compares the cloud-computing readiness of 24 countries that account for 80 per cent of the world’s IT markets
3. A SKILLED NATION

- Australia’s secondary education enrolment rate is the world’s third highest.
- Australia is ranked 2nd in the United Nations Development Programme’s Human Development Report 2016, which measures a country’s investment in its people.
- Australia has a higher percentage of employed people in knowledge-intensive services than the US, Japan, and South Korea.
- More than 40 per cent of Australia’s workforce holds a tertiary qualification.
- One in five university students is studying a science, technology, engineering or maths subject.

4. A WELL POSITIONED NATION

- Australia is in the Asian Time Zone and bridges closing of the US and opening of the European business day.
- Offers 24-hour access for organisations with round-the-clock operations.

5. A MULTILINGUAL NATION

- Nearly 30 per cent of the population was born overseas.
- There are nearly 300 languages spoken in Australia.
- More than 2.1 million Australians speak an Asian language at home – about 10 per cent of the population. Around 1.3 million speak a European language in addition to English.
- Cultural diversity makes Australia an ideal location to develop new content and trial it, with the end goal to service global markets.
- Combined skills and language capabilities present opportunities for edtech companies to use Australia as a base for translation or market development activities.
Key supporting industries in Australia enable world-class edtech.

A CYBER SECURE NATION

Australia is at the forefront of online safety and security. Robust legislation, advanced law enforcement capability, rigorous policy development and strong technical defences, like those present in Australia, are all key in this area.

Australia’s commitment to cyber security is evidenced by the:

- Development of the Australian Cyber Security Strategy
- Appointment of first Australian Ambassador for Cyber Affairs
- Launch of the Australian Cyber Security Growth Network
- Increased number of specialised cyber security university courses
- Increased number of commercial cyber security practitioners in Australia

Cybersecurity will need to form the basis of every new technology going forward, including edtech, and Australian companies are well placed to respond to this.

A GAME-DEVELOPING NATION

Australia has a dynamic and sophisticated game development industry, with a long history of developing and marketing products for the largest game publishers in the world. The industry continues to make an international impact disproportionate to its size. More than 200 Australian game development companies are creating digital games across mobile, console, computer, handheld and browser platforms that are internationally recognised for their design creativity, innovation, quality and technical skills.

Nearly 70 per cent of Australians play video games for entertainment, but games are also used extensively in education and edtech.

Australia has more than 350 edtech companies servicing the entire education ecosystem.

In its most recent analysis of the industry, Frost & Sullivan found that the Australian edtech market is expected to grow to A$1.7 billion by 2022. The market is expected to grow significantly amidst increasing student demand for education services and technology innovation, competition amongst institutions and decreasing acquisition costs.

Of the almost 200 edtech companies surveyed by EduGrowth in 2017, almost half offer solutions for the secondary school sector and over 40 per cent offer solutions for the university sector.

The majority of Australian edtech solutions are Software as a Service (SaaS) and app-based solutions, with a relatively even split between B2B (Business to Business) and B2C (Business to Consumer) business models.

Over 12 per cent of Australian startup founders are targeting the education industry - making it the fifth largest industry vertical being targeted nationally.

In the state of Victoria, education is the single largest industry vertical being targeted by startup founders.

Australia’s reputation in delivering high quality education has long been recognised domestically and in international markets. These same credentials have translated to our edtech industry as well.

Corporate Australia is also active in edtech. PwC delivers a 21st Century Minds Program focussed on STEM initiatives while Navitas Ventures has launched the world’s first global edtech census that maps 5000 companies over 50 countries.

Australia is the world’s third most popular destination for students. International education is Australia’s third largest export, valued at A$22.4 billion in 2016 and supports more than 130,000 Australian jobs. While there is strong forecast demand for ongoing delivery of education in Australia, the greatest emerging opportunities will be borderless and enabled by edtech.

Research by Deloitte Access Economics forecasts one billion prospective learners across 29 markets by 2025.
TECHNOLOGY AND AUSTRALIAN ONLINE EDUCATION

Many Australian edtech solutions serve to support and improve the expanding provision of online learning.

