

Business growth opportunities

Hobart, Tasmania





**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 regions and make this readily accessible to people around the country.

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

We also 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.

The institute was 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), University of Warsaw (Poland) and the Lincoln Institute (USA).

For more information about the RAI, visit:
www.regionalaustralia.org.au



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Executive summary

Hobart has responded well to the introduction of access to fast broadband services over the **nbn™** broadband access network and is already realising many of the benefits.

Local businesses that have connected to the **nbn™** access network are more easily engaging global markets and increasing their competitiveness.

The Regional Australia Institute (RAI) confirms Hobart shows strengths in terms of 'business dynamo', ranking first out of 29 local government areas (LGAs) in Tasmania, performing highly across the indicators of knowledge-intensive business services (KIBS) and trademark applications. Business entries and the number of owner-managers, which are both indicators of the level of entrepreneurship, are also higher in Hobart than across Tasmania.

Hobart has identified the need to support existing businesses as well as to attract and grow new innovative businesses. Having the necessary infrastructure in place and available to enable this is key, and access to fast broadband is the foundation. Uptake of services over the **nbn™** access network in Hobart can support these objectives, and maintaining a proactive, strategic approach is critical.

Access to fast broadband can provide more competitive market conditions both inbound and outbound. It's necessary for regional leaders, businesses, educators 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 can be gained from access to fast broadband.

In order to support an innovative business environment, a skilled workforce is also necessary. Hobart is currently performing well on the human-capital indicator, and access to fast broadband can help further improve and reduce the workforce vulnerability to automation and digital disruption.

Most jobs in Hobart have been assessed by the RAI as low vulnerability to automation (51.8 per cent), which is a stronger position than Tasmania generally (38.6 per cent). Hobart still has a similar proportion of jobs that are considered to be highly vulnerable: 27.1 per cent compared to Tasmania's 28 per cent. Reducing this high vulnerability requires a more technologically engaged and skilled workforce.

Connecting to available digital technologies demonstrates a growth mindset as well as drives entrepreneurial and innovative behaviour which, in turn, grows a skilled and future-focused technologically capable workforce.

Now, the immediate imperative for businesses in Hobart 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.



“Access to fast broadband has seen an evolution, or perhaps a revolution, for businesses in Hobart, especially start-ups and home-based businesses that rely on online applications to operate. Global reach continues to assist local companies that have access to the **nbn™** access network, and it is increasingly the driving force for growth in Tasmania’s ag[riculture]-tech, advanced manufacturing and defence industry.”

Phil Pyke
CEO Tas ICT

Strengths and deficiencies in the Hobart economy based on comparison areas

Like other regions in Australia, Hobart has been pursuing a broader and more diversified economy, and access to fast broadband has become essential to achieving this success.

Embracing fast broadband and digital technologies as well as learning to exploit their potential are critical to Hobart’s aspirations as a city. The strategic direction of Hobart’s future development is a diversified and robust economy that allows the community to thrive.

Enabling more capacity within businesses and service providers as well as boosting the potential for tourism promotion and attraction all have links to digital connectivity and capability.

“In 2025, Hobart will be a city that provides opportunities for education, employment and fulfilling careers: a city that is able to retain its young people and provide a lifestyle that will encourage all ages to see the city as a desirable location and lifelong home.”

