

# Business growth opportunities

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Alice Springs, NT







**REGIONAL  
AUSTRALIA  
INSTITUTE**

The Regional Australia Institute (RAI) is a think tank devoted to issues concerning regional Australia.

We gather and analyse the best information available on Australian regions and make this readily accessible to people around the country.

We also work with regional leaders around the nation to understand their challenges and help them identify opportunities for future development that they can implement.

And we talk to governments at all levels, providing them with independent, evidence-based advice about the options they have to make regions even greater.

The RAI is a not-for-profit organisation established as a public company limited by guarantee and we are an approved research institute for tax purposes.

We were founded in 2012 with seed funding from the Australian Government. Our current operations reflect partnerships that bring together the Australian Government, all state governments and the Northern Territory in supporting an inquiry program of national significance. We also have active partnerships with a range of companies, and projects working directly with regions.

In 2017, the RAI joined a distinguished group of international experts to receive the Regional Studies Institutional Ambassador Award for sustained excellence in the field of regional studies.

Past winners include the Organisation for Economic Co-operation and Development (France), the University of Warsaw (Poland) and the Lincoln Institute (USA).

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# Executive summary

Alice Springs' strategic aspiration is to be "the preferred destination for employment, education, recreation, enjoyment and lifestyle"<sup>1</sup>.

Having fast broadband infrastructure available allows Alice Springs, among other things, to attract and accommodate world-class education facilities, develop and promote regional tourism, and extend the forms, reach and impact of the unique arts and cultural offerings.

Alice Springs is already realising many of the benefits of high-speed broadband as it grows and diversifies. Local businesses that have connected to fast broadband are more easily engaging regional, national and global markets, and creating more efficient remote operations.

In order to support innovative industry, business, education, tourism, arts and cultural environments, a skilled workforce is necessary. The RAI confirms Alice Springs is currently performing well in human capital indicators, ranking 3 out of the Northern Territory (NT) local government areas (LGAs), with higher levels of university qualification, high school completion and adult learning compared to the average for NT.

Alice Springs ranks significantly above the NT average in the number of R&D managers, (12.6 compared to 5.7) per 10,000 working age population, one of the traditional measures of innovation. Overall, though, Alice Springs can still improve its 'innovation' theme performance by building its entrepreneurial capacity.

Having the necessary infrastructure in place and available is key to supporting existing businesses as well as attracting and growing new innovative businesses across sectors. Access to secure fast broadband is part of the foundation.

**Fast broadband provides more competitive market conditions, both inbound and outbound. It's necessary for regional leaders, businesses, educators, creative communities and the workforce to engage with digital technology in ways that build on existing strengths, capture new growth opportunities and transition people to less vulnerable jobs so that more is gained from fast broadband than lost.**

Connecting to fast broadband can help reduce workforce vulnerability to automation and digital disruption. While 50.2 per cent of jobs have been assessed by the RAI as having low vulnerability to

automation (higher than NT's average of 46.2 per cent), Alice Springs is on par with NT for jobs that are considered to be highly vulnerable (22.2 per cent compared to 22.3 per cent). Reducing this high vulnerability further requires a more technologically engaged and skilled workforce.

Connecting to available digital technologies demonstrates a growth mindset and drives entrepreneurial and innovation behaviours, which grows a skilled and future-focused technologically capable workforce. Now, the immediate imperative for businesses in Alice Springs is to get connected, build the technological knowledge and skilled workforce required to fuel business innovation, as well as take action applying digital technologies to drive revenue growth, operational efficiencies and grow market share.

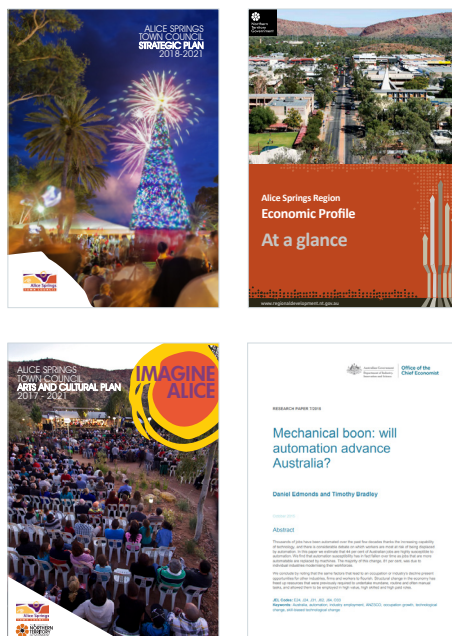


## Strengths and deficiencies in the Alice Springs economy based on comparison areas

Alice Springs is considered to be the heart of Central Australia and is an economic, business and services hub for the southern half of the Northern Territory as well as remote parts of South Australia, Western Australia and Queensland.