The Australian online education industry has expanded rapidly in the past five years. Technological developments and increasing positive public perception of online courses have been vital to this growth. Education institutions have harnessed the greater reliability of internet connections and mobile technology to deliver to more students. The trend towards reskilling and lifelong learning is also expected to support growth in flexible methods of study, such as online education.20

There are more than 1,100 online education providers in Australia, generating approximately $A5.4 billion in revenue.20 Leading online providers in Australia include Ducere, Online Education Services, Open Colleges, Open Training and Education Network, and Open Universities Australia. As student demand surges, industry revenue is forecast to increase by an annualised 4.5 per cent over the next five years to $A6.8 billion.20

Australia’s National Broadband Network will help online education grow

The rollout of the National Broadband Network (NBN), Australia’s open-access data network project, will aid online education growth in Australia by raising the number of internet connections and increasing the speed of data transfer across Australia. The NBN is also likely to stimulate software and program innovation as the online education market broadens.20
AUSTRALIA’S COMMITMENT TO INNOVATION IN EDUCATION

Australia is leading the way with innovative, world-class solutions for the education sector. The commitment to delivering the best-of-the-best has never been greater.

- Australia pioneered distance education programs such as School of the Air, Open Universities Australia and other correspondence programs which have delivered quality educational services to learners across Australia for decades.
- Deakin University was the first university in the world to partner with IBM’s ground-breaking machine learning and artificial intelligence program, Watson.
- In another world first, Deakin University is offering a suite of degree programs through a global massive open online course (MOOC) provider. While the University of Queensland, the Australian National University, the University of Adelaide and Curtin University are offering MicroMasters through a MOOC provider.
- Australia’s first MOOC provider, Open2Study, was launched by Open Universities Australia in 2013.
- Western Australia is leading the world in an international coding program for children. Worldwide there are just over 1000 dojos, or learning places, where children learn computer coding, and 95 of these are in Western Australia.
- The virtual reality simulator at UNSW called AVIE is a world first which casts 360-degree 3D images using a floor-to-ceiling screen and is available for student use and industry training.
- La Trobe University launched a gamified app to guide students in learning capabilities such as innovation and big picture awareness, cultural intelligence, collaboration, and communicating and influencing.
- South Australian schools are using robots to assist teachers and improve curriculum in a world-first study.
- Queensland and Victoria have made coding and robotics compulsory in schools from prep to Year 10.
- My eQuals is a digital authenticated qualifications system used by universities in Australia to issue electronic transcripts and graduation documents. My eQuals is Australia’s response to the Groningen Declaration, which is an international initiative involving 56 universities and 20 private sector companies from around the world.
- University of Technology Sydney has created what it believes is the world’s first transdisciplinary faculty of innovation.
- Melbourne Polytechnic hosts the only academically integrated finance and innovation intelligence system. It is the first tertiary education institute to provide students and industry partners access to the world’s single largest global repository of innovation and analytics.
- DeakinDigital is offering a world-first system of independently verified, evidence-based employability credentials. Backed by Deakin University, the credentials provide recognition of an individual’s skills and capability learned through work and life, benchmarked against globally recognised standards.
FOSTERING INNOVATION IN AUSTRALIAN UNIVERSITIES

Around the country, Australian universities are fostering innovation and commercialisation through over 110 in-house incubators and accelerator programs, such as:

- Cicada Innovations (UNSW, ANU, UTS and University of Sydney)
- Curtin Accelerate
- University of Melbourne Accelerator Program (MAP)
- University of Sydney Incubate
- University of Wollongong iAccelerate
- UNSW Michael Crouch Innovation Centre
- UTS Hatchery
- La Trobe Accelerator Program (LTAP)
- Victoria University Hanger
- Swinburne University Innovation Precinct
- Queensland University of Technology Bluebox

110+
Many Australian edtech companies have used academic research to underpin the design and development of their edtech products.

**ACADEMIC FACULTY CREATES SMART SOFTWARE**

The Melbourne Graduate School of Education at the University of Melbourne is a world leader in teaching and educational research, ranked number one in Australia and number five globally. It provides extensive research and consulting services to international organisations including the World Bank, UNESCO, UNICEF, the Asian Development Bank, the Education Endowment Fund (UK) and education ministries around the world.

Various research centres within the School including the Assessment Research Centre and the Centre for Program Evaluation have developed education software solutions, including:

- **21st Century Skills (C21):** which uses collaborative problem solving tasks to facilitate individual social and cognitive growth for students aged 13 and over. The C21 assessment system was used in a pilot study of 800 students across grades five and nine in Colombia and Peru and is currently being used in Australia, Costa Rica, Finland, the Netherlands, Singapore and the United States.

- **Teacher Exit Capability and Assessment Tool (TEXCAT):** which uses a secure web-based platform to enable teacher accreditation authorities and educational institutions to assess the graduating teacher’s pedagogical knowledge and skills.