City of Hobart Annual report 2016-2017

Hobart community profile

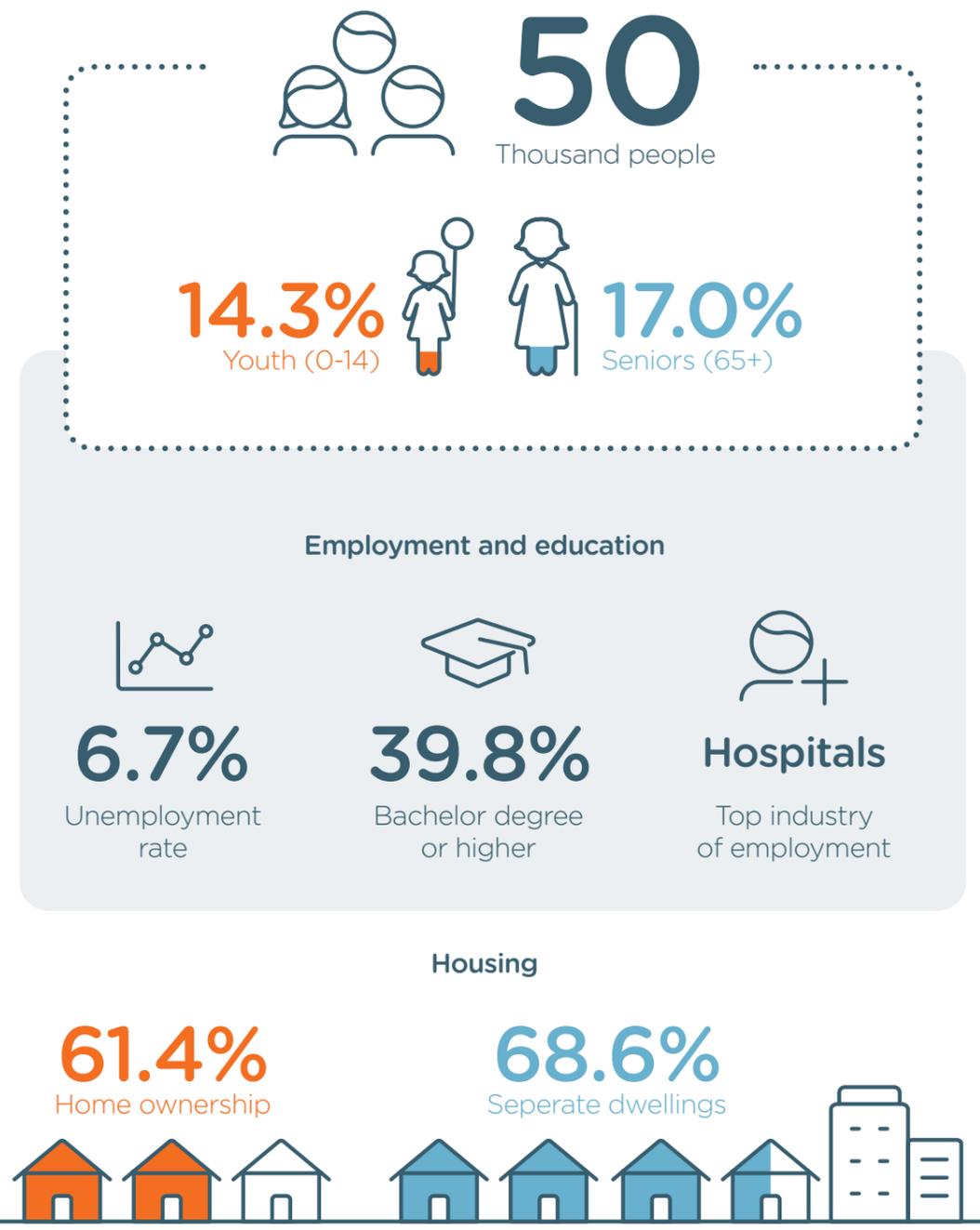


Figure 1 | Source: Australian Bureau of Statistics 2016 Census

“Fast broadband connectivity and digital technologies support industries within Hobart to be commercially competitive beyond the region and help to attract new industries and businesses to the city.”

The RAI research shows that Hobart has a high concentration of professionals, accounting for 32 per cent of the total workforce, ranking first out of the 29 LGAs in Tasmania for human capital and educational attainment which, overall, is higher than Tasmania's average.

Combined with the higher results for business dynamo, alongside research and development (R&D) and science, Hobart is positioned well for continuing its economic development.