As the largest population centre in Central Australia (a region that spans an area of almost 570,000 square kilometres) a fast broadband service is essential to Alice Springs achieving success regionally, nationally and globally.

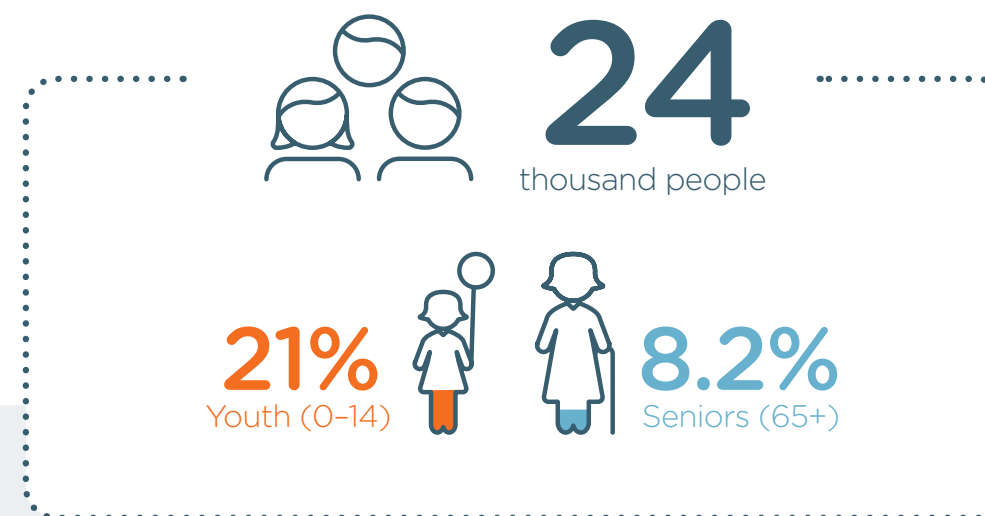
Improving digital connectivity, by providing access to services over the **nbn**™ broadband access network has been important to Alice Springs in helping to counter the impact of global digital disruption and capture the opportunities it presents. Fast broadband and digital technologies are critical to Alice Springs' aspirations as a city and its strategic significance as a regional hub.



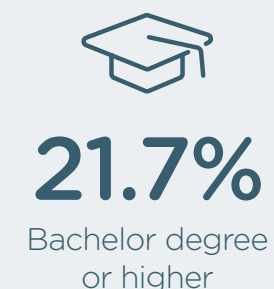
“ High-speed broadband has allowed businesses to move from traditional on-premises servers to cloud environments for their application and email hosting solutions, which has created a much more flexible working environment for their staff who provide services remotely or on the road. High-speed broadband enables real-time data sharing. ”

Stacey Harris,  
Territory Technology Solutions

## Alice Springs community profile



### Employment and education



### Housing

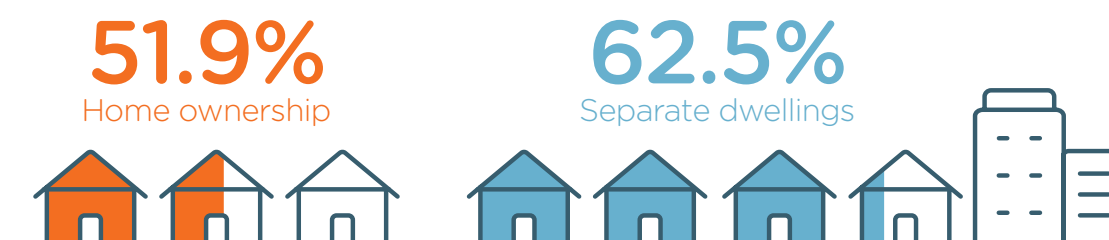


Figure 1 | Source: ABS 2016 Census



# Strengths

“Fast broadband connectivity and digital technologies support enterprises and service providers within Alice Springs in being commercially competitive to larger markets, functioning as an integral part of the regional hub and working among remote communities.”

The RAI research shows that Alice Springs has a high concentration of professionals, accounting for 25 per cent of the total workforce, a ranking of four out of the 17 LGAs in NT for the Innovation theme and educational attainment, which is higher than the NT average.

For human capital, Alice Springs' ranking is boosted by strength in university qualifications (22.3 per cent), high school completion (49 per cent) and adult learning at 6.9 per cent. Alice Springs also performs strongly in technical qualifications, which are slightly higher than those for NT. These human capital indicators are positive for economic growth as education is an aspect of developing a skilled workforce.

The presence of Charles Darwin University and Flinders University campuses in Alice Springs adds to the capacity to transition to a technologically capable workforce that can further reduce job vulnerability to automation.

The level of owner-managers (slightly higher than NT) and business entries (slightly lower than NT) in Alice Springs reflects a supportive business environment that can further attract innovation and entrepreneurship.