- **Smart:tests (Specific Mathematics Assessments that Reveal Thinking):** which provide online diagnostic mathematic tests for middle-school students and is being licensed to the Israel Bureau of Education.
THE INFLUENCE OF PROFESSOR JOHN HATTIE

Laureate Professor John Hattie is the Director of the Melbourne Education Research Institute and an internationally renowned academic. His influential book Visible Learning: A synthesis of over 800 Meta-Analyses Relating to Achievement is believed to be the world’s largest evidence-based study into factors that improve student learning. Involving more than 80 million students from around the world and bringing together 50,000 smaller studies, the study found positive teacher-student interaction was the most important factor in effective teaching.

Australian education technology companies have developed edtech products that are informed, designed and developed based on the educational research of Professor Hattie, such as Pearson Australia Lightbook and Verso.

EDTECH COMPANY FOUNDED BY DR. ALAN FINKEL

The former Chancellor of Monash University and Australia’s Chief Scientist, Dr. Alan Finkel, founded educational software company Stile Education. Dr. Finkel also co-founded Cosmos Magazine, which operates a secondary schools science education program called Cosmos for Schools: a curriculum-complete collection of interactive, classroom-ready science lessons for Years 7 - 10. Every unit is based on a recent story from Cosmos Magazine, making them engaging and relevant to students. The lessons offered by Stile also bring in material from the CSIRO’s popular children’s science magazine, Double Helix, and include interactive interviews with CSIRO scientists.
Here are just some of the world-class Australian solutions, platforms and programs that are setting the benchmark for the edtech industry around the world.

**3P LEARNING**

3P Learning is a global online education company offering cloud-based resources for schools and students in grades K-12. The company provides a portfolio of digital education solutions to improve outcomes in subjects - including mathematics and literacy - guided by a mission to help students, families and teachers love learning.

3P Learning solutions are designed by educators for educators and serve millions of students and teachers in thousands of schools around the world. 3P Learning products, such as Mathletics and Spellodrome, incorporate the latest pedagogical practices and are fully aligned with international curricula to address academic performance and assessment standards.

The company’s continued dedication to education has positioned it as the top-ranked provider of online mathematics and literacy solutions in multiple regions including Australia, New Zealand and the United Kingdom. As a result of its service to the academic community, 3P Learning has been awarded ‘Multinational Company of the Year’ at the GESS Education Awards in 2016 and 2017, Microsoft Global Education Partner of the Year 2016, as well as numerous international product awards including Winner of BESSIE Award 2016 (Mathletics) and multiple BETT Award nominations in 2016.
CAHOOT LEARNING

Cahoot is a cloud based learning platform developed by CPDlive.

Targeted specifically at the global professional education market, Cahoot reclaims the human learning experience in a digital world. Unprecedented rates of change experienced by all industries have significantly shifted how we learn and grow as individuals and organisations.

Co-founders Errol la Grange and Anthony Morris see a distinct gap in professional online education. “It does not honour the wealth of real-life experience, knowledge and collective problem solving capability that professionals can bring into learning programs,” said Morris.

Cahoot is designed to draw out their insights through a mixture of technology smarts, learner-centered design and highly collaborative approaches. Collaborations occur within the course environment and between the various stakeholders who design, develop and facilitate compelling Cahoot learning experiences at scale.

Cahoot achieves completion rates amongst the best in the world at over 80 per cent. From la Grange’s perspective, it comes about through what he calls the 4.0 of learning - connecting heart and mind, with work and purpose.

CPDlive works with leading US universities including Stanford University, Georgia Tech and Massachusetts Institute of Technology (MIT). CPDlive has embarked on an exciting new program with MIT to co-design, develop and deliver two MIT Professional Certificates made up of eight courses.

LEARNOSITY

Learnosity operates a B2B, SaaS model and provides a suite of technologies (APIs) that helps organisations build and deliver e-learning and online assessment delivery solutions across a wide range of sectors, including K-12, higher education and corporate education.

With intuitive authoring, powerful analytics and over 65 technology-enhanced items, Learnosity provides the core technical foundations required for any online learning product while clients design the overall user experience and provide the learning content.

Specifically designed to be used as part of a bigger learning solution, Learnosity’s technology seamlessly integrates into third-party solutions, providing end users with powerful and engaging learning experiences.

Learnosity delivers millions of tests an hour - 500 million assessments were delivered in 2016 – with 25 million active user accounts in May 2017.