The human capital indicators reveal Hobart's strength in university qualifications (34.06 per cent), high school completion (69.19 per cent) and a high level of adult learning at 12.68 per cent (compared to 6.11 per cent for Tasmania). These human-capital indicators are positive for economic growth as education is an aspect of developing a skilled workforce.

Fast broadband connectivity and digital technologies support industries within Hobart to be commercially competitive beyond the region and help to attract new industries and businesses to the city.

The level of business entries in Hobart reflects a supportive business environment. KIBS provides knowledge-intensive support to other organisations' business processes that requires specific and professional knowledge, as well as being an indication of a skilled workforce. Knowledge production often contributes to innovation, so strong performances on these indicators suggests that Hobart has a significant level of innovation, particularly in the traditional measures of R&D and science.

Hobart's business ecosystem and level of innovation are influenced by the availability of high-speed broadband and the rate at which it is taken up by the local community.

Hobart has a low level of technical qualifications (17 per cent) compared to the rest of Tasmania (23.7 per cent), which could be improved.

Also, as Hobart has a level of jobs vulnerability due to increasing automation and digital technology, education is a key element of workers learning new skills to adapt to change.

Improving these human-capital indicators is considered an important outcome for Hobart and their flow-on effects will have a direct bearing on business and innovation.

Using fast broadband to address these weaknesses requires proactive community education to influence the uptake and impact.

Hobart versus regional Tasmania

	Hobart	Tasmania
 Low vulnerability to automation	51.8%	38.6%
 High vulnerability to automation	27.1%	28%
 Tech-qualified workers	17%	23.7%
 Education levels		
Secondary	69.2%	40.1%
Tertiary	34.1%	13.3%
Adult	12.7%	6.1%

Figure 2 | Source: Regional Australia Institute 2018

Fast broadband can assist local businesses in the Hobart region by allowing them to tap into applications such as cloud computing and videoconferencing to reach new markets and compete globally.

Industries that have large data-transfer requirements can more easily reach and engage their audiences without being competitively disadvantaged by technology limitations.

Continuing to coordinate and deliver small business start-up programs in Hobart - including digital marketing, promotion and ecommerce elements - should also further stimulate entrepreneurs to pursue their business ideas due to access to fast broadband.

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

Intentionally promoting innovation and entrepreneurship will raise awareness of business opportunities and connect residents with the prospect of being able to have fast broadband and their regional lifestyle, too. This fosters new business development and regional growth.

Research illustrates the scale of growth Hobart is projected to see by 2021 from learning to harness the opportunities provided by fast broadband. Over the next three years, it is projected that the creation of 300 to 870 additional businesses and 4200 to 8430 additional digital jobs could be a direct result of access to services over the nbn™ 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 is gained from fast broadband.

“Over the next three years, it is projected that the creation of 300 to 870 additional businesses and 4200 to 8430 additional digital jobs could be a direct result of access to services over the nbn™ access network.”



Connecting Australia - Hobart

The impact of the nbn™ access network on the lives of Australians and the economy

