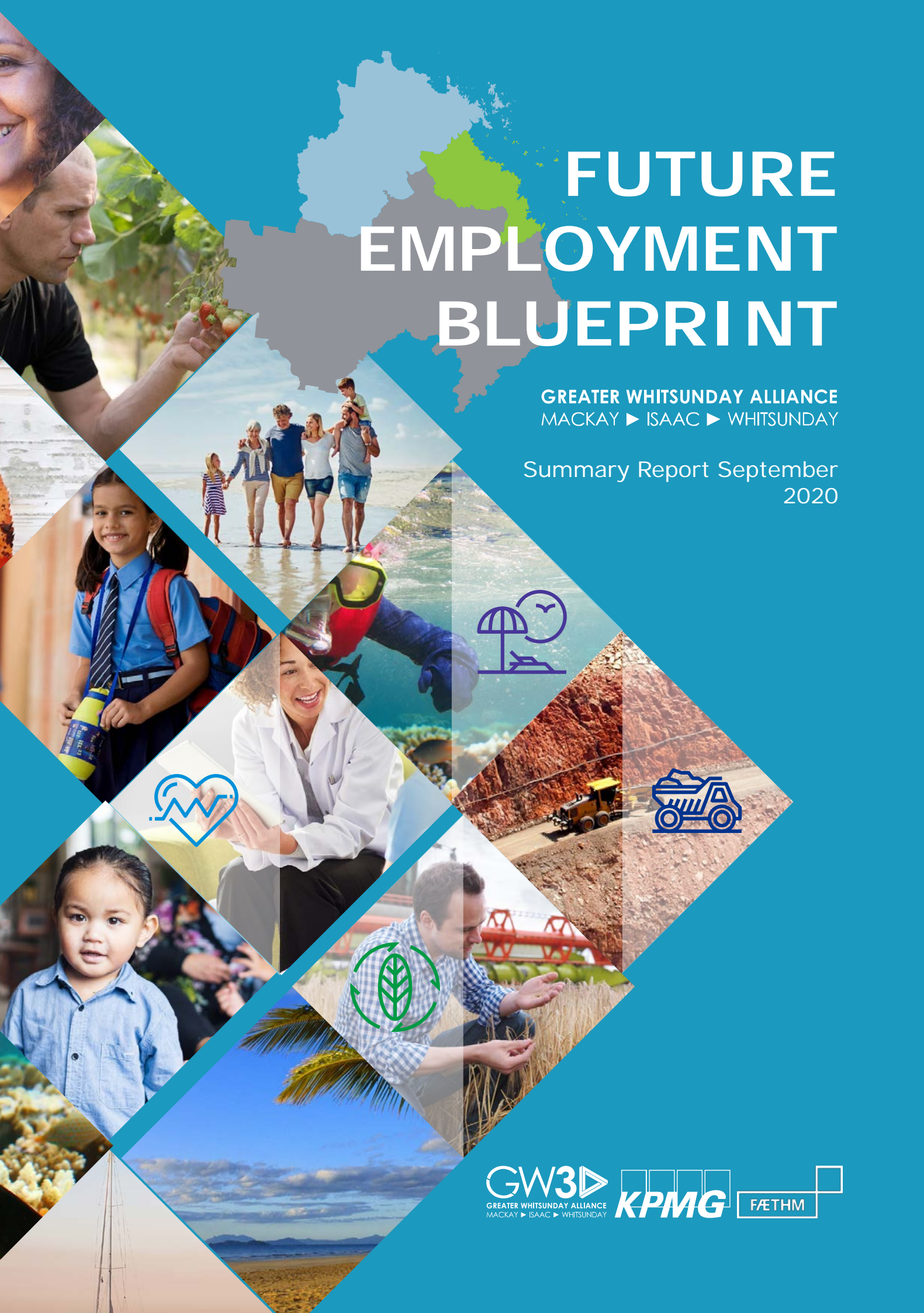


FUTURE EMPLOYMENT BLUEPRINT

GREATER WHITSUNDAY ALLIANCE
MACKAY ► ISAAC ► WHITSUNDAY

Summary Report September
2020



GW3
GREATER WHITSUNDAY ALLIANCE
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FÆTHM



The sectors that already sustain regional Australia - such as mining and power generation, agriculture, service industries and manufacturing - hold the key to unlocking new job opportunities.