Learnosity counts digital publishers, testing organisations, cyber schools, learning management systems, certification and awarding bodies, as well as technology companies amongst their clients and has offices in Sydney, New York, Los Angeles and Dublin.
MATHSPACE

Mathspace is the world's first adaptive mathematics program allowing students to receive feedback at every step of a maths problem, and includes handwriting recognition for mobile devices. Each step of students' maths reasoning is automatically graded, with feedback, hints and suggestions guiding students to the final answer. Mathspace’s focus on the process of solving a maths problem - rather than just the final result - distinguishes it from the vast majority of online maths programs, which are primarily based around multiple-choice.

Mathspace includes a full digital textbook, instructional videos, a powerful adaptive learning engine, and is available on all devices, with alignment to multiple curricula (including Australia, the US, UK, Hong Kong and Singapore) for Grade Five through to pre-calculus.

OPENLEARNING

OpenLearning has created a social learning platform that enables the authoring and delivery of online courses within a vibrant learning community. Their platform is SaaS-based and cloud-hosted and all courses are accessible from PC and Mac as well as Android and iOS phones and tablets. The platform has an extensive set of APIs that enable integration with LMS, web-based applications and services and third party data.

OpenLearning was founded at the University of New South Wales (UNSW) in 2012 and launched its first course in computing that year. There are now more than 800,000 students from over 180 countries studying OpenLearning accredited and non-accredited courses.

OpenLearning works with over 400 organisations including leading universities, professional bodies, businesses and government. They offer fully online and blended postgraduate courses at UNSW, online vocational qualifications with TAFE NSW and professional development courses from Engineers Education Australia.

OpenLearning is also the national online learning platform in Malaysia - adopted by all 20 public universities, 8 private universities and all 34 polytechnics supporting more than 450,000 students. OpenLearning has a 35-person office in Kuala Lumpur supporting universities and partnerships with Malaysia Telecom, Media Prima and Cybersecurity Malaysia.
WANT TO KNOW ABOUT MORE AUSTRALIAN EDTECH SOLUTIONS?

Visit www.austrade.gov.au/edtech for a selection of Australian edtech solutions covering:

- Administrative solutions
- School solutions
- English language solutions
- Vocational education and training solutions
- Sector agnostic solutions
- Learning management systems
- Virtual reality solutions
- Online assessment solutions
- Tutoring solutions
- Corporate training solutions
- Game-based solutions
Australia has an integrated education system supported by the Australian Qualifications Framework (AQF) - a national policy for regulated qualifications across schools, vocational education and training and higher education.

### THE AUSTRALIAN EDUCATION SYSTEM IN NUMBERS

In 2016:

- 9,400+ schools with 3.8 million students
  - Government: 6,600+; Catholic: 1,700+; Independent: 1,000+
  - Primary: 6,200+; Secondary: 1,400+; Combined: 1,300+; Special Schools: 460+
- 120+ English language colleges with 150,000+ students
- 5,000+ registered training organisations with 4.5 million students
- 125 higher education providers
- 43 universities with 1 million students

In May 2016 it was estimated that over 3 million people aged 15 to 64 were enrolled in formal study in Australia. Of these, 1.2 million people were aged 15 to 19 and 741,100 people were aged 20 to 24.
## The Australian Education System at a Glance

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<th>Preschool</th>
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<th>Secondary School</th>
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<td>Senior Secondary Certificate of Education</td>
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Formal schooling starts with a foundation year, followed by 12 years of primary and secondary school, until at least the age of 16. In the senior secondary years, students can study for their Senior Secondary Certificate of Education, which is required for entry to most Australian universities and vocational education and training institutions. It is also recognised as an entry requirement for many international universities.

Each Australian state and territory has a different approach to preschool (also known as kindergarten) with some operating independently and some within primary schools.

States and territories are responsible for the delivery of school education in Australia with schools operated by government and non-government education authorities, including faith-based and independent schools. All schools are registered with the state or territory education regulators and are subject to government requirements in terms of infrastructure and teacher registration.

Relevant industry groups include the Australian Curriculum, Assessment and Reporting Authority, Education Services Australia and the Australian Council for Computers in Education.

AUSTRALIAN SCHOOLS: THE FIGURES

As of 2016 there are:

- **3,798,226** enrolled students (65% Government, 20% Catholic, 15% Independent)
- **394,762** full-time equivalent in-school staff
- **344,676** children enrolled in preschool programs
AN EXCITING VICTORIAN STATE INITIATIVE

The Victorian Government’s A$128 million Tech Schools Initiative will see construction of ten Tech Schools across the state by 2018. The schools will use leading-edge technology, discovery and innovation to deliver the advanced education and training that students need to flourish in the rapidly changing global economy. There will be a strong emphasis on Science, Technology, Engineering and Maths (STEM) skills.