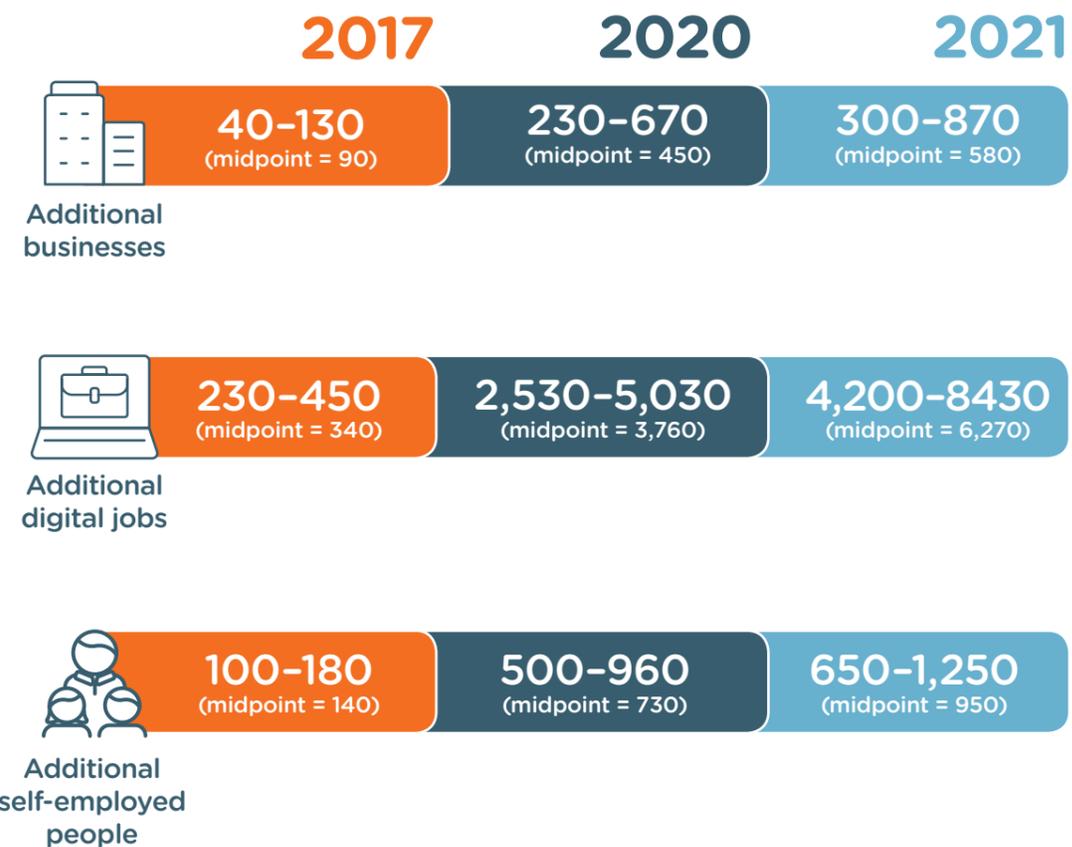


Figure 3 | Source: AlphaBeta and 89 Degrees East, *Connecting Australia* (2018)

This section presents a summary of key data that highlights the current occupation mix in the Hobart LGA and performance on human-capital and innovation measures in relation to Tasmania.

Understanding the current occupation mix in Hobart 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 required necessary reskilling. 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 *The future of employment: how susceptible are jobs to computerisation?* (2013) as well as automation scores from Edmonds and Bradley's *Mechanical boon: will automation advance Australia?* (2015).

The RAI job-vulnerability index classifies occupations with automation scores of below 40 as 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, the RAI can identify the percentage of jobs in the region with low, moderate and high vulnerability to automation.

Hobart has a clear concentration of professionals, accounting for 32 per cent of the total known jobs in the area. This is followed by clerical and administrative workers, which account for 19 per cent of jobs. Community and personal service workers as well as managers also represent 12 per cent of jobs, respectively.

The top 10 jobs in Hobart have been identified in the table below. There is a clear concentration of sales assistants and salespersons as well as midwifery and nursing professionals. Both occupations account for 5.6 and 5.1 per cent of total known jobs, respectively.

Hobart's occupational mix

Machinery operators and drivers



Labourers



Sales workers



Technicians and trades workers



Managers



Community and personal service workers



Clerical and administrative workers



Professionals



Figure 4 | Source: Regional Australia Institute (2018)

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. Of the remaining top nine occupations, hospitality workers, general clerks, as well as miscellaneous clerical and administrative workers are also occupations considered to be highly vulnerable to automation. Overall, it provides some insights into the job mix and the jobs most likely to be vulnerable to automation in Hobart.

The distribution of jobs in Hobart across the three categories of vulnerability to automation is relatively similar. Most of the jobs in Hobart are considered to be of low vulnerability to automation (51.8 per cent). Hobart has a significantly higher proportion of jobs that are of low vulnerability compared to Tasmania, which has 38.6 per cent. The percentage of jobs in Hobart that are considered to be highly vulnerable is similar, though slightly lower than Tasmania at 27.1 and 28 per cent, respectively.