While current skill shortages in regional areas need to be addressed, new technologies and industries may offer the opportunity to create secure and stable local jobs that are well suited for regional areas.

**Select Committee Into Jobs
for the Future in Regional
Areas- December 2019**

An underwater photograph showing a diver's mask and snorkel in the foreground, with a vibrant coral reef in the background. The water is clear and blue, with sunlight filtering through from above.

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Inherent Limitations

This Future Employment Blueprint has been prepared as outlined in KPMG's contract with the Greater Whitsunday Alliance dated 30 April 2020. The services provided in connection with this engagement comprise an advisory engagement, which is not subject to Australian Auditing Standards or Australian Standards on Review or Assurance Engagements, and consequently no opinions or conclusions intended to convey assurance have been expressed.

The contents of this report is only indicative in nature. KPMG have indicated within the accompanying Final Report the sources of the information provided as per our methodology. We have not sought to independently verify those sources unless otherwise noted within this Future Employment Blueprint.

KPMG is under no obligation in any circumstance to update this Future Employment Blueprint, in either oral or written form, for events occurring after the Future Employment Blueprint has been issued in final form.

The findings in this Future Employment Blueprint have been formed on the above basis.

Third Party Reliance

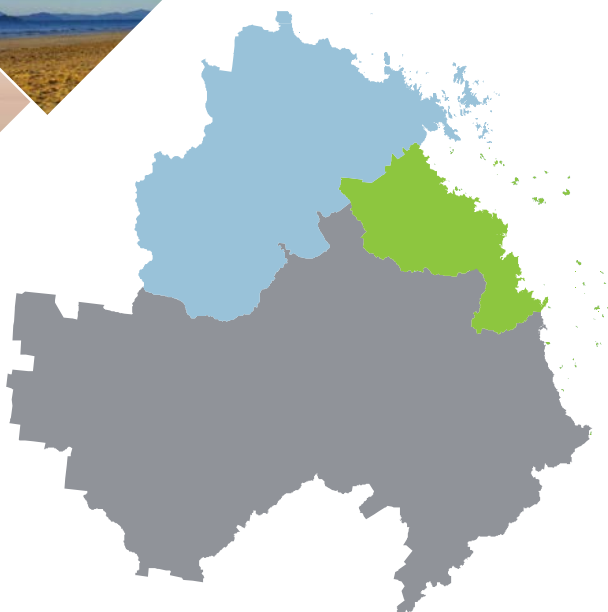
This Future Employment Blueprint is solely for the purpose set out in the contract dated 30 April 2020 and for the Greater Whitsunday Alliance's information, and is not to be used for any other purpose or distributed to any other party without KPMG's prior written consent.

This Future Employment Blueprint has been prepared at the request of the Greater Whitsunday Alliance in accordance with the terms of the Contract dated 30 April 2020. Other than our responsibility to the Greater Whitsunday Alliance, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this report. Any reliance placed is that party's sole responsibility.



WHY CREATE A FUTURE EMPLOYMENT BLUEPRINT FOR THE GREATER WHITSUNDAY REGION?

As the Greater Whitsunday region prepares for the Fourth Industrial Revolution and the changing landscape of workforces in the future, it is vital that there is an understanding of the future employment environment to best leverage employment and economic development opportunities to keep the region thriving.



PREDICTING THE FUTURE

Any predictions of future employment carry with them a degree of uncertainty, and can only be made with the best available information, data and stakeholder views. It is inevitable that there will be some unforeseen changes over the next decade that will impact the employment landscape in the Greater Whitsunday region.

However the Greater Whitsunday region will continue to be able to draw on its competitive advantages including; boasting a strong agribusiness sector with one of the nation's largest sugar and bio-commodity producers; attracting tourism from around the world for the region's beaches, reef and marine life, and having one of the largest coal mining deposits in Australia. New opportunities for employment are also expected as a result of technology, regional investment and innovation that if leveraged now will help to ensure the prosperity of the region into the future.



