



nbn™  
BUSINESS



# Business growth opportunities

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Gippsland Region VIC





**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; 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.

The Institute was founded in 2012 with seed funding from the Australian Government. Our current operations reflect partnerships bringing 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 OECD (France), University of Warsaw (Poland) and the Lincoln Institute (USA).

For more information about the RAI:  
[www.regionalaustralia.org.au](http://www.regionalaustralia.org.au)



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# Executive summary

The Gippsland region has been impacted by the closure of Hazelwood power station and East Gippsland saw mill and the global shift to low carbon economies. It is a region in transition and must improve its skill levels and education outcomes to achieve its future priorities.

Uptake of services over the nbn™ broadband access network in the Gippsland region can support these objectives by enabling an even greater focus on business innovation, education, as well as tourism and small to medium enterprise (SMEs).

Fast broadband opens up new and larger markets to Gippsland's industries, allowing them to compete on a level playing field. Educational institutions

can employ the latest digital technologies to assist in engaging and retaining students and providing resources equal to the major cities.

New fast broadband technologies can all be game changing for business performance and growth, enabling innovation in the development of new products and services, efficiency gains and new ways to reach, engage and stay connected with customers. But a proactive approach is critical.

Fast broadband provides 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 which build on existing strengths, capture new growth opportunities and transition people to less vulnerable jobs so that more is gained from fast broadband.

Gippsland's high concentration of technicians and trades workers (15 per cent of the workforce), and comparatively higher technical qualifications (26.6 per cent) is a strong position for the reskilling and learning required to embrace and fully utilise digital technologies.

The percentage of owner-managers (17.6 per cent) is higher than that of regional Victoria (16.6 per cent), which is an indicator of entrepreneurship. Gippsland's strong performance in both business entries and knowledge-intensive business services (KIBS)<sup>1</sup> indicates the presence of a skilled workforce and a significant level of innovation.

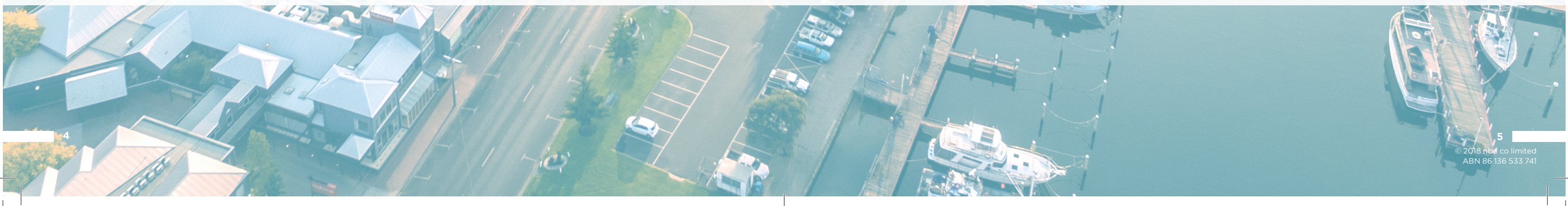
With improved access and capacity to compete in national and global markets via fast broadband technologies, businesses in the Gippsland region can capture new opportunities.

Those who act early will be best positioned for growth, and better prepared for and insulated from new competitors outside the region.

While 26.9 per cent of jobs have been assessed by the Regional Australia Institute (RAI) as highly vulnerable to automation, the largest proportion of jobs in Gippsland (38.3 per cent) are only moderately vulnerable to automation or digital disruption.

Reducing this vulnerability requires a more technologically engaged and skilled workforce.

Now, the immediate imperative for businesses in the Gippsland region is to get connected, build the technological knowledge and skilled workforce required to fuel business innovation, and take action by applying digital technologies to drive revenue growth, operational efficiencies and grow market share.





## Strengths and deficiencies in the Gippsland economy based on comparison areas

The Gippsland region features 700 kilometres of Victorian coastline, spans over 41,600 square kilometres and has a population of over 260,000. The region provides rural and coastal living and is home to Victoria's high country and snow-fields.

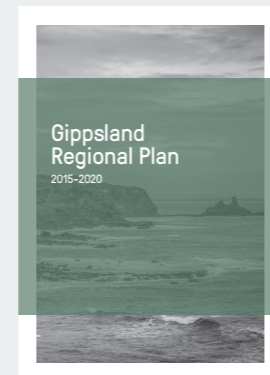
Gippsland boasts a diverse economy that includes mining, tourism, agri-business and food production, advanced manufacturing, aviation, aged care and professional services, contributing \$13.2 billion in Gross Regional Product to Victoria.

The area produces around 90 per cent of Victoria's electricity and 97 per cent of the state's natural gas, but a global shift towards a low-carbon economy has created challenges for the energy sector.

Closures of the Hazelwood power station and the East Gippsland sawmill place the region under economic pressure and requires a transition to sectors that are growing and more sustainable.

Improving digital connectivity has been identified as a priority within the Committee for Gippsland's Strategic Plan 2018-2020 and the Gippsland Regional Plan 2015-2020 - enabling more capacity within regional businesses and service providers and raising higher education outcomes.

The key challenge identified by Committee for Gippsland members in 2017 was a digital connectivity that enables industry and community to thrive.



“...the Connectivity theme seeks to improve the availability of high-speed broadband growing the level of engagement of regional businesses and service providers with the digital economy.”