Victoria also has six Science and Mathematics Specialist Centres to engage students and teachers in contemporary, experiential science, technology, engineering and mathematics, or STEM curriculum.

THE AUSTRALIAN CURRICULUM

There is a national standard that sets out what Australian students are taught. It means that all Australian students have access to the same content, and their achievements can be judged against consistent national standards.

The current curriculum gives attention to seven general capabilities that are vital for life and work in the 21st century:

- Literacy capability
- Numeracy capability
- Information and communication technology capability
- Critical and creative thinking
- Personal and social capability
- Ethical understanding
- Intercultural understanding

THE TECHNOLOGIES CURRICULUM

This sits under the main Australian Curriculum and has two distinct but related subjects:

- Design and Technologies, in which students use design thinking and technologies to generate and produce designed solutions for authentic needs and opportunities
- Digital Technologies, in which students use computational thinking and information systems to define, design and implement digital solutions
AUSTRALIA IS COMMITTED TO DIGITAL LEARNING

The National Innovation and Science Agenda’s Inspiring all Australians in digital literacy and STEM measure\(^24\) will see a variety of initiatives introduced to increase the participation of students and the wider community in STEM and to improve their digital literacy. They include:

- initiatives to inspire curiosity and develop science and maths knowledge in early childhood
- online computing challenges for Year 5 and 7 students nationally
- Information and Communication Technology (ICT) summer schools for Year 9 and 10
- support for school leaders to drive digital literacy and partnerships between ICT leaders and schools

Total funding for this initiative is A$112.2 million over four years from 2016.\(^{24}\)

TECHNOLOGY IN SCHOOLS

The Australian Governments, both national and state, support the appropriate use of technology in Australian schools to prepare students to learn, train and live in a digital world.

Australian schools are rich in ICT resources and infrastructure, however many are adopting a Bring Your Own Device policy, which allows students to bring their own digital devices to school for the purposes of learning. This concept recognises that students and their parents and caregivers would like to use the same digital devices at school and at home.

Australian schools have one computer for every student compared to the OECD average of one computer for every five students. And the average 15-year-old Australian student spends more of their school day – around an hour – on the internet than their counterparts around the world.\(^{25}\)

AUSTRALIAN ENGLISH LANGUAGE TRAINING

Australia is a well-respected supplier of English language training services and is the only country in the world with an English language training accreditation and quality assurance framework. English Australia is the national peak body for the English language sector, representing over 120 colleges. Over 80 per cent of international students learning English in Australia choose to study with an English Australia member college. In 2016, there were over 150,000 enrolments in English language courses in Australia.
BENEFIT FROM AUSTRALIA’s UNIQUE NATIONAL SCHOOLS INTEROPERABILITY PROGRAM (NSIP)

NSIP aims to advance the development of digital learning services and infrastructure for schools across Australia. To achieve this NSIP is promoting technical standards and supporting projects that solve problems associated with data exchange between systems and organisations.

This includes support for the Systems Interoperability Framework, which has been endorsed as the preferred method for exchanging data in the Australian school sector. It also includes the development of the Learning Services Architecture, which is an agreed national approach for integrating information systems that exchange data about learners in schools.

NSIP has also developed National Data Exchange Information Contracts in conjunction with school authorities and solution providers to support solutions that perform core school processes such as: enrolment, attendance, timetabling, assessment, finance and well being.

For more information visit nsip.edu.au
Australia’s Vocational Education and Training (VET) sector is based on a partnership between governments and industry.

Industry and employer groups contribute to training policies and priorities, and to developing qualifications that deliver skills to the workforce.

VET qualifications are provided by registered training organisations (RTOs) which include government institutions called Technical and Further Education (TAFE) institutions, as well as private institutions.

There are approximately 5000 RTOs in Australia. Across metropolitan and regional areas, Australia has 58 government-owned TAFE institutes and university TAFE divisions, as well as the Australia-Pacific Technical College (APTC).

VET industry bodies include TAFE Directors Australia and the Australian Council for Private Education and Training.

Number of VET students by location

- 484,500
- 245,200
- 1,338,200
- 83,700
- 1,117,600
- 75,300
- 1,095,600
Australia’s higher education system is made up of universities and higher education providers that play a critical role in fuelling innovation, driving productivity and giving students the skills they need for future success.

There are 125 registered higher education providers in Australia. There are also 43 universities; 40 of which are Australian, two international, and one private specialty university. Australian universities have more than one million enrolled students and employ over 100,000 staff.

Higher education peak bodies include Universities Australia, the Group of Eight, the Australian Technology Network of Universities, Innovative Research Universities, the Regional Universities Network, the Australian Council for Private Education and Training and the Council of Private Higher Education.