Multi-layered impacts

The impacts on future employment are currently subject to a number of changing dynamics which are all interwoven and driving changes to traditional employment models and the tasks and functions of traditional occupations. These changes include the impact of COVID-19, a greater focus on regional development and investment, and the impact of emerging technologies and the Fourth Industrial Revolution. All of these factors are expected to reshape the labour market across Australia, and challenge long-held perceptions about career pathways and opportunities, education and training, and single careers to a more dynamic view of occupations, industries, career pathways and lifelong learning.

Accelerated change, but change we have seen before

The impact of the Fourth Industrial Revolution and emerging technologies on occupations will drive change, and these impacts will lead to a changing labour market profile where some occupations will increase in demand and others will decline in demand.

While technology may accelerate some of these changes, it is important to note that occupations have always been subject to changes in demand in response to changes across the community, and there have always been occupations in growth and decline which change the employment composition of the labour market over time.

Emerging technologies will shape the change

The changes to the tasks and functions and occupations expected will be dependent on business and industry decisions about the type, rate and order of technology adoption. As there are differing levels of maturity across every industry, business and region, the workforce change will occur at different rates across different segments of the workforce and across different workplaces.



FUTURE EMPLOYMENT BLUEPRINT REMIT

Four Industry Sectors

Employment within the Greater Whitsunday region is driven by a number of key industry sectors with Health Care and Social Assistance and Mining and Mining Equipment, Technology and Services (METS) the largest industries for employment across the region.

The Tourism sector is comprised of occupations that extend across industry sectors, including Accommodation and Food Services, Transport Postal and Warehousing, Retail and Other Services and is key to employment in the Whitsunday Local Government Area (LGA), as well as driving strong employment opportunity in the Mackay and Isaac LGAs.

The Greater Whitsunday region has held a strong reputation in terms of its Agricultural contribution, however the industry has experienced large levels of decline in employment within the region over the last five years which are reflective of a volatility in the industry that has been seen over the last 20 years. Employment growth opportunities are currently emerging in this industry, including in relation to aquaculture (including prawn farming).

Due to these factors, this Future Employment Blueprint has been limited to analysis of four industry sectors - Mining and METS, Health Care and Social Assistance, Agriculture and Tourism.

A 10 year time horizon

A time horizon of 10 years (to 2030) has been selected for this Future Employment Blueprint in recognition that:

- a number of these future of work predictions and projections will take time to realise (with recognition that this journey will be different across different organisations, and industry sectors);
- the training of the needed future workforce, including education and training pipeline and pathways, require significant forward planning; and
- any reskilling and upskilling of the workforce will require time, consideration of employment corridors and a whole of region approach to ensure individual skillsets are matched to employment opportunity.

A focus on employment and workforce change

It is important to note that the Future Employment Blueprint is focused on the disruption impact that emerging technologies will have on the workforce and employment opportunities across the region. It is important to note that many other factors will drive employment, including government policy, regional investment, environmental factors and demographic factors, this Future Employment Blueprint assumes that these factors will continue to influence the employment opportunities in a similar way to the last five years.

While historical data has been used to predict future growth, there are a number of future developments that are in the pipeline that could have a very positive impact on employment in the region. These have not been factored in to this study because of where they are in the planning stage.

Exploring the impact of emerging technologies specific to each industry sector within the Greater Whitsunday region provides the opportunity for employers within the region to implement workforce strategies that will support strong employment growth into the future.

Continuing the skilling conversation

Education and training and skilling is a critical step to ensure the contemporary competencies and skills required of the workforce and to meet the future employment opportunities. Education and training reforms will be essential to the success of jobs in the Greater Whitsunday region, and will need to include (but are not limited to):

- challenging the current education and training pathways for key occupations and challenging traditional tasks and functions;
- ensuring baseline digital literacy for all occupations;
- ensuring that education and training pathways exist for new occupations;
- better enabling recognition of prior learning to enable transition into other related occupations;
- supporting micro credentialing approaches and lifelong learning of employees; and
- ensuring that where possible education and training is provided within the Greater Whitsunday region.



Transformation of the digital age is upon us and, as a regional workforce across all traditional industries, it is vital that industry is skilled and prepared for the jobs of tomorrow.

Preparing workforces of the future lies in collaboration with industry groups and companies across sectors, confirming emerging industries, jobs and workforce needs as well as a digital infrastructure plan to understand the regional infrastructure needs to support jobs of the future.

