CONNECTING OUR GREAT SMALL CITIES

SEPTEMBER 2017

UNDER STRICT EMBARGO
UNTIL 5PM THURSDAY 1 SEPTEMBER 2017

REGIONAL AUSTRALIA INSTITUTE

LinkedIn

3 REGIONAL CITIES

The Regional Australia Institute and LinkedIn have teamed up to shine a spotlight on another three regional cities, taking the total number so far to eight.

Using the Regional Australia Institute's Great Small Cities data and LinkedIn's data on its member networks we can start to measure emerging skills trends in real time.

We can identify the current skills position of the city, how it got there, how the economy is currently evolving and what skills needs are emerging.

Overall this work is showing the trends shaping the economies of our capital cities – namely the rise of the service and knowledge industries. These growing industries are fueling demand for skilled workers, especially those with technology coupled with health care and management skills.

Our regional cities are intimately connected to these trends, and mapping each city's skills pathway is crucial to understanding how to influence their economic future.

EXECUTIVE SUMMARY

The traditional way we monitor regional economies means that we cannot see an economic trend until years after it has been established. The Regional Australia Institute (RAI) and LinkedIn have partnered with the aim of identifying changes in the local economy in real time.

Through this partnership we see compelling evidence of the 'new economies' based on services, IT and knowledge jobs that are emerging in our spotlight cities. Connectivity is one of the critical aspects of any region or regional city that will help it to grow and succeed. Connectivity enables the flow of people and ideas between cities. It creates movement, energy and ultimately city growth. This work is also providing an evidence base about the networks in our economy which we know are crucial to the long term success of this new economy.

This paper follows an initial examination by the RAI and LinkedIn of economic trends, professional connections and real time skill demands in Townsville, Sunshine Coast-Noosa, Greater Newcastle, Wollongong and Launceston in 2016. This work revealed how connected Australia's regional cities are and that the skills in demand are quite different to those which are most discussed in debates about the issues for these cities.

In this sequel we extend to look at the City of Greater Geelong, Greater Darwin and Greater Hobart. In addition we have examined the connections between regional cities and their hinterlands, by exploring the connections between the City of Greater Geelong and the wider G21 region in which it is situated.

In these three spotlight cities, 33 to 36 per cent of the working age population are LinkedIn members and each of these members has an average of 93 to 95 connections.

The size of the city does not seem to affect the number of connections but the patterns of connectivity differ between places. Greater Hobart as the capital of an island economy has the strongest internal links, with 32 per cent of member connections within the region. Greater Darwin is the most internationally connected with 27 per cent of member connections overseas.

The top two skills in all three spotlight cities are healthcare management and IT infrastructure and system management. The rising demand for healthcare services and an ageing population makes health one of largest employers in all three spotlight cities.

IT related skills consistently appear in the top skills available in the three spotlight cities. These are also highly mobile and are in shortage, particularly for Greater Geelong. In Greater Geelong and Greater Hobart, there is also a high mobility for soft skills, such as analytical and managerial skills. Overall, the skills highlighted for Greater Geelong and Greater Hobart are associated with the 'new economy' based on knowledge and service industries.

In contrast, the skills profile of Greater Darwin remains more grounded in traditional industries such as agriculture, mining and manufacturing. Electricity power generation and management as well as lean manufacturing and quality management are skills with the highest mobility, while construction and architectural design skills are in short supply.

Using the Regional Australia Institute's Great Small Cities data and LinkedIn's data on its member networks we can start to measure emerging industry and skills trends in real time. We can identify the current skills position of the city, how it got there, how the economy is currently evolving and what skills needs are emerging.

Overall this work is showing the trends shaping the economies of our capital cities – namely the rise of the service and knowledge industries. These growing industries are fueling demand for skilled workers, especially those with technology coupled with business development and management skills.

Our regional cities are intimately connected to these trends, and mapping each city's skills pathway is crucial to understanding how to influence their economic future.

INTRODUCING THE 3 SPOTLIGHT CITIES

The three spotlight cities (Geelong, Hobart and Darwin) have been selected from the Regional Australia Institute's 31 Great Small Cities. By definition Great Small Cities have a population of more than 50,000 people and have diverse and resilient economies.