Combined with the strong human capital performance, Alice Springs is positioned well for economic growth and to continue expanding its reach and impact across sectors.

Fast broadband connectivity and digital technologies support enterprises and service providers within Alice Springs in being commercially competitive to larger markets, functioning as an integral part of the regional hub and working among remote communities. This digital connectivity is attractive for new industries and businesses in the city.

Advancing and increasing the business and innovation ecosystem alongside the arts community within Alice Springs, and building capacity to extend the promotion of the region, is impacted by the availability of high-speed broadband and the rate of uptake by the local community as well as the creative uses of digital platforms.

Knowledge-intensive business services (KIBS)<sup>2</sup> provide support to other organisations' business processes that require specific and professional knowledge, and is an indication of a skilled workforce.

Knowledge production often contributes to innovation and Alice Springs has a lower share of KIBS workers (4.5 per cent) than the NT average (6.3 per cent).

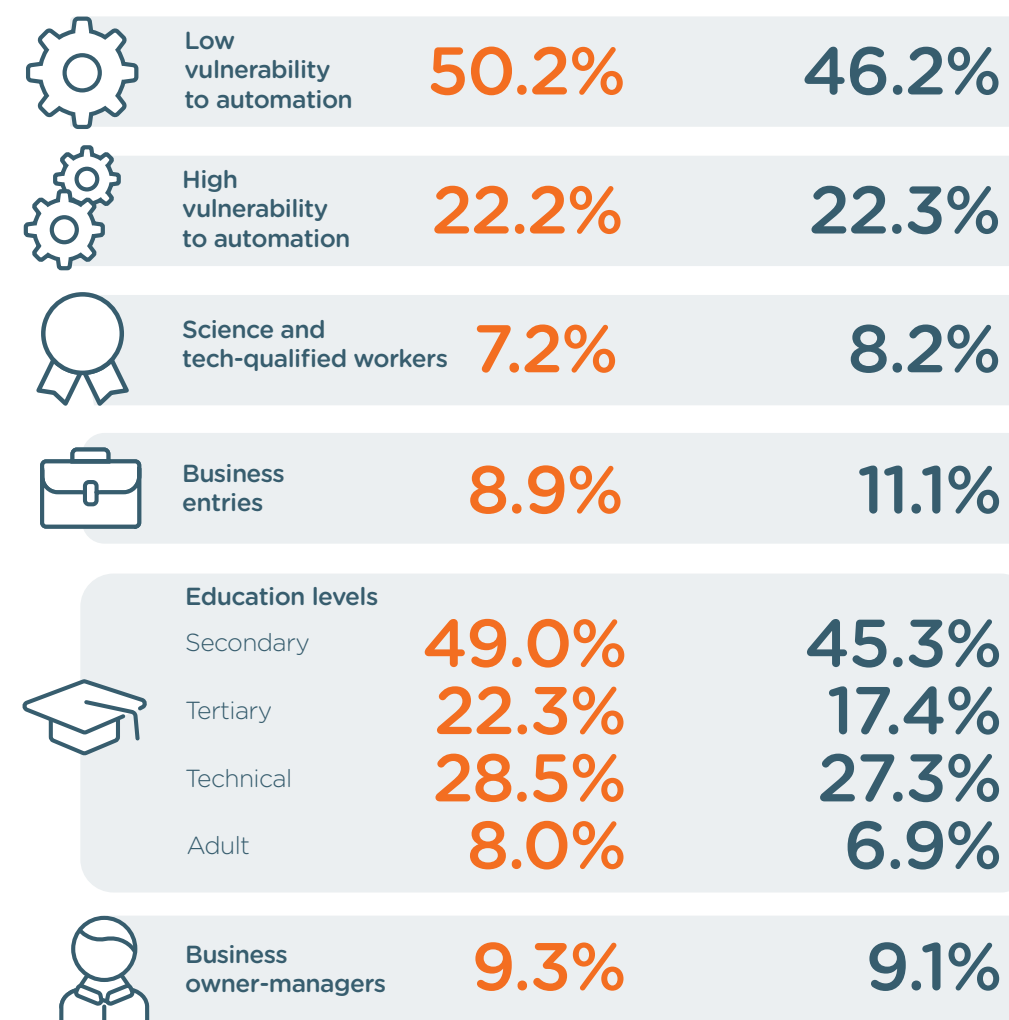
Alice Springs has a low level of business entries (8.9 per cent per annum compared to NT's 11.1 per cent) as well as science and tech-qualified workers

(7.2 per cent compared to NT's 8.2 per cent), which are indicators of innovation and entrepreneurship. Innovation and entrepreneurship can broaden and strengthen the business ecosystem of Alice Springs.