-Greater Whitsunday Alliance





AGRICULTURE INDUSTRY



The Agriculture industry comprises 2.0 percent of total employment in the Greater Whitsunday region (February 2020). The average annual employment growth between 2015 to 2020 was 3.0 percent.

Of those employed within the Agriculture industry, 40.0 percent are employed within the Mackay LGA, 34.8 percent in the Whitsunday LGA, and 25.2 percent in the Isaac LGA.

The current workforce as at February 2020 (and based on the 6 digit occupations codes included in scope) is over 5,000 headcount across the Greater Whitsunday region. Taking into account the impact of emerging technologies and employment growth at an occupation level suggests this industry sector will increase by 37.8 percent by 2030.

1. WORKFORCE CHANGE EXPECTED FROM AUTOMATION

There are a number of occupations within the agriculture sector where a rate of automation is predicted above 25 percent by 2030, however many of these are expected to be absorbed within predicted occupation growth.

There are a number of agricultural occupations in decline when viewed over the last five years, where more moderate automation impacts are unable to be absorbed.

Significant employment opportunity exists in agriculture occupations including (but not limited to) Crop Farmers, Fruit and Nut Farmers, Growers and Pickers, Mixed Crop and Livestock Farmers, Sugar Cane Growers, Vegetable Farm Workers Growers and Pickers and Beef Cattle Farmers.



New employment pathway opportunities should be explored before 2030 for:

- Bookkeeper (approx. 380 FTE impact); and
- Meat Packers, Fruit and Vegetable Packers and Packers nec and nfd (approx. 150 FTE impact).

Automation is expected to impact on some farming, farm management and aquaculture related occupations reducing future employment demand. Despite this, it is noted that both stakeholders locally and the National Farmers Federation nationally predict a shortfall in agricultural related occupations, suggesting employment supply will continue to need to be boosted in the future.



2. WORKFORCE CHANGE EXPECTED FROM AUGMENTATION

Augmentation has much lower expected impacts on the workforce in the Agriculture industry compared with the other industries included in this analysis.

The occupations expected to be most impacted by augmentation (over 10 percent impact by 2030) are **Farmers and Farm Managers not further defined, Agricultural and Horticultural Mobile Plant Operators, Agricultural Technicians, Deck Hands and Fishing Hands.**

The occupations with the greatest impact in terms of freed capacity (due to occupation size in the region) are the **Sugar Cane Grower, Agricultural and Horticultural Mobile Plant Operator, Beef Cattle Farmer, Farmers and Farm Managers not further defined, Bookkeeper and Beef Cattle Farm Worker.**

Of the thirty occupations analysed in agriculture, twenty-five will be impacted by less than 10 percent by augmentation by 2030. This includes (but is not limited to) Meat Packers, Crop Farm Workers and Farmer, Fruit and Nut Farm Workers and Farmers, Grain, Oilseed and Pasture Growers, Mixed Crop and Livestock Farm Workers and Farmers.

As with other industry sectors, it is expected augmentation will lead to a demand for digital literacy skills across all occupations, with targeted and specific training for technologies specific to each workforce segment. Augmentation will also require a shift towards lifelong learning and continuing professional development and may help to alleviate some workforce shortages particularly around picking and harvesting.



3. NEW ROLES CREATED AS A RESULT OF EMERGING TECHNOLOGIES

ICT and Engineering Occupations

The technology advancements and adoption predicted in the Agriculture sector is expected to result in approximately 311 FTE in information technology occupations including Software Developers, Process Improvement Analysts, Data Analysts and Data Engineers by 2030.

As a result of technology adoption it is also expected that the following changes will occur across the Agricultural sector:

Increased specialisation of the agriculture workforce

It is expected that into the future, the occupations involved in agricultural production will become more specialised and advanced in order to improve yields, profitability and competitiveness of farms. Technology is seen as a necessary adoption, and this is requiring deeper knowledge and skill sets in relation to the business viability and improvements expected from key technologies that may be specific to the produce that is being farmed.


Agricultural research and development roles.

It is expected that there will be increased demand for research and development related roles that support the advancement of technology and food production in the agriculture industry. This currently occurs through a range of key advocacy and research based organisations and universities, and will be critical if Australia seeks to maintain and improve its position in agricultural production and exports.