Gippsland Regional Plan 2015-2020

## Gippsland community profile

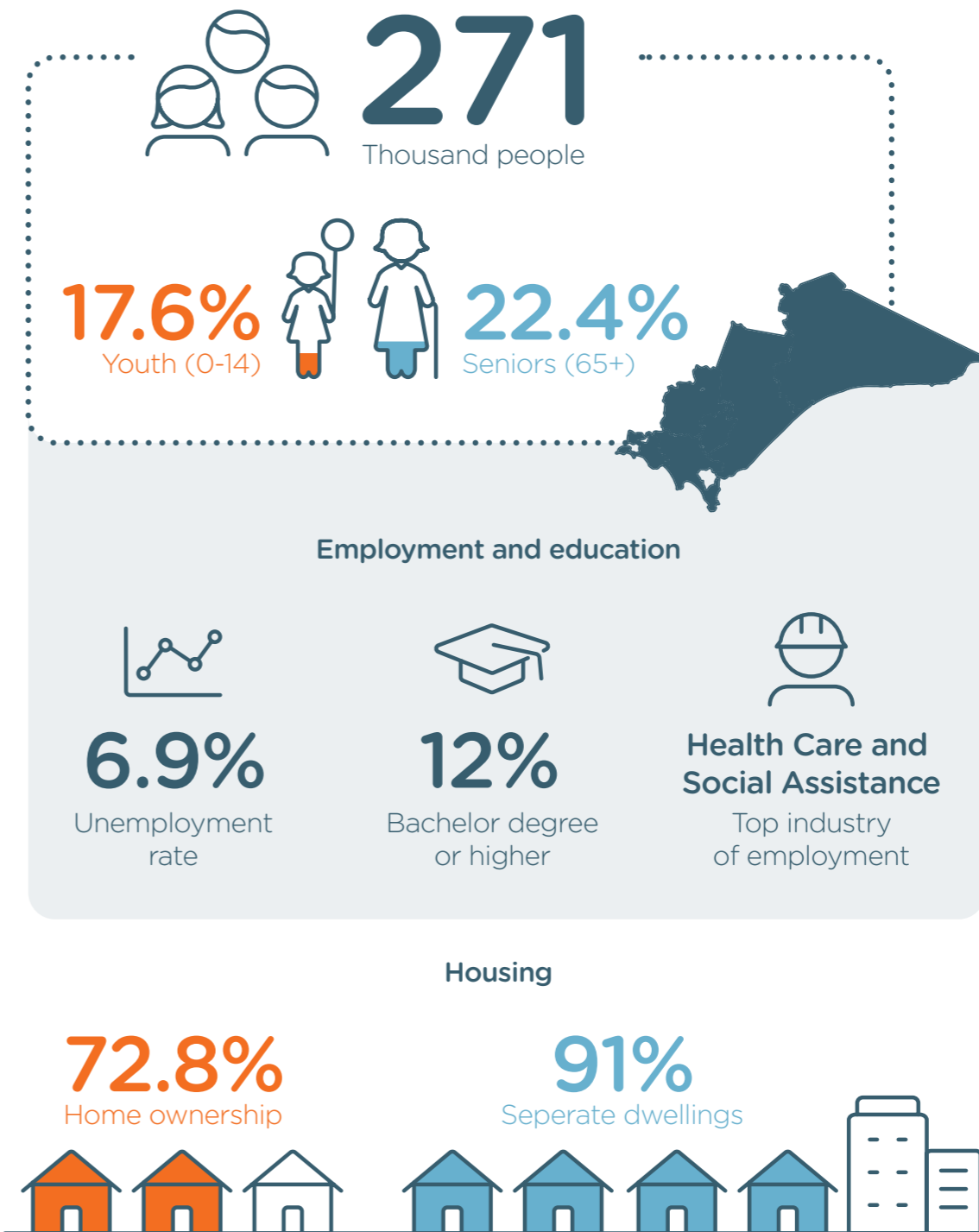


Figure 1 | Source: ABS 2016 Census



# Strengths

RAI research shows that the Gippsland region excels in technical qualifications and has a high percentage of science and tech qualified people (8.9 per cent), which is higher than regional Victoria (7.8 per cent).

A high concentration of professionals, accounting for 17 per cent of the total workforce, and KIBS at a similar value to regional Victoria positions the Gippsland region well for an economic transition towards more technology, knowledge and services products.

Providing access to state of the art technologies and global markets allows businesses to be able to compete in attracting and retaining staff by eliminating career disadvantage and constraints.

Fast broadband connectivity supports industries within the Gippsland region in being commercially competitive beyond the region, and being attractive to a professional workforce who desire the most advanced work places for career development.

The relatively high level of business entries in the Gippsland region reflects a supportive business environment which can be further focused on stimulating entrepreneurial capacity.

Entrepreneurism can broaden and further strengthen the business ecosystem of Gippsland and with the indicator of the percentage of owner-managers (17.6 per cent) being higher than that of regional Victoria (16.6 per cent), there is a strength to build on.

KIBS provides knowledge-intensive support to other organisations' business processes which requires specific and professional knowledge, thus it is an indication of a skilled workforce.

Knowledge production often contributes to innovation and so strong performances on these indicators suggests that the Gippsland region does have a significant level of innovation.

Advancing and increasing innovation and entrepreneurial activity within the Gippsland region is impacted by the availability of fast broadband and the rate of uptake by the local community.

“Fast broadband connectivity supports industries within the Gippsland region in being commercially competitive beyond the region.”



# Weaknesses

Gippsland is higher than regional Victoria in technical qualifications but falls below in high school completion (36.9 per cent compared to 41.1 per cent), university qualifications (9.9 per cent compared to 11.9 per cent) and adult learning.

These human capital indicators compromise economic growth as education is an aspect of developing a skilled workforce.

Also, as Gippsland 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 the Gippsland region and their flow on effects 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.

Richard Elkington, Chair of Regional Development Australia Gippsland, says that the benefits of fast broadband need to be better presented and demonstrated, in ways the broader business community can understand - 'Tell us the benefits and show us how to realise them in a language and in ways we can understand, and we can then run with it and lead the advocacy across the region.'