Improving these indicators is considered an important outcome for Alice Springs and their flow-on effects will have a direct bearing on business and innovation as well as feed into tourism, and the arts and cultural objectives.

Using fast broadband as a way to address these weaknesses requires proactive community education to influence the uptake, optimised use and impact of digital technologies.

## Alice Springs versus Northern Territory



Alice Springs Northern Territory

Figure 2 | Source: Regional Australia Institute 2018

# Weaknesses



Fast broadband assists local industries, businesses, educators, service providers and the arts community in Alice Springs by allowing them to adopt 'best practice' and state-of-the-art digital technologies, reach new markets, compete globally and promote more broadly. Alice Springs can continue to build on its strengths in embracing fast broadband and enjoying the rewards of exploiting its benefits.

Industries that have large data transfer requirements (such as tourism, agriculture, R&D, etc.) are able to more easily reach and engage their audiences without being competitively disadvantaged by technology limitations.

Continuing to be proactive, strategic and coordinated in developing the business and innovation ecosystems, through programs, networks and training should also further stimulate entrepreneurs to pursue their business ideas due to access to fast broadband.

Building capacity within tourism operators and the arts community to optimise their use of digital technologies to extend their reach, impact and engagement will promote visitation to Alice Springs.

Helping existing businesses become aware of and implement the productivity and efficiency improvements provided by fast broadband and digital technologies will assist them in their ongoing viability.

Continuing promotion and development of innovation and entrepreneurship will raise awareness of business opportunities and connect residents in Alice Springs with the prospect of being able to have fast broadband and their regional lifestyle, too. This fosters new business development, greater work-life flexibility and growth.

New research, commissioned by NBN Co, illustrates the scale of growth the Northern Territory – Outback region can expect to see by 2021 from learning to harness the opportunities provided by fast broadband. Over the next three years, it is possible that 40 to 130 additional businesses and 400 to 780 additional digital jobs could be created as a result of access to services over the **nbn**<sup>TM</sup> access network.

Fast broadband provides more competitive market conditions, both inbound and outbound, so it is necessary to engage with digital technology in ways that build on existing strengths, capture new growth opportunities and transition people to less vulnerable jobs so that more can be gained from access to fast broadband than lost.

“Over the next three years, it is possible that 40 to 130 additional businesses and 400 to 780 additional digital jobs could be created as a direct result of access to services over the **nbn**<sup>TM</sup> access network.”



## Connecting Australia - Alice Springs and Northern Territory Outback

The impact of the **nbn**<sup>TM</sup> access network on the lives of Australians and the economy

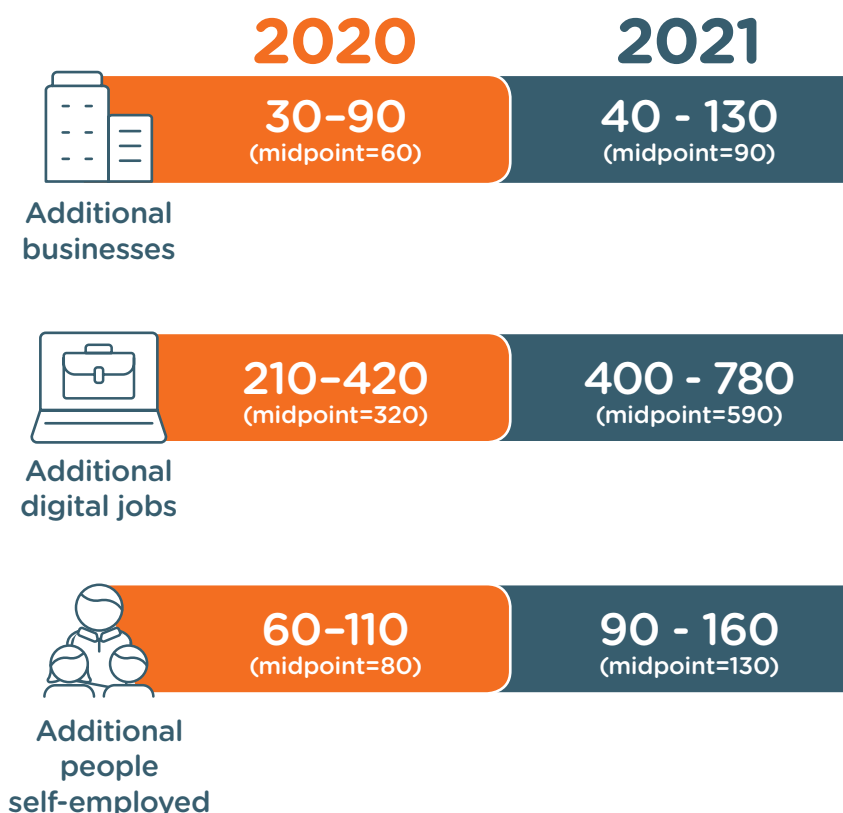


Figure 3 | Source: Connecting Australia 2018



This section presents a summary of key data that highlights the current occupation mix in the Alice Springs LGA and performance on human capital and innovation measures in relation to the NT average.