A lesser reliance on holiday visa workforce

There is significant anecdotal evidence that the sector in Queensland and across Australia remains reliant on the working holidays and work and holiday visas for picking and packing of agricultural produce for seasonal work. If automation and robotics technologies are adopted as predicted by 2030, this will reduce the reliance on this workforce.





“ The key barrier to technology adoption is the cost of implementation. The only way we could afford some of these new advancements is to be part of a trial.”

“ The growth in beef cattle farm workers has to do with improvements in the price of beef, particularly in the export markets.”

Stakeholders noted the key role of seasonal workers in picking and harvesting - these roles have been filled by holiday visa workers. In the COVID-19 context, this may cause significant problems in future picking seasons.

***Stakeholders in
consultation***

HEALTH CARE AND SOCIAL SERVICES INDUSTRY



Greater Whitsunday employment in the Health Care and Social Assistance industry currently accounts for 10.4 percent (or a headcount of 7,000) of total employment in the region (February 2020).

There is significant employment opportunity in the Health Care and Social Assistance sector which is growing at a faster rate than any other industry sector. Growth between 2015 and 2020 was 5.2 percent.

Of those employed in the Health Care And Social Assistance industry, 78.2 percent are in the Mackay LGA, 15.4 percent are in the Whitsunday LGA and 6.4 percent are in the Isaac LGA.

For most occupations in Health Care and Social Assistance, the augmentation and automation impacts will be absorbed within occupation growth.

1. WORKFORCE CHANGE EXPECTED FROM AUTOMATION

The majority of occupations across Health Care and Social Assistance are predicted to be in employment growth including (but not limited to) Aged and Disabled Carers, Child Carers, Enrolled Nurses, Health and Welfare Services Managers, Registered Nurses, Personal Care Assistants, Out of School Hours Care Workers, Optometrists, Dentists and Registered Medical Officers.

For Ambulance Officers, Medical Diagnostic Radiographers and Environmental Health Officers there is a reduction predicted from current employment levels, however this is attributed to occupational declining trends rather than automation.



New employment pathway opportunities should be explored before 2030 for:

- Medical Receptionists (approx. 110 FTE impacted).

For other impacted occupations the predicted change is small, and may be managed through attrition over the next decade. These are:

- Admissions Clerk;
- Pathology Collector; and
- Pharmacy Technician.

The Sonographer and Medical Diagnostic Radiographer occupations are also expected to be impacted, but are currently in workforce shortage.



2. WORKFORCE CHANGE EXPECTED FROM AUGMENTATION

The impact of augmentation on the Health Care and Social Assistance workforce is expected to be more significant than the impact of automation. Of the 51 occupations analysed, 34 are expected to have more than 25 percent of FTE capacity as a result of working alongside technology. This may be used to undertake higher order clinical tasks, with a shift away from more repetitive and mundane tasks, and may also mean over time that there is a reduction in demand for some of the most impacted occupations.

The roles expected to have the highest percentage impact as a result of augmentation (over 40 percent by 2030) are the **Registered Nurse (Critical Care and Emergency), Resident Medical Officer, Physiotherapists and Optometrists.**

The roles with the greatest impact from augmentation when measured by FTE (and due to the size of these occupations in the region) are the **Registered Nurses (Aged Care, not further defined, not elsewhere classified, Medical), Registered Nurse (Perioperative, Medical Practice), Diversional Therapist, Health and Welfare Service Managers, Midwives and Pharmacy Technicians.**

As with other industry sectors, it is expected augmentation will lead to a demand for digital literacy skills across all occupations, with targeted and specific training for technologies specific to each workforce segment. It will also require a shift towards lifelong learning and continuing professional development, will help to alleviate some workforce shortages, and over time, will lead to a different employment composition in the Health Care and Social Assistance sector.



3. NEW ROLES CREATED AS A RESULT OF EMERGING TECHNOLOGIES

ICT and Engineering Occupations

The technology advancements and adoption predicted in the Health Care and Social Assistance sector are expected to result in the need for approximately 339 FTE in information technology occupations including Software Developers, Process Improvement Analysts, Data Engineers and Data Integrators by 2030.