Top 10 jobs in Hobart

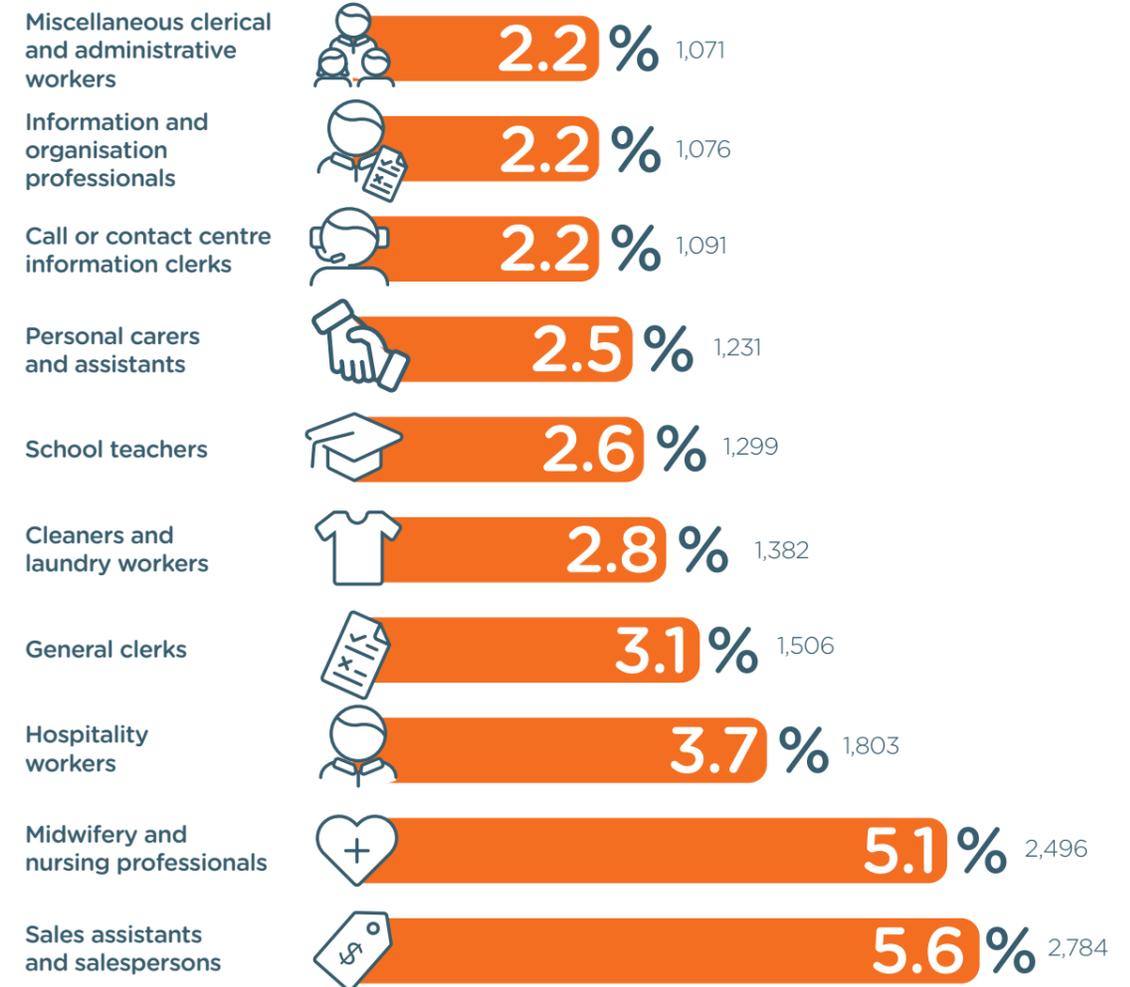


Figure 5 | Source: Regional Australia Institute (2018)

Hobart is considered a regional city based on the RAI's classification of Australia's regional communities. In comparison to other such areas around Australia, Hobart also has a significantly higher proportion of jobs that are low vulnerability. Correspondingly, the proportion of jobs that Hobart has that are of moderate vulnerability is much lower compared to Tasmania and other regional cities.