Understanding the current occupation mix in Alice Springs highlights which occupations are mostly found in the region and, in turn, the proportion of jobs that are vulnerable to automation. This allows for businesses in the region to be aware of potential jobs that may be impacted and the necessary reskilling needed. It also means being able to tap into strengths in areas of human capital or innovation to take advantage of the new job opportunities as a result of automation and digitisation.

#### Occupational mix and vulnerability to automation

At the RAI, we have calculated an index to determine the level of job vulnerability to automation within a region. This index has drawn on the widely adopted work by Frey and Osborne's (2013) *The future of employment: how susceptible are jobs to computerisation?* as well as automation scores from Edmonds and Bradley's (2015) *Mechanical boon: will automation advance Australia?* The RAI job vulnerability index classifies occupations with automation scores of below 40 as having low vulnerability, jobs at or above 40 and at or below 80 as moderate vulnerability, and jobs that have an automation score above 80 as high vulnerability. Based on this, we are able to identify the percentage of jobs in the region with low, moderate and high vulnerability to automation.

Alice Springs has a clear concentration of professionals, accounting for 25 per cent of the total known jobs<sup>3</sup> in the area. This is followed by community and personal service workers at 16 per cent, then clerical and administrative workers at 15 per cent. This mix reflects Alice Springs' role as a regional services centre.

The top 10 jobs in Alice Springs have been identified in the figure across the page. Looking at detailed occupational types, the largest group is midwifery and nursing professionals, accounting for 5.7 per cent of all total known jobs.

### Alice Springs occupational mix

#### Machinery operators and drivers



#### Sales workers



#### Labourers



#### Technicians and trades workers



#### Managers



#### Clerical and administrative workers



#### Community and personal service workers



#### Professionals



Figure 4 | Source: Regional Australia Institute 2018

Sales assistants and salespersons, which has around similar numbers, accounts for 5.1 per cent of jobs. This is followed by school teachers at 4.1 per cent. The remaining jobs within the top 10 have relatively similar numbers of people employed in those occupations.

Within the top 10 jobs, sales assistants and salespersons are occupations considered to be

highly vulnerable to automation as they involve tasks that can be easily replicated or replaced by technology. In addition, general clerks, accounting clerks and bookkeepers, and receptionists are also occupations considered to be highly vulnerable to automation. These jobs are also within the top 10 jobs in Alice Springs.

### Top 10 jobs in Alice Springs

#### Receptionists



#### Accounting clerks and bookkeepers



#### General clerks



#### Social and welfare professionals



#### Health and welfare support workers



#### Cleaners and laundry workers



#### Personal carers and assistants



#### School teachers



#### Sales assistants and salespersons



#### Midwifery and nursing professionals



Figure 5 | Source: Regional Australia Institute 2018



Overall, the distribution of jobs in Alice Springs across the three categories of vulnerability shows that, of the total known jobs in the area, most jobs are considered to be of low vulnerability (50.2 per cent) to automation. Alice Springs has a higher proportion of jobs that are of low vulnerability compared to the NT average, which has 46.2 per cent. Consequently, Alice Springs has a comparatively low proportion of jobs that are of high vulnerability (22.2 per cent). This is similar to the NT average of 22.3 per cent. In addition, Alice Springs has an even lower proportion of jobs that are of moderate vulnerability (27.7 per cent) than the NT average (31.6 per cent).

Alice Springs is considered an 'industry and service hub' based on the RAI's classification of Australia's regional communities<sup>4</sup>. In comparison to other such areas around Australia, the percentage of jobs that are highly vulnerable in Alice Springs is significantly lower. Alice Springs has a higher percentage of low vulnerability jobs (34.9 per cent) compared to other industry and service hubs.

## Human capital and lifelong learning

The RAI's '[In]Sight' data tool<sup>5</sup> provides a snapshot of the competitiveness of Australia's regional LGAs by ranking each LGA's performance on various indicators for 10 different themes. It highlights elements that the region has strengths in or areas for improvement.

The 'human capital' theme focuses on understanding the skills and capabilities of people. Building a more agile and skilled workforce that is ready to adapt to changes and has relevant skills for future jobs is increasingly important. Therefore, having a good understanding of Alice Springs' human capital is fundamental to securing future economic development and helping businesses identify the capabilities of the workforce.

Human capital is measured by a range of indicators such as the proportion of the region's population with university qualifications, technical qualifications, high school completion, primary and secondary school literacy and numeracy, level of early childhood development, the proportion of the population who are learning or earning, the workforce skill mix as well as the rates of adult learning.