## Gippsland versus regional Victoria

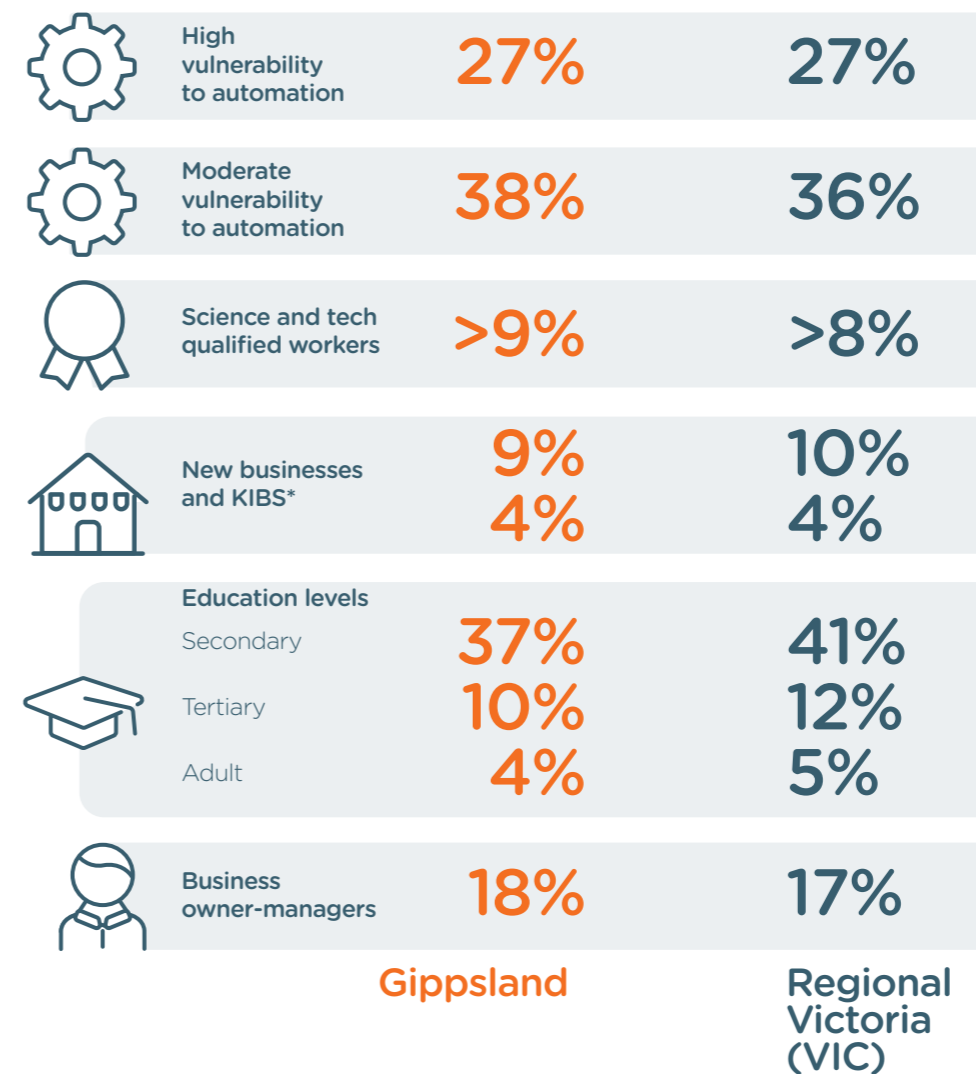


Figure 2 | Source: Regional Australia Institute 2018 | KIBS: knowledge intensive business service



“In our case, we are facing a costly fixed infrastructure replacement project at the end of 2016 – currently estimated at a minimum of \$150,000.

If the nbn™ was available, we would avoid this expense and be free of the three-year capital investment cycle of upgrading and replacing fixed infrastructure.

We would plan immediately to source all of our business applications from the Cloud and operationalise the subscription costs.

This frees up a significant amount of funds that could be used for R&D or for new employees.

With the nbn™ we would invest in faster speed, bigger data limit and we would move our infrastructure into the Cloud.”

#### Small business owner in Morwell

Published in Committee for Gippsland's 2016 report: 'Our Region Our Future, Securing An Economic Future For Gippsland And Latrobe Valley'

Fast broadband will assist local businesses in the Gippsland region by allowing them to tap into applications such as cloud computing and video conferencing to reach new markets and compete globally.

Industries which have large data transfer requirements (such as agriculture and tourism) will be able to more easily reach and engage their audiences without being competitively disadvantaged (compared to city counterparts or other regions) by technology limitations.

Coordinating small business start-up programs in the region, including digital marketing, promotion and e-commerce elements, could 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 improve business retention in the region.

Intentionally promoting innovation and entrepreneurship will raise awareness of business opportunities and connect residents in the region 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 the Gippsland region can expect to see by 2021 from learning to harness the opportunities provided by fast broadband.