These three are large regional cities with population sizes ranging from around 136,000 (Greater Darwin) to more than 230,000 (Greater Geelong). They cover three states (Victoria, Tasmania, and Northern Territory) and all are coastal cities.

To ensure data quality, each of the selected cities has been included on the basis that approximately 30 per cent of its working age population has a LinkedIn profile.

MEASURING THE SPOTLIGHT CITIES

LinkedIn membership data

LinkedIn operates the world's largest professional network on the internet with more than 500 million members in over 200 countries and territories. By joining the site, members gain access to other professionals, potential jobs, news, updates and insights from their networks. By looking at data on LinkedIn's current membership we can spot, in real time, emerging job trends and opportunities in that regional economy.

In Australia, over 9 million people have a linked in profile, which is more than one in three.

LinkedIn membership data provides a sample of the professional population in each city. It includes a balance of professional and technical skills and good coverage of industries not limited to professional sectors, with the mix of member skills and industries showing clear parallels with each city's current industry mix.

Networks in regional Australia

Connectivity is essential for small cities to succeed and grow. Looking at current LinkedIn connections in the three spotlight cities we can identify the current strength and stretch of a region's networks. Connections are based on the location of the people that individual members living in these cities are connected to.

Top skills

Top skills are the most common skills listed on members' LinkedIn profiles, as collated for each city. This information gives us a deeper insight into a city's economy beyond the traditional occupation mix.

Mobile skills
Mobile skills measure the most common skills in workers who have moved jobs in the last 12 months. A more mobile workforce is important for ensuring that skilled people can locate themselves where the jobs are. Mobility is a combination of both employment growth (filling new jobs) and employment churn (replacing people in existing jobs).

Current shortages
By looking at skill profiles of workers who are most contacted by recruiter outreach we can identify the skills that are most in demand. Based on these skills we can draw conclusions about the current shortages and the new industries that are emerging in the city's economy.

GREAT SMALL CITIES DATA

The Regional Australia Institute's Great Small Cities data tool is an interactive data visualisation tool that allows users to explore and compare 31 regional cities across Australia.

The data included in the tool is drawn from a variety of sources and includes residential and workforce population, gross value add, education levels, measures of employment diversity, housing affordability and the Bohemian Index (Creative Industries) score.

GREATER GEELONG

Greater Geelong is in transition towards a more service based economy. While still reliant on manufacturing, new industry strengths are emerging particularly in health and information technology.

POPULATION: ~ 233,000*
WORKING AGE POPULATION: 147,801*
(52,034 LinkedIn members)

KEY FACTS:
Strong manufacturing base with an economy diversifying into service delivery of health, finance and education.

Business and industry core of the G21 region.

LARGEST EMPLOYERS:

Health Care & Social Assistance | Retail | Manufacturing

*Sourced from 2016 Census

CONNECTIONS

95 PER MEMBER

19% connections in the region

21% international connections

TOP 5 CITY CONNECTION LOCATIONS

1. Melbourne Area
2. Greater Geelong
3. Sydney Area
4. Brisbane Area
5. Perth Area

TOP INTERNATIONAL

9. London, United Kingdom

TOP 5 CONNECTED INDUSTRIES

IT | Construction | Retail | Financial Services | Marketing & Advertising

TOP 5 SKILLS

1. Healthcare Management
2. IT Infrastructure and System Management
3. Education and Teaching
4. Process and Project Management
5. Graphic Design

SKILLS WITH THE HIGHEST MOBILITY

Soft Skills & Personality – Analytical & Problem Solving | Software Engineering Management & Requirements Gathering | Web Programming

GREATER GEELONG AND THE G21 REGION

Greater Geelong today

The City of Greater Geelong is Victoria's largest regional city, located 75km south west of Melbourne. With a population of just over 233,000, it has experienced a growth rate of 11 per cent between 2011 and 2016. It has the largest population size amongst our three spotlight cities and its population is expected to continue to grow at 1.7 per cent per annum from 2016 to 2026.