AUSTRALIAN UNIVERSITY RANKINGS

37 Australian universities have been included among the world’s best in the latest QS World University Rankings. Seven Australian universities are in the global top 100, with a further 10 making the top 300.

Five Australian institutions claimed top 25 places in the Times Higher Education ranking of the most international universities - a new measure that takes account of the proportion of international staff and students and the strength of international reputations and cross-border research collaborations.

Sixteen of Australia’s universities appear in the ranking of the world’s top 100 universities less than 50-years-old, and half of these are in the top 50. This is a higher number of young universities than any other nation in the world.27

The Quality Indicators for Learning and Teaching (QILT) is an alternative ranking system that compares higher education institutions and study areas, based on the results of thousands of surveys completed by domestic and international, current and former students.
AUSTRALIA’S RESEARCH EXCELLENCE

Research is a defining characteristic of Australia’s universities. Indeed, to be recognised as a university, our institutions must demonstrate quality-benchmarked research proficiency in at least three disciplines. This structural prerequisite balances the spread of knowledge with the creation of knowledge.

- Australia accounts for nearly 3 per cent of the world’s research output, with less than half a per cent of the world’s population.
- The Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia’s national science agency and one of the largest and most diverse research agencies in the world, is in the top 1 per cent of world scientific institutions in 14 of 22 research fields.
- Across 22 scientific research fields, over 80 per cent of Australia’s major scientific research publications have a relative impact of at least 20 per cent above the global average.
- Australia has educated 15 Nobel laureates over the last century, in the fields of medicine, science and literature.
- The Australian Synchrotron is the largest stand-alone piece of scientific infrastructure in the southern hemisphere.
- The €1.5 billion Square Kilometre Array telescope has been jointly awarded to Australia, New Zealand and southern Africa.
- Australia has one of the world’s highest rates of patent applications for innovations in renewable energy and biotechnology.
- Australian scientists and researchers have been responsible for or contributed to major breakthroughs and technological advances around the world, including:
  - Wi-fi
  - Google Maps
  - Black box flight recorder
  - Bionic ear
  - Spray-on-skin
  - Penicillin as a medical antibiotic
  - CETO wave energy
  - Permaculture
  - Cervical cancer vaccine

PROCUREMENT IN AUSTRALIAN UNIVERSITIES

The Australian Universities Procurement Network (AUPN) works to improve strategic procurement practices in Australian universities through a collaborative approach focusing on:
- sharing expertise and business intelligence;
- promoting the benefits of aggregated purchasing;
- greater efficiency in processes;
- professional procurement education opportunities;
- and encouraging the development of regional and national aggregated procurement contracts.

Australian Universities ultimately make their own procurement decisions or may choose to outsource the selection and implementation of high-value procurements to professional service firms.
Investors have a choice of engagement models, including:

1. Establishing an Australian subsidiary to supply the local market.
2. Establishing an Asia Pacific headquarters in Australia, given Australia’s extensive economic and cultural ties with Asia.
3. Establishing joint ventures or strategic alliances with an Australian company with complementary technologies, products or services that yield competitive advantage and expanded market access.
4. Establishing joint ventures or strategic alliances with Australian companies to research, develop, upscale or commercialise niche Australian technologies to launch in global markets.
WHY INVEST IN AUSTRALIA?

A high ranking global economy
With a population of just 24.2 million, Australia is the 13th largest economy in the world and the fifth largest in the Asian region. Australia’s economic growth has outperformed other major advanced economies. Global forecasts predict Australia will maintain its position as the world’s 13th largest economy (in US dollar terms) in 2017.

Australia’s nominal GDP is estimated at US$1.3 trillion (A$1.7 trillion) and accounts for 1.7 per cent of the global economy. Australia has almost tripled the value of its total production in two decades.

Ease of doing business in Australia
Australia’s political stability, transparent regulatory system, and sound governance frameworks underpin its economic resilience. Ranked in the global top five on the Index of Economic Freedom, Australia’s effective governance and control of corruption provide multinationals with a safe, secure business environment.

Australia is ranked 15th out of 190 economies for ease of doing business, and fifth when compared to economies with a similar or larger population. Australia’s Quality of Judicial Processes Index is rated the world’s best.

Global rankings come in 3rd for enforcing contracts, 5th for ease of getting credit and 7th for starting a business.

Offering competitive office space rates and remuneration for professionals, Australia’s major cities also enjoy some of the highest quality of living in the world. Six Australian cities are ranked in the global top 40 for their quality of living.