Human capital and lifelong learning

The RAI's '[In]Sight' data tool 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 Hobart's 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 and the rates of adult learning.

Hobart ranks first out of the 29 LGAs in Tasmania on human capital. On most of the indicators of human capital, Hobart has scored better than Tasmania's average. Hobart is home to the University of Tasmania. This could account for 34 per cent of the total population with university qualifications, which is significantly higher than Tasmania's average of 13.3 per cent. The higher level of university qualifications are also in line with the higher concentration of professionals in the area: roles that often require tertiary qualifications. However, technical qualifications are lower in Hobart (17.0 per cent) compared to Tasmania (23.7 per cent).

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 Hobart, which has 69.2 per cent of residents completing high school compared to 40.1 per cent for Tasmania.

Hobart has a relatively high proportion of jobs such as sales assistants and salespersons, general clerks and hospitality workers that are highly 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 Hobart is with lifelong learning. Tasmania, on average, has around 6.1 per cent of the population aged 25-64 engaged in learning, while Hobart has performed better with more than twice the percentage at 12.7 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/>

Vulnerability to automation

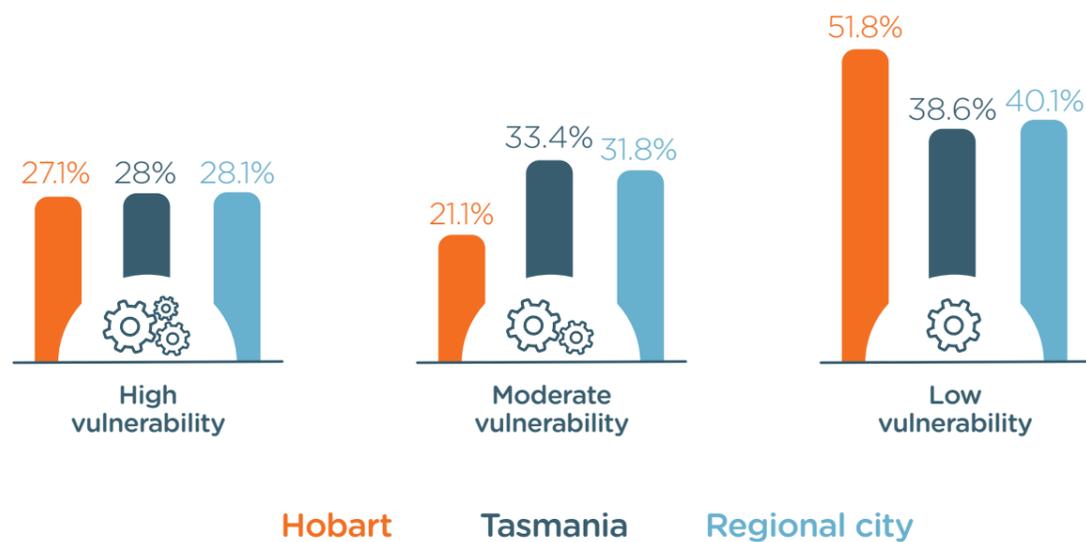
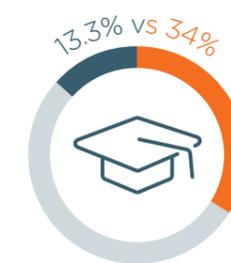


Figure 6 | Source: Regional Australia Institute (2018)

Human capital indicators



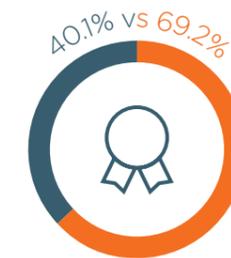
Adult learning



University qualification



Technical qualification



High school qualification

Tasmania Hobart

Figure 7 | 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. Hobart has performed well on certain indicators of innovation, with opportunities for development in others.