Once dependent on traditional manufacturing, Geelong is now a city with a diversifying economy. It had to combat the closure of its two major manufacturing plants, Alcoa aluminum smelter in 2014 and Ford in 2016.

While manufacturing is still the largest contributor to the economy, it has shifted to more niche and technologically advanced manufacturing. There is also more diversity with healthcare and social assistance, retail trade, and education and training being the largest employers. Each of these industries employs more than 10 per cent of the workforce. Greater Geelong also identifies creative industries as a key strength and scored above average for the presence of creatives in the local economy.

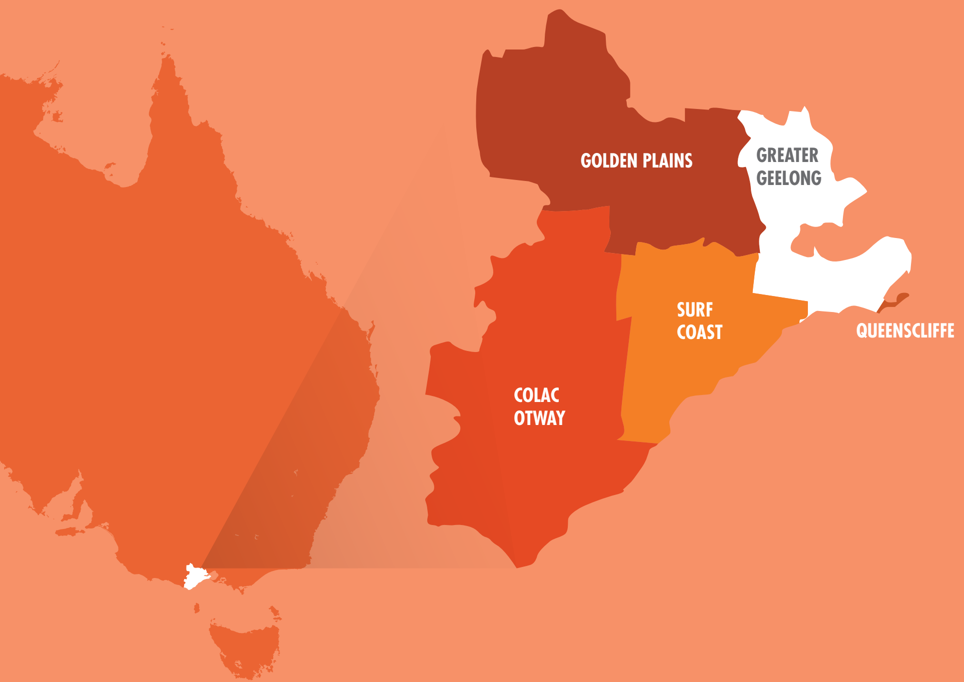
From 2007 to 2008, the Transport Accident Commission (TAC) was relocated to Geelong, which helped to establish higher end professional jobs in the City. This was followed by the relocation of WorkSafe and the National Disability Insurance Agency (NDIA). As a result, Greater Geelong was able to build a new capability in insurance services. New suppliers and new innovation in private business services also emerged to service these insurance agencies. These relocations attracted and retained skilled workers, who have been employed in other large private companies, Barwon Health and the City Council.

Greater Geelong is also home to Deakin University (Waurn Ponds and Waterfront Campuses) as well as the Gordon Institute of TAFE. There is close to 20 per cent of the working age population with a bachelor's degree or above, which is above the national average of 18.8 per cent. The presence of a skilled workforce has allowed Greater Geelong to develop other key industry strengths in knowledge, innovation and research as well as information, communication and technology. Continuing to ensure the presence of a highly skilled workforce is a priority for further growth in these key industry strengths.

Amongst the three spotlight cities, Greater Geelong has the highest number of business owners and managers (13.6 per cent). Comparatively, the percentage of new business entrants at 11.9 per cent is above the average for regional cities, identifying it as having a strong entrepreneurial culture as well as an overall positive level of confidence in Geelong's business environment.

Greater Geelong's housing affordability is relatively similar to Greater Hobart, costing an average 35-44 year old couple just above 3 years' annual income. However, only 3.7 per cent of its workforce earns above $104,000 per annum, which is the lowest amongst the three spotlight cities.