Over the next three years it is forecasted that 330-960 additional business and 2,110 to 4,170 additional digital jobs will 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 which 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 Australia - Gippsland

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

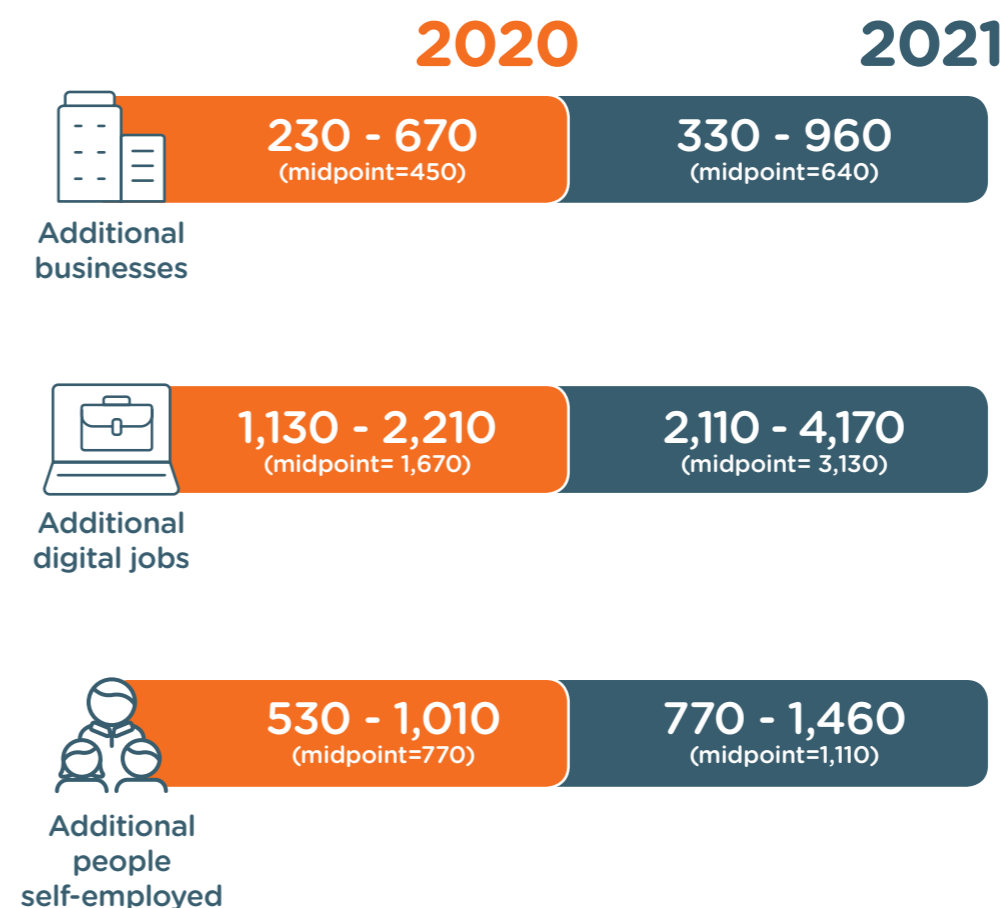


Figure 3 | Source: Regional Australia Institute 2018 | \*alphaBeta and 89 Degrees East (2018)



This section presents a summary of key data that highlights the current occupation mix in the region and performance on human capital and innovation measures in relation to regional Victoria.

The Gippsland region comprises of six Local Government Areas (LGAs): Bass Coast, Baw Baw, East Gippsland, South Gippsland, Latrobe as well as Wellington. However, as the LGAs differ in their characteristics (e.g. different population sizes, employment by industry), the data is presented to show both the overall Gippsland region as well as individual LGAs.

Understanding the current occupation mix in the Gippsland region highlights what 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 advantages of the new job opportunities as a result of automation and digitisation.

### Occupational mix and vulnerability to automation

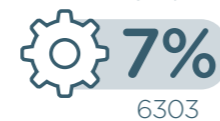
At the RAI, we have calculated a job vulnerability index to determine the level of vulnerability to automation within a region. This index has drawn on the widely adopted work by Frey and Osborne's (2013) 'The future of employment: How susceptible are jobs to computerisation' as well as automation scores 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 medium vulnerability, and jobs which 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, medium and high vulnerability to automation.

The Gippsland region has a high concentration of professionals, accounting for 17 per cent of the total known jobs<sup>2</sup> in the region. This is followed relatively

## Gippsland's occupational mix

### Machinery operators and drivers



### Sales workers



### Community and personal service workers



### Clerical and administrative workers



### Labourers



### Managers



### Technicians and trades workers



### Professionals



Figure 4 | Source: Regional Australia Institute 2018

closely by managers (15 per cent) and technicians and trades workers (15 per cent).

More specifically, the top 10 jobs in the Gippsland region have been identified in the table below.

The Gippsland region shows a high concentration of sales assistants and salesperson, with more than

7,000 people in these jobs and accounting for 7.61 per cent of all total known jobs.

Farmers and farm managers also account for a significant number of jobs at 5.86 per cent of total known jobs.

This provides some insights into the work in the Gippsland region, which has a high proportion of jobs related to retail as well as agriculture.