Indicators of R&D and science include the number of people in Hobart who are science and tech qualified, R&D managers, as well as the number of registered research service providers and patent applications. Hobart has performed well in this aspect with 9.8 R&D managers per 10,000 working-age population, which is higher than Tasmania (4.3 per 10,000 working-age population). The number of science and tech-qualified people is also higher in Hobart at 8.9 per cent compared to 7.9 per cent for Tasmania. Hobart also has slightly higher patent applications than Tasmania's average (3.4 and 2.5 per 10,000 working-age population, respectively).

The business-dynamo aspect focuses more on the environment in which businesses are operating and the level of innovation and entrepreneurial capacity in Hobart. It measures the number of business entries, owner-managers, trademark applications and KIBS. Overall, Hobart showed strengths in terms of business dynamo, ranking first out of the 29 LGAs in Tasmania.

Hobart performed slightly stronger on two indicators under the business-dynamo aspect. Performance on KIBS in Hobart (8.3 per cent) is noticeably higher than Tasmania (4.8 per cent). It is also relatively higher than other similar-population-sized regional cities in Tasmania like Clarence and Glenorchy. KIBS provides knowledge-intensive support to other organisations' business processes, which requires specific and professional knowledge. A high KIBS level not only suggests a skilled workforce but knowledge produced by KIBS also contributes to innovation.

Research and development

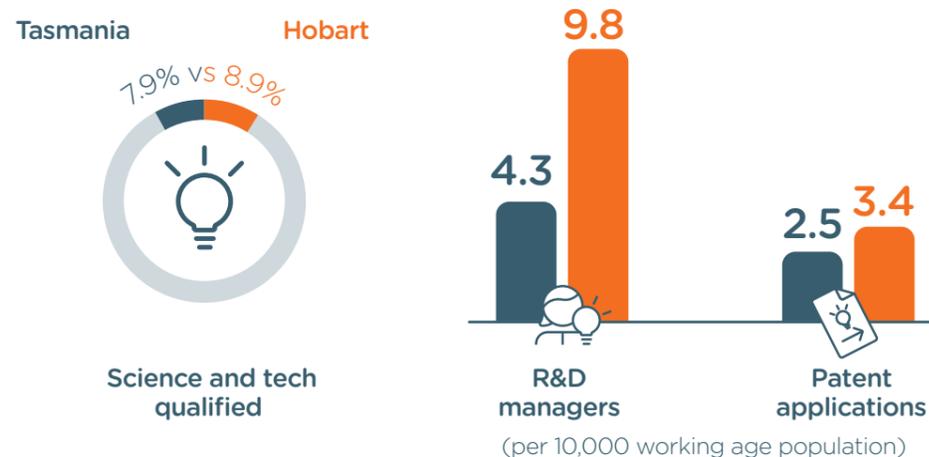


Figure 8 | Source: Regional Australia Institute (2018)