G21 REGION



KEY FACTS:

The G21 region is the largest regional economy in Victoria, comprising both regional and city lifestyles.

Comprises five municipalities: Colac Otway, Golden Plains, Greater Geelong, Queenscliffe and Surf Coast.

Greater Geelong is the major population centre, making up 75.7 per cent of the G21 population.*

*Sourced from 2016 Census

WORKING POPULATION

PLACE OF USUAL RESIDENCE VS PLACE OF WORK (CENSUS DATA 2011)

Place of usual residence	Place of work: Colac Otway	Golden Plains	Greater Geelong	Queenscliffe	Surf Coast	TOTAL
COLAC OTWAY	7,476	9	200	0	126	7,811
GOLDEN PLAINS	39	1,925	2,402	4	96	4,466
GREATER GEELONG	207	405	67,188	762	1,655	70,217
QUEENSCLIFFE	3	0	385	462	11	861
SURF COAST	184	43	4,228	26	5,035	9,516
TOTAL	7,909	2,382	74,403	1,254	6,923	92,871

UNDERSTANDING THE G21 REGION

In this section the G21 hinterland excludes Greater Geelong – showing Greater Geelong as the core and Colac Otway, Golden Plains, Queenscliffe, and Surf Coast as the G21 hinterland.

WORKING AGE POPULATION:

G21 region
179,699
(65,379 LinkedIn members)

Greater Geelong (GG)
147, 801
(52,034 LinkedIn members)

G21 hinterland
31,898
(13,345 LinkedIn members)

67,188 people living and working in Greater Geelong

3,029 people living in Greater Geelong but working in the G21 hinterland

7,215 people living in the G21 hinterland but working in Greater Geelong

15,439 people living and working in the G21 hinterland

CONNECTIONS

95 PER MEMBER GREATER GEELONG

66 PER MEMBER G21 HINTERLAND

89 PER MEMBER G21 REGION

2% Greater Geelong to G21 hinterland

21% Greater Geelong to G21 region

20% Connections in the G21 region

21% International Connections from the G21 region

TOP 5 CITY CONNECTION LOCATIONS FOR G21 REGION

1. Melbourne Area
2. G21 region
3. Sydney Area
4. Brisbane Area
5. Perth Area

TOP INTERNATIONAL

9. London, United Kingdom

TOP 5 G21 REGION CONNECTED INDUSTRIES

- IT
- Construction
- Retail
- Financial Services
- Marketing & Advertising

TOP 5 G21 REGION SKILLS

1. Healthcare Management
2. IT Infrastructure and System Management
3. Education and Teaching
4. Graphic Design
5. Process and Project Management

SKILLS WITH THE HIGHEST MOBILITY

- Soft Skills & Personality – Analytical & Problem Solving
- Web Programming
- Software Engineering Management & Requirements Gathering

G21 region

The G21 region has a population size of approximately 308,300 and comprises five municipalities: Colac Otway, Golden Plains, Greater Geelong, Queenscliffe and Surf Coast. Greater Geelong is the major population centre with around three-quarters of G21's population residing within the City boundaries. Outside of metropolitan Melbourne, the region's population is the fastest growing for Victoria and is increasingly popular with people seeking a 'sea-change' or 'tree-change'. It also provides key employment and services to the region.

G21 is the largest regional economy in Victoria and is highly diverse with sectors such as manufacturing, agriculture, aquaculture, tourism, timber manufacturing, winegrowing, education and research, health and services. Highly productive agricultural areas are located in the central and western regions, while tourism is mostly concentrated along the Great Ocean Road and the Bellarine Peninsula. Greater Geelong is near the Bellarine Peninsula, while the Great Ocean Road begins south of Geelong making it well located to benefit from tourism in the region.

The place of work and residence data shows that the hinterland of Golden Plains and Surf Coast provides a preferred place to live and is a magnet for tree and sea changing Melbournites, while the more urban area of Greater Geelong provides more jobs. Colac Otway is also a net job provider, its role as the secondary service and industry hub for the region and that the tourism economy may be driving jobs in the G21 hinterland.