## Top 10 jobs in Gippsland

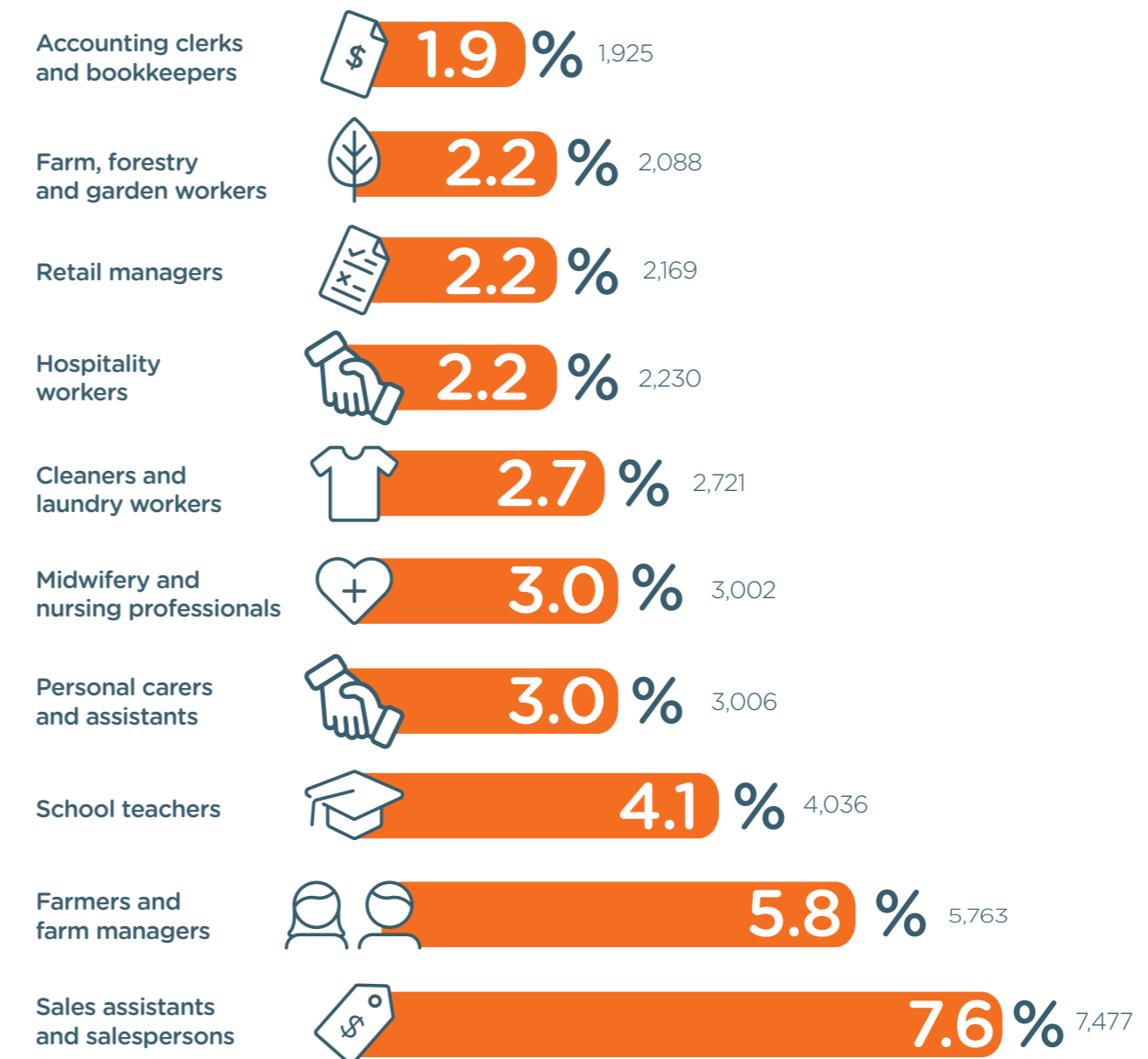


Figure 5 | Source: Regional Australia Institute 2018





“ Most of the jobs in the Gippsland region are considered to be moderately vulnerable to automation. ”

However, sales assistants and salespersons are occupations considered to be highly vulnerable to automation as they often involve tasks that can be easily replicated and replaced by machines.

Of the remaining nine occupations, hospitality workers, accounting clerks and bookkeepers are also considered to be highly vulnerable to automation.

Overall, most of the jobs in the Gippsland region are considered to be moderately vulnerable

(38.3 per cent), while only 26.9 per cent of jobs are highly vulnerable to automation.

Compared to regional Victoria, the Gippsland region only has a slightly lower proportion of jobs that are highly vulnerable.

Correspondingly, the proportion of jobs that are of low vulnerability was lower for the Gippsland region (34.8 per cent) compared to regional Victoria (36.6 per cent).

## Vulnerability to automation

### Regional VIC Gippsland

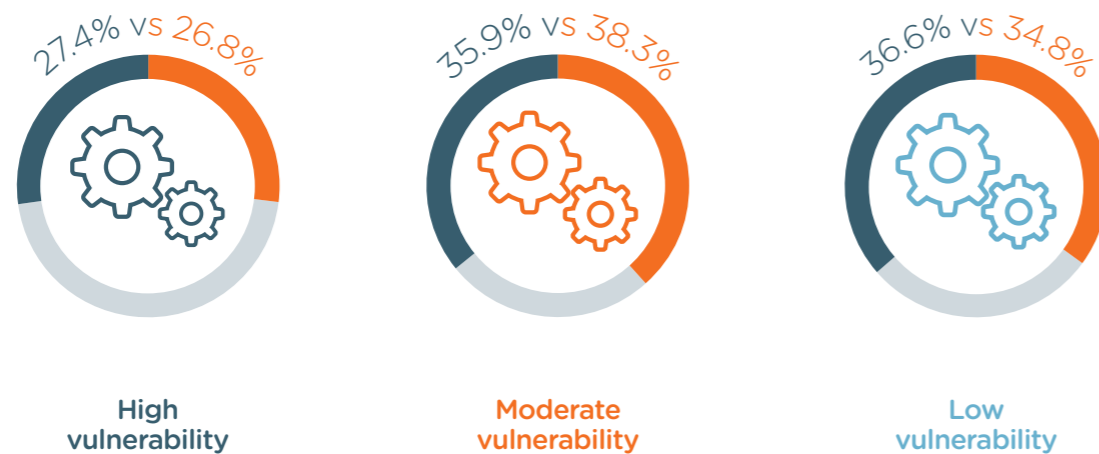


Figure 6 | Source: Regional Australia Institute 2018

Looking at the LGAs that make up the Gippsland region, the majority of the LGAs' proportion of jobs which are low and moderately vulnerable, are relatively similar and most have more jobs that are moderately vulnerable.

Latrobe is the exception with the highest

proportion of jobs that are of low vulnerability (35 per cent).

South Gippsland has the lowest proportion of jobs of low vulnerability (30.5 per cent) and has the highest proportion of jobs that are moderately vulnerable (44.9 per cent).