Alice Springs ranks highly at third out of the 17 LGAs in NT on human capital. On most of the indicators of human capital, Alice Springs has scored better than the NT average. Alice Springs is home to a Charles Darwin University campus as well as a Flinders University campus, which runs the NT Medical Program. This access to several higher education institutes helps account for the strong performance in university qualifications. University qualifications in Alice Springs are at 22.3 per cent compared to 17.4 per cent in NT. It is likely that Alice Springs' population also has higher qualifications as there is a high proportion of professional jobs, particularly in areas related to medical and community welfare that are considered skilled and would require higher qualifications. Technical qualifications in Alice Springs are also slightly higher at 28.5 per cent compared to 27.3 per cent for NT.

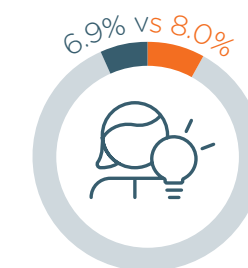
Completing high school is considered to have an influence on whether people pursue higher education and, therefore, is an important aspect for developing a skilled workforce. High school completion was significantly higher in Alice Springs with close to half the population (49 per cent) completing high school.

Alice Springs also has a proportion of jobs, such as sales assistants and salespersons, general clerks and administrative workers, that are all vulnerable to automation, and future jobs will also be impacted by the increasing use of digital technology. The demand for skills will continue to change and workers will be expected to learn new skills to meet these changing needs.

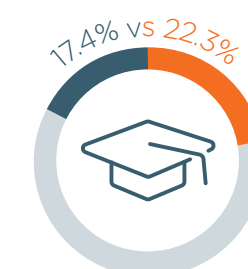
Adult learning rates provide an indication of how engaged the population in Alice Springs is with lifelong learning. NT has around 6.9 per cent of its population aged 25 to 64 engaged in learning, while Alice Springs has a higher engagement level at 8 per cent. The high level of adult learning is a positive indication of lifelong learning, which will be beneficial for a skilled and relevant workforce.

**For more information on human capital and lifelong learning, see the RAI's report on bridging the education divide:** <http://www.regionalaustralia.org.au/home/2017/03/bridging-education-divide-building-culture-learning-across-lifecycle-regional-australia/>

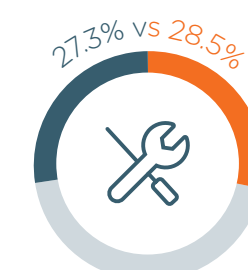
## Human capital indicators



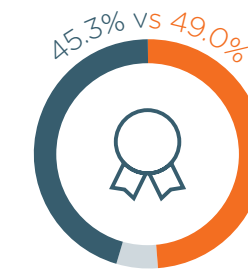
Adult learning



University qualification



Technical qualification

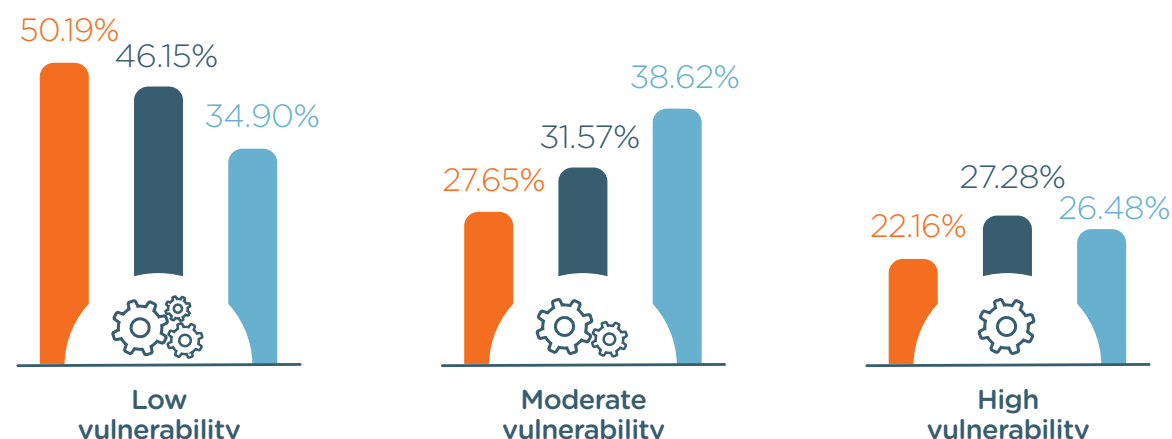


High school qualification

Northern Territory Alice Springs

Figure 7 | Source: Regional Australia Institute 2018

## Vulnerability to automation



Alice Springs Northern Territory Industry and service hub

Figure 6 | Source: Regional Australia Institute 2018



The innovation theme combines traditional measures focused on R&D and science, as well as aspects related to the commercial environment (i.e. business dynamo), such as number of business entries.