For the G21 region as a whole, the working age population is approximately 179,699 and the number of LinkedIn members is approximately 65,379 (36 per cent). For the G21 hinterland subset, the working age population is approximately 31,898 people, of which 13,345 are LinkedIn members (42 per cent). In addition, Greater Geelong has more average connections than the hinterland. This suggests that while a greater proportion of hinterland workers are signed up as LinkedIn members, they have fewer connections. This may indicate that more people living outside metropolitan areas recognize the need to make connections to secure professional opportunities, even if fewer connections are made per member overall.

The G21region's LinkedIn member connections are similar to Greater Geelong, with the top three connection locations outside of the region being Melbourne, Sydney and Brisbane. Both G21 and Greater Geelong also have about 1/5 of their connections internally focused (i.e. within the city or within the hinterland).

Current skills and availability

Greater Geelong has a working age population of approximately 147,801 of which around 52,000 are LinkedIn members (35 per cent). On average, Greater Geelong members had 95 connections each, the highest among the three spotlight cities and G21 region. The largest proportion of Greater Geelong connections are to Melbourne (49 per cent), followed by the G21 region (21 per cent), though a large proportion is within Greater Geelong itself (19 per cent).

For the G21 region, the highest proportion of connections (51 per cent) are to Melbourne. Additionally, 20 per cent of connections are within the G21 region, with the majority to Greater Geelong (17.5 per cent). As Greater Geelong is the main population centre and has established economic links in the G21 region, it is expected that most of the connections are between and within the G21 region and Greater Geelong.

Greater Geelong has a total of 21 per cent of connections with people located overseas, though the proportion of connections to each individual country is quite small. This is similar for the G21 region. Internationally, members in both the Greater Geelong and the G21 region as a whole had the largest number of connections to London, United Kingdom (1.2 per cent).

The top skills for Greater Geelong and G21 are in healthcare management, IT infrastructure and system management, and education and teaching. The other top skills are process and project management, graphic design as well as management and leadership. Most of the top skills involve management of some type or specialised expertise and knowledge. This suggests the presence of a capable and skilled workforce. There is also a diverse economic structure that is reflected in the top skills.

However, for skills with high mobility and current shortages there is less diversity as they generally relate to IT. In both Greater Geelong and G21, soft skills, software engineering management and requirements gathering, and web programming are the three skills with the highest mobility. High mobility is indicative of both demand through growth and churn, meaning the jobs with those high mobility skills have high turnover rates. Similarly, for Greater Geelong and G21, current skill shortages are in user interfaces and database management and software. For Greater Geelong there is also a shortage of web programming skills and in the broader G21 region there is a shortage of .NET and other Microsoft application skills. Overall the skills profile suggests the presence of a growing IT and technological industry.

WHAT DOES THIS MEAN FOR GREATER GEELONG AND THE G21 REGION?

Though traditionally reliant on manufacturing, Greater Geelong is an economy in transition. It is becoming more diverse and moving towards more technologically advanced operations, supported by the presence of a capable and skilled workforce.

The skills most prevalent in Greater Geelong and the G21 region are IT and management, allowing workers to move across industries as well as within the region. Current skill shortages are also related to IT, reflecting industry growth pressures and an emerging industry. However, due to the close proximity to Melbourne, retaining new jobs and a highly skilled workforce will be a key factor in ensuring growth and diversity.

The connections within G21 from the hinterland to the City of Greater Geelong highlight the significant role Greater Geelong has as the key regional economic and employment centre for the G21 region. Most of the connections from Greater Geelong are local, with only a small proportion going outwards to the hinterland within G21and the majority of the connections in the hinterland reaching back to Melbourne.

The data suggests a region that is changing in line with the economic and social forces shaping the Australian economy. The city and the region are both well connected beyond its borders. But for a place with such clear inter-dependencies for jobs (Geelong to hinterland) and skills (hinterland to Geelong) the connections between the city and the hinterland are relatively low. Building stronger and deeper connections between professional networks of the hinterland and in Geelong should be a priority for the future development of the region.