## Gippsland region LGAs: Vulnerability to automation



Figure 7 | Source: Regional Australia Institute 2018



## Human capital and lifelong learning

The RAI's [In]Sight data tool<sup>3</sup> provides a snapshot of the competitiveness of Australia's regional LGAs by ranking the region's performance on various indicators for ten 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 the Gippsland region's human capital is fundamental to securing future economic development and helping businesses identify the capabilities of the workforce.

It 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.

The Gippsland region has a stronger presence of vocational institutions and is stronger in technical qualifications, with 26.6 per cent of the population having certificate and diploma qualifications.

This value is higher than regional Victoria. However, university qualifications (9.9 per cent) are relatively lower than regional Victoria (11.9 per cent) and much lower than the proportion of the population with technical qualifications.

In addition, completing high school is considered to have an influence on whether people would pursue higher education and therefore is an important aspect for developing a skilled workforce.

High school completion in the Gippsland region (36.9 per cent) is also slightly lower than regional Victoria (41.1 per cent).

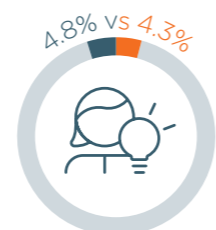
The majority of jobs in the Gippsland region are moderately vulnerable to automation and future jobs will also be impacted by the increasing use of digital technologies.

The demands for skills will continue to change and workers will be expected to learn new skills to meet these changing needs.

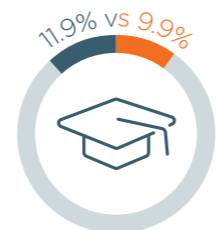
Adult learning rates provide an indication of how engaged the population in Gippsland are with lifelong learning.

Regional Victoria has around 4.8 per cent of the population aged 25 - 64 engaged in learning, while the Gippsland region has around 4.3 per cent.

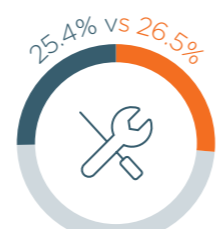
## Human capital indicators



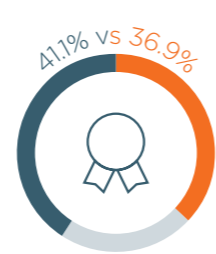
Adult learning



University qualification



Technical qualification



High school qualification

Regional VIC **Gippsland**

Figure 8 | Source: Regional Australia Institute 2018

Looking specifically at the LGAs that make up the Gippsland region, it once again highlights the strong technical qualifications across all the LGAs. However, university qualifications show differences across the LGAs, with Latrobe having much lower levels and high school completion rates in Wellington and East Gippsland being lower.

Despite the differences across the LGAs, the overall region does excel in technical qualifications.

University qualifications and adult learning in the Gippsland region does not differ too far from regional Victoria.

However, high school completion rates are relatively lower compared to regional Victoria.

This is an area for improvement particularly given the importance of human capital for a skilled workforce that will be favourable for businesses in the region.