Business dynamo

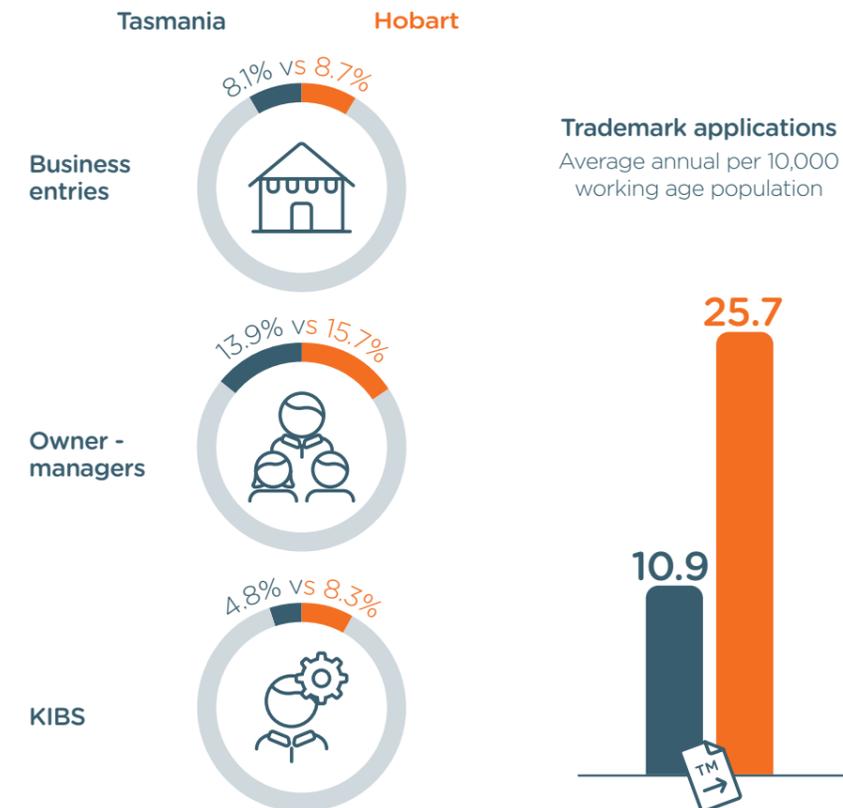


Figure 9 | Source: Regional Australia Institute (2018)

Additionally, Hobart performed much better than Tasmania's average on trademark applications. Hobart had 25.7 trademarks per 10,000 working-age population compared to 11.0 in Tasmania.

Business entries in Hobart were relatively similar to Tasmania's average at 8.7 per cent and 8.1 per cent, respectively. The level of business entries suggests there is a supportive business environment that can further help to bring innovation to the region. In terms of the number of owner-managers, which is an indicator of the level of entrepreneurship in the area, Hobart also does better than Tasmania's average with 15.7 per cent compared to 13.9 per cent, respectively.

Overall on the innovation theme, Hobart has performed strongly on both the traditional measures of R&D and science as well as in terms of business dynamo. On most indicators, Hobart has scored above Tasmania's average. Having a strong level of innovation and entrepreneurial capacity is an important aspect for Hobart's businesses.

In order to support an innovative business environment, a skilled workforce is also necessary and is related to the human-capital indicators. Hobart is currently performing well in this aspect, particularly with strong performance in high school completion levels and university qualifications that would be required for highly skilled jobs.



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

Hobart's 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 Hobart 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 can bring increased economic resilience and prosperity for Hobart, ensuring more is gained from the impact of fast broadband.

Innovation and entrepreneurship that can be pursued with access to high-speed digital technology, along with the skills required, will enable Hobart 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 Hobart that promote and educate on the business possibilities from access to fast broadband can encourage latent innovators and entrepreneurs in the community and existing business operators to embrace digital technology, pursue new ideas and invest in growth.

August 2018

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ABN 86 136 533 741. 1804-01-KM

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References:

- *City of Hobart annual report 2016-17*
<https://www.hobartcity.com.au/Council/Strategies-and-plans/Annual-report>
- *City of Hobart capital city strategic plan 2015-2025*
<https://www.hobartcity.com.au/Council/Strategies-and-plans/Capital-city-strategic-plan-2015-2025>
- *Hobart City Council economic development strategy 2013-2018*
<https://www.hobartcity.com.au/Council/Strategies-and-plans/Economic-Development-Strategy-2013-2018>
- Edmonds, D. and Bradley, T. (2015). *Mechanical boon: will automation advance Australia?*
https://www.industry.gov.au/sites/g/files/net3906/f/June%202018/document/pdf/mechanical-boon_-_will_automation_advance_australia.pdf
- Frey, C. and Osborne, M. (2013). *The future of employment: how susceptible are jobs to computerisation?*
https://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf
- AlphaBeta and 89 Degrees East, *Connecting Australia* (2018)
<http://www.connectingaustralia.com.au/>