The level of innovation in the region is important in driving productivity growth and to take advantage of future opportunities as the Australian economy transitions towards more knowledge and service products. Alice Springs ranks fourth out of the 17 LGAs in NT with some opportunities for greater growth in innovation.

Indicators of R&D and science include the number of people in Alice Springs who are science and tech-qualified, number of R&D managers, number of registered research service providers, as well as number of patent applications.

Alice Springs has significantly higher numbers of R&D managers per 10,000 working-age population compared to the NT average (12.6 and 5.7, respectively). For patent applications, Alice Springs has numbers slightly above the NT average at 1.57 compared to 1.14 per 10,000 working-age population.

However, in terms of the percentage of the population being science and tech-qualified, the NT average was around 8.2 per cent compared to 7.2 per cent in Alice Springs. Alice Springs' performance in these indicators of R&D and science suggest strengths in the more traditional measures of innovation.

The business dynamo aspect focuses more on the environment in which businesses are operating and the level of innovation and entrepreneurial capacity in the region. It measures the number of business entries, owner-managers, trademark applications and KIBS. Overall, Alice Springs' performance in this area was around average, ranking seventh out of 17 LGAs in NT for business dynamo.

KIBS provides knowledge-intensive support to other organisations' business processes, which requires specific and professional knowledge. Thus, a high KIBS level not only suggests a skilled workforce but knowledge produced by KIBS also contributes to innovation. Alice Springs has a lower level of KIBS (4.5 per cent) compared to the NT average (6.3 per cent). Business entries were also lower than the NT average at 8.9 per cent and 11.1 per cent, per annum, respectively. There are opportunities for Alice Springs to improve on these measures and thereby provide a stronger foundation for future entrepreneurship.