These credentials attract some of the world’s largest organisations to Australia. All Top 20 FT Global 500 companies and all Top 10 Fortune Global 500 have operations in Australia. And one in five businesses in Australia with more than 200 employees is at least 50 per cent foreign-owned.

A partner for growth in Asia
Australia provides a base for expansion into fast-growing Asian nations. Ten of the country’s top 12 export markets are in Asia.

Australia has strong business and cultural ties with Asia. The country’s medium and long-term growth outlook is supported by increasingly strong ties to the rapidly growing Asian region. Recently completed free trade agreements make Australia even more competitive and increase prospects for greater two-way investment.
Investing in innovation

Australia has a strong record of innovation, underpinned by its significant government and private sector R&D investment and quality-enabling ICT infrastructure. The Australian Government makes a significant annual investment in science, research and innovation. In 2015/16 it invested A$9.7 billion.³³

Australia’s R&D expenditure as a percentage of GDP in purchasing power parity terms is strong. Australia is ranked in the top 10 among OECD member nations for its total expenditure on R&D.³⁴

Australia’s National Innovation and Science Agenda is a framework for Australian innovation policy. The initiatives are worth $1.1 billion over the next four years:

- A$250 million into a A$500 million Biomedical Translation Fund to promote innovation in Australia’s strong biotechnology and healthcare sectors
- A$200 million CSIRO Innovation Fund for co-investment in new startups and accelerator opportunities
- A$163 million for research-industry partnership grants through the Australian Research Council for 258 research projects
- Establishing Innovation and Science Australia – an independent body responsible for strategic whole-of-government advice on all science, research and innovation matters
- Support for Australian startups to access Landing Pads in global innovation hotspots – Singapore, San Francisco, Shanghai, Tel Aviv and Berlin. These will provide short-term operational bases from which to access customers, entrepreneurial talent, mentors, investors and a wider connected network of innovation hubs
- New tax breaks for early-stage investors in innovative startups. Investors will receive a 20 per cent non-refundable tax offset based on the amount of their investment, as well as a capital gains tax exemption
- The R&D Tax Incentive continues to help companies doing eligible work to create new or improved products, processes and services by reducing their tax

For trade and investment, there is no better partner than Australia.

R&D TAX INCENTIVE

Are you eligible for an R&D tax incentive?
Companies performing eligible R&D activities can apply for:

- Refundable Tax Offset
  for eligible entities with an aggregated turnover of less than A$20 million (unless they are controlled by tax-exempt entities)
  (for income years from 1 July 2016)

- Non-Refundable Tax Offset
  for all other eligible entities
  (for income years from 1 July 2016)

³³ AUSTRALIAN EDUCATION TECHNOLOGY
London-based education software company, Firefly, is finding Australia a perfect platform to grow and expand its international presence.

Launched in 2011, Firefly – a learning platform, parent portal, intranet and learning management system all in one – has proved highly popular in hundreds of schools across the United Kingdom.

To grow global sales further, Firefly executives wanted a permanent presence overseas and an office able to provide local support to its growing international customer-base, so the Asia-Pacific region became the focus.

Firefly executives reviewed two options, Singapore and Australia.

“We chose Australia as a first step abroad because it’s a great market for new software and we knew there would be few, if any, cultural barriers.”

According to Souter, the education sectors in both countries have established reputations as early adopters of technology and were good business and cultural fits.

“Australian education is open to new entrants and not afraid of market disruptors. We witnessed a great cultural attitude, and Australian schools always seem willing to try something new. We found genuine enthusiasm for new technology and it didn’t matter where it came from,” he said.
The new Sydney office has enhanced Firefly’s ability to support its customers across the globe, particularly in the Asia-Pacific region.

**LOCATION LOCATION**

“With an office on Australia’s east coast, we can easily provide 18 hours of live technical support to teachers around the world without asking employees to work out of hours. This is extremely valuable to a software services company,” said Souter.

Second, with cloud services expanding, the time difference enables the company’s Sydney-based technical staff to execute server updates outside of the United Kingdom’s business hours, avoiding disruption to its customers.

Souter added lifestyle as another powerful attraction. “Australia is a great secondment location for London-based employees, and our employees are keen to work here.”

**EASE IN ESTABLISHING A NEW OFFICE**

The company wanted to ensure their new office was operational quickly so it turned to Austrade’s London office for advice.

“Austrade were really great. They gave us the information we needed to set up in Sydney. They introduced representatives from NSW Trade and Investment; put us in touch with lawyers who helped with working visas; and helped us understand how the schooling system works in Australia - particularly school budgeting cycles,” said Souter.