Other Expected In-Demand Occupations

Other occupations expected to be in demand as a result of technology adoption include:

- **Bridging roles between clinical practice and technology.** Within the health sector there is already the emergence of roles that provide the bridge between clinical practice and ICT related roles, and often involve clinicians who become project leads for the implementation of emerging technologies in the workplace. There may also be better recognition of specialist digital competencies and knowledge in clinical occupations, such as medicine and nursing into the future.
- **Human resources occupations.** These roles are expected to assist with the workforce upskilling that is expected in the Health Care and Social Assistance sector from augmentation are expected to be in demand, as will change management roles to assist in the successful implementation of emerging technologies; and
- Roles that support **translational research and development** and build the evidence around technology adoption. This will include evidence based practice regarding the impact of technologies on health outcomes and experience.





There has been increased demand in studying health qualifications as a result of COVID-19, suggesting a strong future pipeline.”

Apart from some key standout pockets of innovation, stakeholders noted that the level of maturity and readiness for technological adoption was not necessarily there, although COVID-19 has accelerated adoption of some technologies such as telehealth.

***Stakeholders in
consultation***

MINING AND METS INDUSTRY



Greater Whitsunday employment in Mining currently accounts for 17.5 percent of total employment in the region (February 2020). The METS employment profile is more difficult to accurately determine, however it is expected that a significant proportion of the manufacturing employment in the region (5.2 percent) relates to the METS sector.

The employment composition has 78.6 percent of mining employment in Isaac LGA, 15.8 percent in Mackay LGA and 5.6 percent in Whitsunday LGA.

While some traditional roles in mining are projected to be impacted by emerging technologies into the future, new job opportunities will open in ICT and engineering related roles. Jobs growth may also be triggered through increasing uplift and competitiveness in Australian mining, the wider supply chain and through employment from the contribution of mining to the Australian economy.¹

1 Alpha Beta. 2019. Staying Ahead of the Game

1. WORKFORCE CHANGE EXPECTED FROM AUTOMATION

Many of the current Mining and METS occupations within the Greater Whitsunday region are expected to be impacted by a combination of automation driven by technology adoption, as well as declining employment trends in some occupations.

Some roles will remain in growth including Maintenance Planners, Metallurgical or Materials Technicians, Mine Deputies and Building and Engineering Technicians.



New employment pathway opportunities should be explored before 2030 for:

- Miners, Drillers and Shot Firers (approx. 2,000 FTE impact);
- Fitters and Fitters and Turners (approx. 1,900 FTE impact);
- Metal Fabricators and Welders (approx. 1,050 FTE impact);
- Truck Drivers and other machinery operators (approx. 1,300 FTE impact); and
- Electricians (approx. 150 FTE impact).

Noting that some of these roles are not exclusive to Mining and METS.



2. WORKFORCE CHANGE EXPECTED FROM AUGMENTATION

The impact of augmentation on the Mining and METS sector is likely to both mean that the freed workforce capacity is used to undertake higher order tasks with a shift away from more repetitive and mundane tasks, and may also mean over time that there is a reduction in demand for some of the most impacted occupations.

The roles expected to have the highest percentage impact as a result of augmentation (over 30 percent by 2030) are the **Mine Deputies, Mining Engineers, Production Managers (both Manufacturing and Mining) and Building and Engineering Technicians not elsewhere classified.**

The roles with the greatest impact from augmentation when measured by augmented FTE (and due to the size of these occupations in the region) are **Miners, Fitters, Truck Drivers and Electricians.**

As with other industry sectors, it is expected augmentation will lead to a demand for digital literacy skills across all occupations, with targeted and specific training for technologies specific to each workforce segment. It will also require a shift towards lifelong learning and continuing professional development, will help to alleviate some workforce shortages, and over time, will lead to a different employment composition in the mining and METS industry.



3. NEW ROLES CREATED AS A RESULT OF EMERGING TECHNOLOGIES


ICT and Engineering Occupations

The technology advancements and adoption predicted in the Mining and METS sector are expected to result in the need for approximately 1,500 FTE in information technology occupations including Software Developers, Process Improvement Analysts, Data Engineers and Data Integrators by 2030.