GREATER HOBART

Greater Hobart is an attractive and affordable place to live. Boasting a highly skilled and educated workforce, with innovation capacity, it provides a strong base to support a growing knowledge economy.

POPULATION: ~ 182,000*
WORKING AGE POPULATION: 118,000*
(42,964 LinkedIn members)

KEY FACTS:
Capital of Tasmania.

Diverse economy dependent on new economy industries of finance, education, health and professional services.

LARGEST EMPLOYERS:

- Health Care & Social Assistance
- Public Admin and Safety
- Retail

*Sourced from 2016 Census

CONNECTIONS

93 PER MEMBER

32% connections in the region

21% international connections

TOP 5 CITY CONNECTION LOCATIONS

1. Greater Hobart
2. Melbourne Area
3. Sydney Area
4. Brisbane Area
5. Launceston Area

TOP INTERNATIONAL

10. London, United Kingdom

TOP 5 CONNECTED INDUSTRIES

- IT
- Financial Services
- Marketing & Advertising
- Management Consulting
- Real Estate

TOP 5 SKILLS

1. IT Infrastructure and System Management
2. Healthcare Management
3. Education and Teaching
4. Process and Project Management
5. Graphic Design

SKILLS WITH THE HIGHEST MOBILITY

- Business Development & Relationship Management
- Web Programming
- Management Consulting, Business Strategy & Analysis

GREATER HOBART

Greater Hobart today

Greater Hobart[1] is Tasmania's capital with a population around 182,000. It has experienced a relatively slow population growth, with a 5 per cent increase in residents from 2011 to 2016. This trend is predicted to continue.

Public administration and safety, healthcare and social assistance, education and training, retail trade, and professional, scientific and technical services account for the largest employment in Greater Hobart.

Tourism is a major contributor for Greater Hobart. International tourist numbers for Tasmania rose faster than any other Australian state in 2015, with a large proportion spending time in Greater Hobart. Within Greater Hobart's tourism industry, 42 per cent of employment is in accommodation, followed by retail trade (18 per cent) and cafes and restaurants (15 per cent). Additionally, the Port of Hobart is one of Tasmania's major ports for cruise ships.

Greater Hobart's economy has a highly diverse industry structure. It is heavily reliant on service industries with output from new services and knowledge industries (e.g. finance, education, health and professional services) seven times greater than that of more traditional industries (e.g. agriculture, manufacturing and mining). This dependence on services is much higher than Greater Geelong and Greater Darwin, where the ratio of new to traditional economic activity is around 2.5:1. As a result, future growth in Greater Hobart is dependent on the success of growing the new economy and will not be significantly impacted by traditional economy transitions.

A relatively strong entrepreneurial and innovation culture is evident in Greater Hobart. The 'Business Dynamo' is the Regional Australia Institute's measure of the business side of innovation which measures new businesses, trade mark applications and knowledge-intensive business services (KIBS). Thirteen per cent of the workforce in Greater Hobart are owner-managers. The city also has a greater density of entrepreneur and innovation supporting knowledge intensive business services than Greater Darwin and Greater Geelong and registers double the amount of trademarks.

Complementing this strength, Greater Hobart also has a creative and capable workforce. It has a high presence of creatives and also has the highest proportion of its population with a bachelor's degree or higher amongst the three spotlight cities (26 per cent). Education and training is the third largest employment sector in Greater Hobart. This is reflective of the strong presence of research facilities in the city, such as the CSIRO (Commonwealth Scientific and Industrial Research Organisation), which provides a consistent demand for high skill jobs as well as a supply of skilled people.

Greater Hobart has a relatively high proportion of its workforce (5.4 per cent) earning above $104,000 per annum. Combined with the relatively low cost of housing in Greater Hobart – where the average couple aged 35-44 years can buy a house with three years' annual household income – it is no wonder that it has recently been a standout performer in the national housing market.

Current skills and availability

Greater Hobart has a working age population of around 118,000 and close to 43,000 are LinkedIn members, thus having the highest overall proportion of its working age population on LinkedIn (36 per cent) compared with the other spotlight cities.[2] On average, each member has around 93 connections.

[1] The five LGAs are: Brighton, Hobart, Clarence, Glenorchy, and Sorell.