## Gippsland region LGAs: Human capital indicators

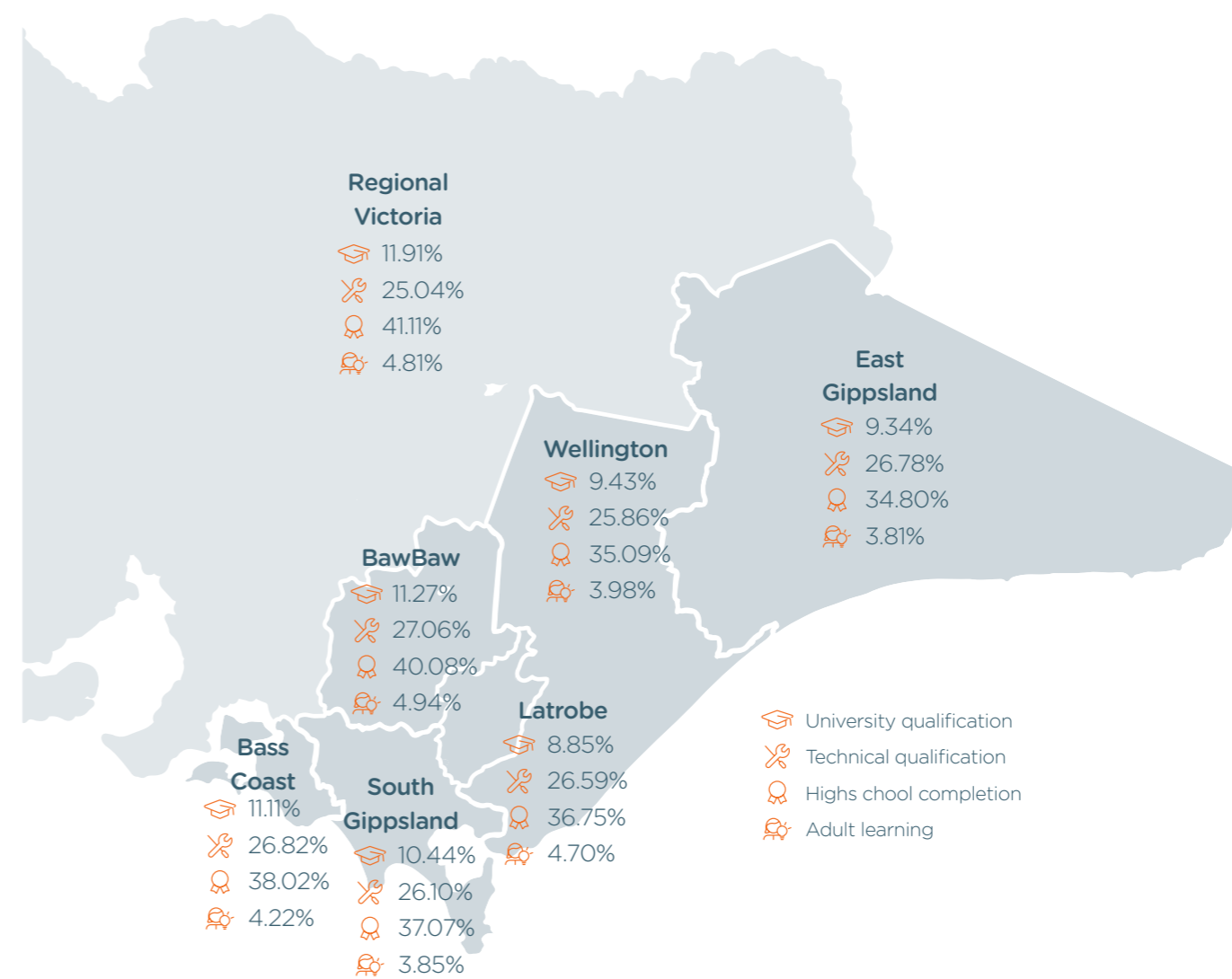


Figure 9 | Source: Regional Australia Institute 2018



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

The LGAs across the Gippsland region vary in performance for innovation and there is scope

for improvement. Bass Coast and Baw Baw have performed well, ranking 16 and 10 respectively out of the 48 LGAs within regional Victoria.

Indicators for R&D and science includes the number of people in the Gippsland region who are Science and Tech qualified, number of R&D managers, number of registered research service providers, as well as number of patent applications.

The Gippsland region has a high percentage of science and tech qualified people (8.9 per cent), which is higher than regional Victoria (7.8 per cent).

However, R&D managers and patent applications are much lower than regional Victoria and the Gippsland region would benefit from improving its overall R&D and science indicators.

The business dynamo aspect focuses more on the environment in which businesses are operating and the level of innovation and entrepreneurial capacity in the Gippsland region.

It measures the number of business entries, owner-managers, trademark applications and knowledge-intensive business services (KIBS).

Overall, the Gippsland region performs well on most indicators for business dynamo, with levels similar to that of regional Victoria.

An indicator of the level of entrepreneurship in the area, the percentage of owner-managers (17.6 per cent) is higher than that of regional Victoria (16.6 per cent).

Business entries as well as KIBS are also high in the Gippsland region, with similar values as regional

Victoria.

High business entries suggests a supportive business environment. It can further help to bring new innovation to the region.

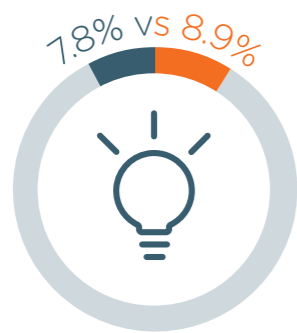
Similarly, KIBS provides knowledge-intensive support to other organisations' business processes which requires specific and professional knowledge, thus it is an indication of a skilled workforce.

Knowledge production often contributes to innovation and so strong performances on these indicators suggests that the Gippsland region does have a significant level of innovation.

However, the region is weaker in trademark applications (8.1 compared to 12.3 trademark applications per year per 10,000 working age population in regional Victoria).

## Research and development

Regional VIC **Gippsland**



Science and tech qualified  
Percentage

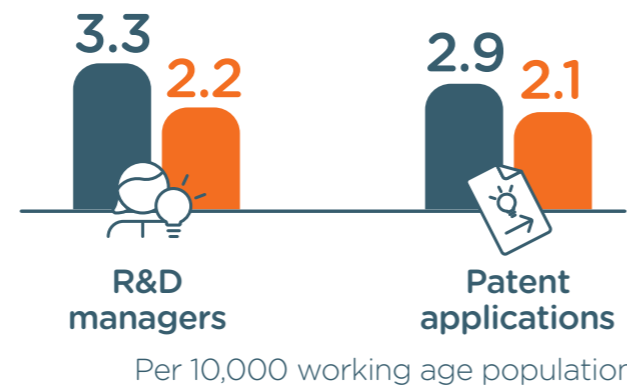
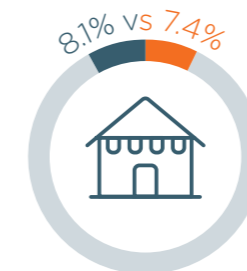


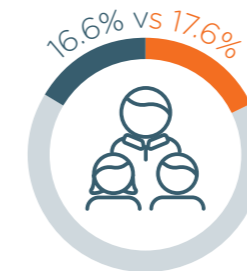
Figure 10 | Source: Regional Australia Institute 2018

## Business dynamo

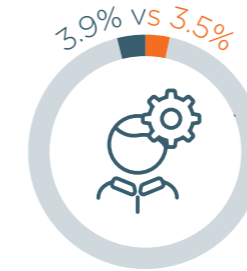
Business entries



Owner-managers



KIBS



Regional VIC **Gippsland**

Trademark applications  
Average annual per 10,000 working age population

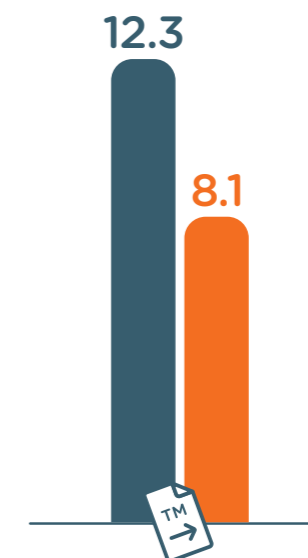


Figure 11 | Source: Regional Australia Institute 2018



Looking specifically at the LGAs that make up the Gippsland region, it shows that the strong performance indicator may be dominated by particular LGAs.