## Research and development

Northern Territory Alice Springs

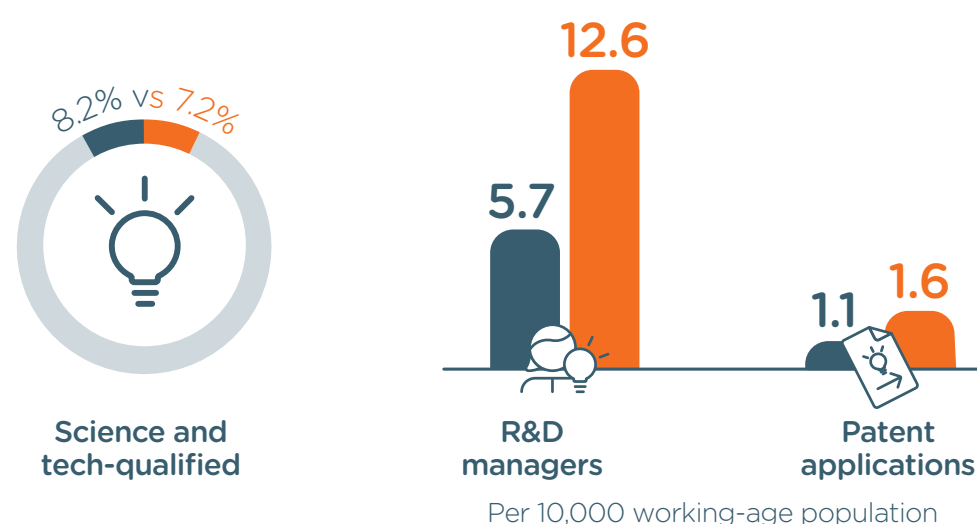


Figure 8 | Source: Regional Australia Institute 2018

## Business dynamo

Northern Territory Alice Springs

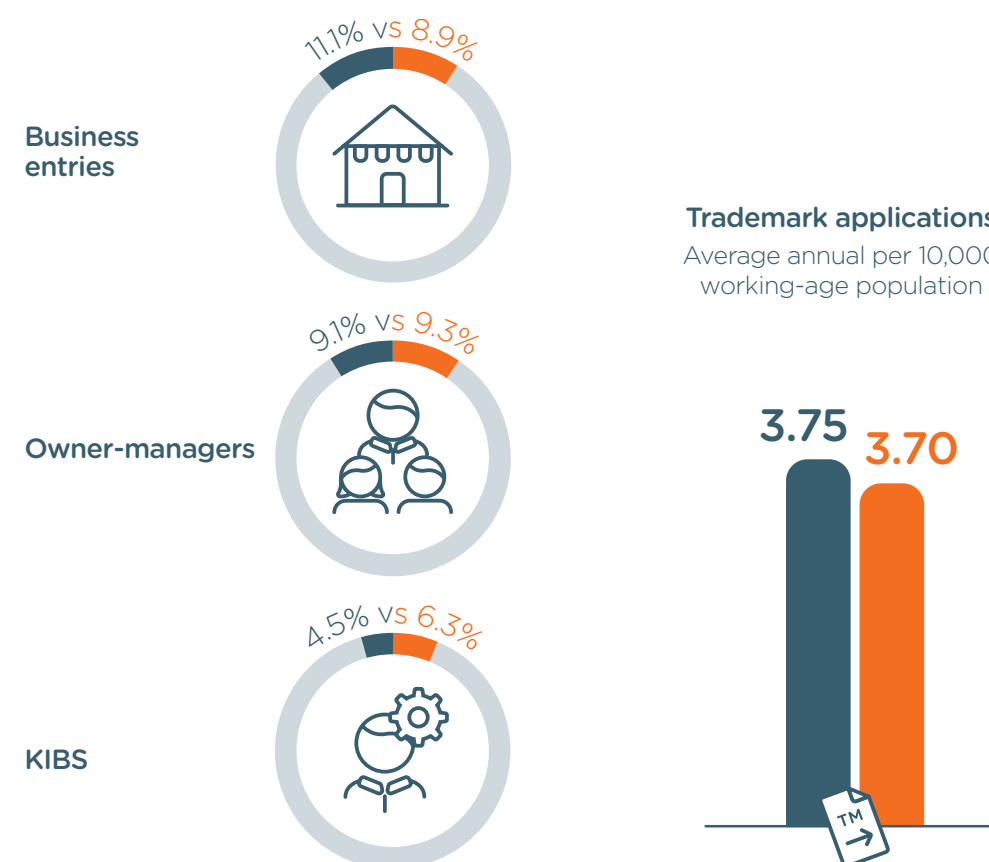


Figure 9 | Source: Regional Australia Institute 2018


In terms of the number of owner-managers, which is an indicator of the level of entrepreneurship in the area, Alice Springs (9.3 per cent) had a slightly higher percentage to the NT average (9.1 per cent). Similarly, compared to NT's performance on the average annual number of trademark applications per 10,000 working-age population, Alice Springs has similar numbers. The number of trademarks is around 3.70 per 10,000 working-age population compared to 3.75 for the NT.

Overall on the innovation theme, Alice Springs performed well, with a stronger performance on traditional measures of R&D and science, particularly in the number of R&D managers.

On other measures such as patent applications, trademark applications and owner-managers, Alice Springs performed similar to the NT average. Therefore, there are opportunities for the region to develop greater innovation and entrepreneurial capacity, which can bring new opportunities for businesses in Alice Springs.

In order to support an innovative business environment, a skilled workforce is also necessary and is related to the human capital indicators. Alice Springs is currently performing well in this aspect with high levels of university and technical qualifications, high school completion and adult learning compared to the NT average.



An aerial photograph of Alice Springs, Australia, showing a mix of urban development and natural landscape. In the foreground, there's a large, modern building with a distinctive roof structure. The middle ground shows a dense cluster of residential and commercial buildings, interspersed with trees. In the background, a large, arid hill rises under a clear sky.

“Access to fast  
broadband in Alice  
Springs is stimulating  
business growth.”

Alice Springs' future will be influenced significantly by the health and vitality, of local businesses.

Automation and the digital economy are real drivers of business viability and fast broadband enables competitive participation.

Access to fast broadband in Alice Springs is stimulating business growth, from a proactive approach to connecting, and learning how to take full advantage of digital technologies.

Continuing to embrace digital technology to leverage existing strengths and develop new industries promoted globally can bring increased economic resilience and prosperity for Alice Springs, ensuring more is gained than lost from the impact of fast broadband.

Innovation and entrepreneurship, which can be pursued with full access to high-speed digital technology, along with the skills required, will enable Alice Springs to continue to offer the benefits of regional living and lifestyle with the attraction of globally competitive business options.

Maintaining and expanding the programs in Alice Springs that promote and educate on the business and creative possibilities from access to fast broadband can encourage latent innovators and entrepreneurs, existing business operators and artists to embrace digital technology, pursue new ideas and invest in growth.



## November 2018

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### Notes:

- . Alice Springs Town Council Strategic Plan (2018–2021)
- . KIBS are services and business operations heavily reliant on professional knowledge, such as finance, law, engineering and science
- . Total known jobs excludes inadequately described, not stated and not applicable in 2016 Census responses Available at <http://www.regionalaustralia.org.au/home/tools-and-products/insight/>
- . Talking point: the foundations of regional australia <http://www.regionalaustralia.org.au/wp-content/uploads/2014/12/Foundations-of-regional-Australia-FINAL-.pdf>
- . [In]Sight data tool available at <http://www.regionalaustralia.org.au/home/tools-and-products/insight/>

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