**ACCESS TO THE ASIA-PACIFIC REGION**

The new Sydney office became operational in early 2015 and Firefly has commenced building a sales and training team, which will market the company’s technology to Australian schools and provide ongoing support.

“Once we are established in Sydney, we will use the office as a base for expansion into Asia,” said Souter.

“It will be easy to hire the sort of people we need to spearhead that expansion because of the common language and culture. The new Sydney office also means we will benefit directly from Australia’s links to Asia,” added Souter.
Edtech in Australia has a strong and highly involved support network across a variety of relevant organisations. These organisations offer support, advocacy, investment opportunities, advice and encouragement to Australian edtech companies.

**Australian Computer Society**
Australian Computer Society (ACS) is the professional association and peak body representing Australia’s ICT sector. ACS’ mission is to deliver authoritative independent knowledge and insight into technology, build relevant technology capacity and capability and be a catalyst for innovative creation and adoption of technology for the benefit of commerce, governments and society.

[acs.org.au](http://acs.org.au)

**Australian Information Industry Association**
The Australian Information Industry Association (AIIA) is Australia’s peak representative body and advocacy group for those in the digital ecosystem. Since 1978 the AIIA has pursued activities to stimulate and grow the digital arena, to create a favourable business environment for its members and to contribute to Australia’s economic prosperity. The AIIA does this by providing a strong voice of influence; building a sense of community through events and education; enabling a network for collaboration and inspiration; and developing compelling content and relevant information.


Key edtech events in Australia include the EduTECH Conference Australia; AFR Edtech Summit and Educhange.
Education Changemakers

Education Changemakers (EC) provides innovation and leadership training to more than 25,000 teachers and school leaders across the world each year. Their acceleration arm EClabs works exclusively with K-12 focused education startups and they hold three day rapid accelerators in Melbourne and London, providing free training and support to early stage education ventures and also identifying which ventures move into a formal partnership with EC. This partnership provides entry into the global EC sales channels, capital raises with strategic education investors, ongoing strategic support from the EC team and office space. EC is also behind Australia’s first conference focused on K-12 education ventures, Edupreneur, which is held as part of their larger Educhange Education Festival in Melbourne.
educationchangemakers.com

EduGrowth

EduGrowth is Australia’s edtech acceleration network for high growth, scalable education. The not-for-profit organisation supports the accelerated growth of technology startups developing products and services for the education sector.

EduGrowth is committed to bringing the expertise of Australia’s world class education system together with the innovation capabilities of the startup community, to boldly reimagine the learning experience.

EduGrowth’s ambition is to see 100 million learners educated globally per annum by 2025 through Australian education. Since launching in October 2016, the organisation has established a community of more than 1500 edtech entrepreneurs, educators, technology and business leaders.
edugrowth.com.au

Knowledge Commercialisation Australasia

Knowledge Commercialisation Australasia is the peak body leading best practice in industry engagement, commercialisation and entrepreneurship for public research organisations in Australia and New Zealand.
kca.asn.au

Muru-D

Muru-D is the startup accelerator backed by Telstra. It invests in great teams with innovative technology and global ambitions. It has accelerated 73 startups to date across five locations in Sydney, Melbourne, Brisbane, Perth and Singapore. It provides introductions to corporate partners, channel partners, marketing partners, and ‘productisation partners’ leveraging the talents of Telstra personnel. It has global alliances with 500 Startups, HAX, Chinaccelerator, The Junction and The Icehouse. Australian edtech graduates from Muru-D include Chatty Kids, ELLA, Fluid Education, Funetics, Inkerz, Momentum Cloud, OpenLearning, Our Little Foxes and SoccerBrain.
muru-d.com

StartupAUS

StartupAUS is a not-for-profit organisation formed in 2013 by fifty leaders in the national start-up community. Its mission is to transform Australia through technology entrepreneurship, believing a home-grown tech sector is vital to the future of Australian jobs and wealth. It also works to advocate for policies to create a supportive culture and encourage the development of more entrepreneurs with the right skills. It is supported by volunteers who are immersed in Australia’s startup community, responsible for organising grassroots efforts and coordinating community activities such as Startup Spring.
startupaus.org

Sydney Education Technology Group

Sydney Education Technology Group is a meet-up group with over 400 members, interested in connecting passionate educators, tech geeks, and investors who are interested in applying technology to solve current problems in education.
sydedutech.org
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To learn more about Australia’s expertise in edtech, help define your needs and choose the best Australian partner to work with, contact the Australian Trade and Investment Commission in your country or visit austrade.gov.au

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