For instance, business entries were the highest in Latrobe, while owner-managers were highest in

South Gippsland, and Baw Baw showed strengths in KIBS and trademark applications.

Nonetheless, the overall region does suggest there is some level of innovation, which can be further enhanced to positively influence businesses in the Gippsland region.

## Gippsland region LGAs: Business dynamo

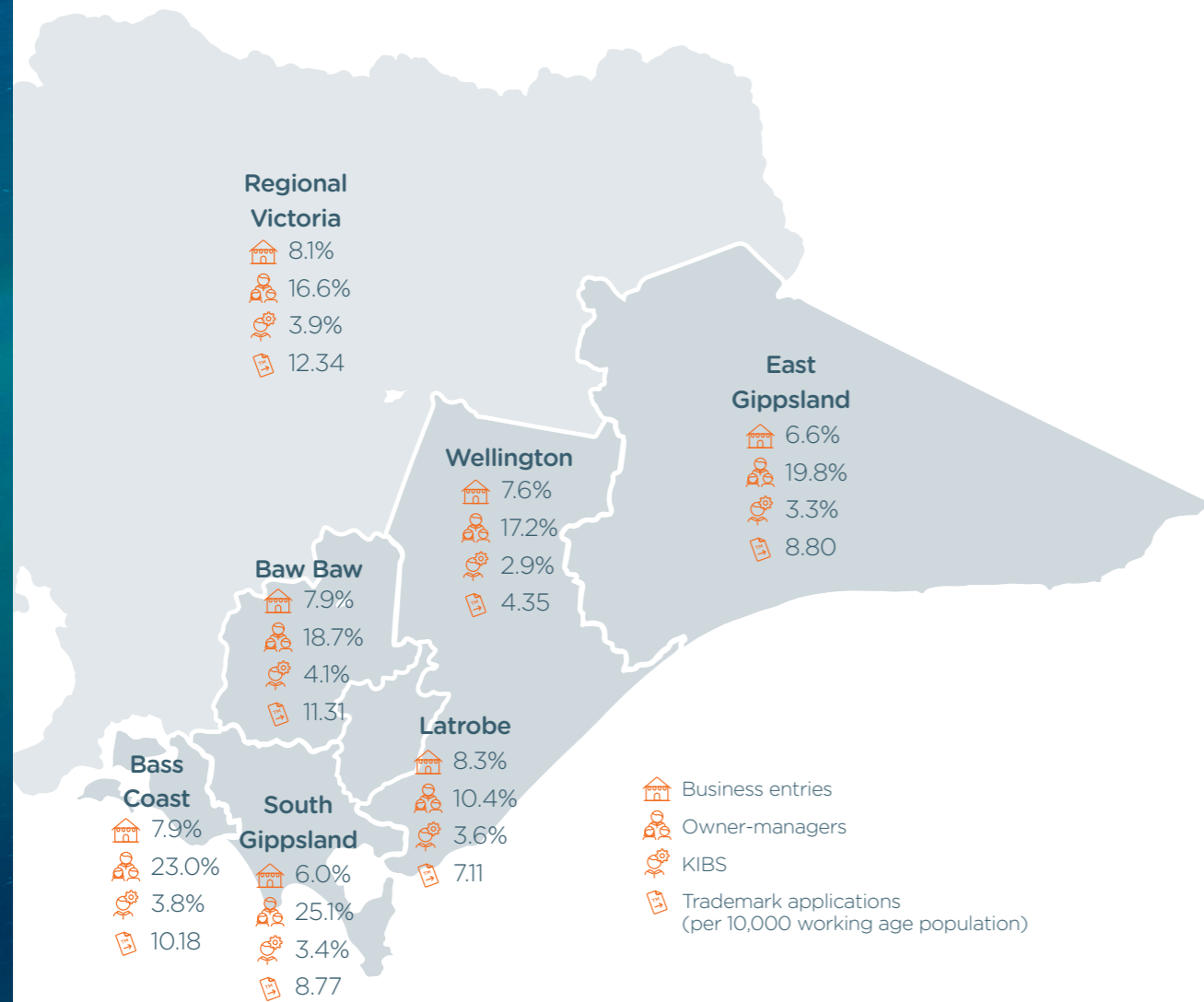


Figure 12 | Source: Regional Australia Institute 2018







# Access to fast broadband in the Gippsland region will stimulate business growth

Gippsland's future will be influenced significantly by the health and vitality of the local businesses. Automation and the digital economy are real drivers of business viability and fast broadband enables competitive participation.

Access to fast broadband in the Gippsland region will stimulate business growth, if a proactive approach is taken to connect and learn how to take full advantage of digital technologies.

**Embracing digital technology to leverage existing strengths and develop new industries can bring the economic resilience and regional prosperity which Gippsland desires, ensuring more is gained from the impact of fast broadband.**

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

Commencing programs now across the region which 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.

## Conclusion



May 2018

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**Notes:**

1. KIBS are services and business operations heavily reliant on professional knowledge, such as finance, law, engineering and science.
2. Total known jobs excludes inadequately described, not stated and not applicable in 2016 Census responses. [Legal note: You may want to clarify which year's Census data is referred to here.]
3. Available at [http://www.regionalaustralia.org.au/home/tools-and-products/insight/Mackay Isaac Whitsunday Digital Economy Strategy and Action Plan 2015](http://www.regionalaustralia.org.au/home/tools-and-products/insight/Mackay_Isaac_Whitsunday_Digital_Economy_Strategy_and_Action_Plan_2015)  
[http://www.whitsundayregion.org.au/\\_literature\\_146869/Mackay\\_Isaac\\_Whitsunday\\_Digital\\_Economy\\_Strategy](http://www.whitsundayregion.org.au/_literature_146869/Mackay_Isaac_Whitsunday_Digital_Economy_Strategy)

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