[2] In the G21 hinterland, the proportion of the working age population who are LinkedIn members is greater (42%), however the G21 hinterland is not a city.

Greater Hobart is more inward focused than the other cities with 32 per cent of connections within the region. Similar to Greater Geelong, 21 per cent of connections are international.

IT infrastructure and system management, and healthcare management are the top skills in Greater Hobart. This is followed by education and teaching. Greater Hobart has the largest proportion of its LinkedIn members with IT infrastructure and system management skill, at 17 per cent. Other top skills include process and project management and graphic design. The mix of top skills in Greater Hobart reflects its diverse knowledge and services based economy.

The skills with the highest mobility are largely management and business focused. Business development and relationship management, web programming, management consulting, business strategy and analysis, and management and leadership make up the most mobile skills. The desire for these high level management expertise and business skills, together with the high presence of knowledge-intensive business services, point towards an economy looking to organically grow its new economy industries.

WHAT DOES THIS MEAN FOR GREATER HOBART?

Greater Hobart has a highly skilled and creative workforce, with strong innovation capacity. Coupled with its affordable housing and high Bohemian Index (Creative Industries) score, it is an attractive place to live and work and should be a destination of choice for new economy businesses and workers.

With skills currently in demand being more narrowly focused on management expertise and business development, the data suggests employers are looking to develop business and management capabilities to support business growth.

While LinkedIn members are well connected, connections are overly inward looking or within Tasmania. This is not surprising for the capital of an island economy, but it emphasises the importance of developing more outward looking connections to further enhance the growth potential in Greater Hobart's key tourism, education and training, and services industries.

GREATER DARWIN

POPULATION: ~ 136,000*
WORKING AGE POPULATION: 98,000*
(34,046 LinkedIn members)

KEY FACTS:
Northern Australia's gateway to Southeast Asia and capital of the Northern Territory.

Supports a growing Defence presence.

LARGEST EMPLOYERS:

- Public Admin and Safety
- Health Care & Social Assistance
- Construction

Greater Darwin is a diverse city with strong population growth, it has a high dependency and specialisation in traditional industries such as mining and offshore oil and gas production.

*Sourced from 2016 Census

CONNECTIONS

93 PER MEMBER

20% connections in the region

27% international connections

TOP 5 CITY CONNECTION LOCATIONS

1. Darwin Area
2. Brisbane Area
3. Melbourne Area
4. Sydney Area
5. Perth Area

TOP INTERNATIONAL

12. London, United Kingdom

TOP 5 CONNECTED INDUSTRIES

- Oil & Energy
- Construction
- IT
- Mining & Metals
- Human Resources

TOP 5 SKILLS

1. IT Infrastructure and System Management
2. Healthcare Management
3. Process and Project Management
4. Education and Teaching
5. Management and Leadership

SKILLS WITH THE HIGHEST MOBILITY

- Business Development & Relationship Management
- Electricity Power Generation & Management
- Lean Manufacturing & Quality Management

GREATER DARWIN

Greater Darwin today

Darwin, the capital city of the Northern Territory is Australia's top end trade and service hub, and gateway to Southeast Asia.

Greater Darwin is a cosmopolitan multicultural region with over 100 nationalities represented in the local population. Approximately 23 per cent of the region's population speak a language other than English at home and 30 per cent are Indigenous. Greater Darwin's close proximity to Asia, the fastest growing region of the global economy, and a renewed focus of developing northern Australia, provide many potential growth and professional opportunities.

Greater Darwin includes three LGAs[3] and has a population of around 136,000. The city has experienced a high population growth rate of 14 per cent from 2011 to 2016 and is projected to continue growing at 1.4 per cent per annum from 2016 to 2026.

The Greater Darwin economy is largely dependent on the government sector – especially defence, mining and mining support sectors (construction and transport). Within Greater Darwin, the top three employment industries are public administration and safety (19.6 per cent), healthcare and social assistance (11.3 per cent) and construction (11.2 per cent). Construction is the most economically productive industry and its fortunes are tied to large resource industry projects and continued population growth.

Greater Darwin has a prominent defence industry and is home to several military training areas. The Defence White Paper has also marked the Northern Territory to receive $20 billion in the next 20 years to upgrade and support its growing military presence. Darwin's HMAS Coonawarra will be receiving billions of dollars in upgrades to support a group of new offshore patrol boats.

There has also been increasing offshore oil and gas activities with new liquefied natural gas (LNG) trains being constructed locally. This represents growth opportunities in other sectors such as health, safety and environmental services, other operational and maintenance support and businesses like drilling equipment and services.

Housing prices are at the slightly higher end of the scale compared to the other two cities. It costs an average 35-44 year old couple around 4 years' annual household income to buy a house. The percentage of workers earning above $104,000 per annum is also relatively high at just above 6 per cent. Greater Darwin also has a relatively high average economic output per employed person ($230,000 per worker) and a high participation rate (75 per cent).

In terms of entrepreneurial and innovation culture, Greater Darwin performs well on certain aspects with the highest business start-up rate (14 per cent) amongst the three spotlight cities, as well as a good presence of supporting business services (6.2 per cent). However, Greater Darwin scores the lowest on trademark applications (1.36 per cent). Around 19 per cent of the working age population has a bachelor's degree or higher, which is around the national average, but is the lowest amongst the three spotlight cities.

Like many regional cities driven by government and mining, Greater Darwin has a lower presence of creative and artistic jobs. Developing this area will be important to retain people in the city and to grow its innovation capabilities.

[2] Darwin, Litchfield and Palmerston.

Current skills and availability

In total 34,046 people from Greater Darwin are LinkedIn members out of a total working age population of around 98,000. On average, LinkedIn members in Greater Darwin had 93 connections.

Around 20 per cent of connections are local and, in comparison to the other spotlight cities, Greater Darwin does not have as many connections to other parts of Australia. Connections to places such as Brisbane, Melbourne, Sydney and Perth are only around 8 per cent respectively. However, Greater Darwin is the most outward focused, with the highest proportion of connections internationally (27 per cent). These are diverse with the largest number of connections to London, United Kingdom (1.1 per cent).

IT infrastructure and system management is the top skill in Greater Darwin. Coming in second is healthcare management supporting the healthcare and social assistance industry which is one of the largest employers in Greater Darwin. This is followed by process and project management, education and training, and management and leadership. The top skills suggest an emphasis on management skills.

Compared to the other two spotlight cities, there is diversity in skills with high mobility. The top three are business development and relationship management, electricity power generation and management, and lean manufacturing and quality management.

Looking at current skill shortages, the top three skills are also diverse. The skill most in demand is construction, followed by architectural design and software engineering management and requirement. The demand for construction skills is linked to the major projects in mining and defence underway in the city and could also be due to a high turnover of staff that occurs in more remote areas.

WHAT DOES THIS MEAN FOR GREATER DARWIN?

The high business startup rates, together with the high mobility in business development and relationship management skills, suggest a growing economy. However, Greater Darwin's economy is dependent on a few key industries, such as construction, government and traditional industries like mining and resources and the major projects that have driven their growth.

Currently, Greater Darwin has lower percentages of connections with other regions of Australia but has more outward connections internationally. Making use of these connections and building the impact of the entrepreneurial and local innovation capacity on the economy will be important to balance the risks to the city from the fluctuations in major project investment.

THREE SPOTLIGHT CITIES

This report presents a second group of findings from the partnership between the RAI and LinkedIn, making a specific contribution to the RAI's Cities Research Agenda. The work demonstrates how social media data can be used to identify and track current trends and future needs amongst different places.

Skills and mobility are critical issues for all regions – especially regional cities, and the RAI-LinkedIn partnership is showing how an up-to-the-minute snapshot can be prepared to identify the status of skills, connections and mobility.

In partnership, the RAI and LinkedIn are continuing to develop analytical tools to enable wider access to this important economic data, drawing on LinkedIn's international experiences and applying them to Australian regions. We look forward to releasing new tools, research and summary insights in coming months.

For more information about this report (or to get involved in the RAI's Cities Research Agenda) please contact

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REGIONAL AUSTRALIA INSTITUTE

LinkedIn™