Other Expected In-Demand Occupations

Other occupations expected to be in demand as a result of technology adoption include:

- **Mining technology professional occupations** that combine together mining expertise with an understanding of information technology. These roles may be key to the successful implementation of technology and also require skills around change management and have the seniority to enact change.
- **Human resources occupations** that assist with the workforce reskilling and upskilling that is expected in the Mining and METS sector are expected to be in demand, as will change management roles to assist in the successful implementation of emerging technologies;
- **Occupations that provide stronger networking and interconnections** across business, including roles that work across cities, regions and business ecosystems, understanding intersections between Mining and METS, and can support systems integration and business analytics; and
- Roles that support **research and development** and build the evidence around technology adoption. This will include driving continuous improvement and benefits realisation for businesses.



We need to be careful in looking at the five year historical trend, as every few years the mining industry will go through periods of up and downturns which impact on employment in the region. ”



Some of the changes as a result of COVID-19 such as greater access to working from home arrangements, are likely to remain in place into the future. ”



The Resources Centre of Excellence has to promote true collaboration in order to build the regions' credibility in research and development and create a hub for the future. ”

***Stakeholders in
consultation***

TOURISM INDUSTRY



Tourism is comprised of occupations that span across various industry sectors, including Accommodation and Food Services, Transport, Postal and Warehousing and Other Services.

Based on the Accommodation and Food Services industry as an indicator, tourism comprised 6.8 percent of employment across the Greater Whitsunday region, and annual employment growth of 1.3 percent between 2015- 2020. The majority are employed in the Mackay and Whitsunday LGAs (47.5 and 39.9 percent, respectively).

Employment growth is expected at 0.25 percent per year to 2030 taking automation, augmentation and employment growth into account.

COVID-19 has significantly reduced recent employment in the tourism industry.

1. WORKFORCE CHANGE EXPECTED FROM AUTOMATION

The predicted impact of automation on the tourism occupations is expected to be quite high with 20 of the 35 occupations predicted to have more than 20 percent of the occupation automated by 2030. Of these occupations, some absorb this impact within employment growth, while in others automation will accelerate projected decline in supply.

Employment growth is predicted for a significant number of occupations in this industry, including (but not limited to) Fast Food Cook, Delivery Driver, Barista, Hospitality Worker, Bar Attendant, Restaurant Manager, Caravan Park and Camping Ground Manager, landscape Gardener and Arborist, Tour Guide, Hotel or Motel Manager.



Once the impact of COVID-19 is known for tourism occupations, employment pathway opportunities may need to be explored by 2030 for:

- Sales Assistant and Retail Manager (approx. 1,500 FTE impact);
- Hotel or Motel Receptionist, Receptionist (general) and General Clerk (approx. 1,050 FTE impact);
- Cleaners and Laundry Workers (not further defined), Laundry Workers (general), Commercial Housekeeper, Commercial Cleaner and Domestic Housekeeper (approx. 490 FTE impact);
- Cook and Kitchenhand (approx. 160 FTE impact); and
- Licenced Club Manager, Accommodation and Hospitality Manager (nec) and Hotel Service Manager (approx. 125 FTE impact).



2. WORKFORCE CHANGE EXPECTED FROM AUGMENTATION

The impact of augmentation on the Tourism sector is expected to be less than the automation impacts of emerging technologies.

The occupations with the highest predicted augmentation impact on the occupation (over 20 percent impact predicted by 2030) are **Cook, Licenced Club Manager, Bar Attendant, Accommodation and Hospitality manager (not elsewhere classified), Caravan Park and Camping Manager, Hotel or Motel Manager, Sales Assistant (general), Café or Restaurant Manager, Chef and Retail Manager (general).**

The occupations with the greatest impact in terms of augmented FTE (due to occupation size) are the **Sales Assistant (general), Retail Manager (general), Cook, Chef, Bar Attendant and Waiter.**

A number of occupations will be impacted by less than 10 percent from augmentation to 2030. This includes (but is not limited to) Cleaners and Laundry Workers, Commercial Cleaners, Domestic Housekeepers, Fast Food Cooks, General Clerks, Kitchenhands, Laundry Workers and Receptionists.

It is expected augmentation will lead to a demand for digital literacy skills across all occupations. Augmentation will also require a shift towards lifelong learning and continuing professional development, but may assist in addressing workforce shortages created through the absence of the holiday visa workforce in the COVID-19 environment.



3. NEW ROLES CREATED AS A RESULT OF EMERGING TECHNOLOGIES

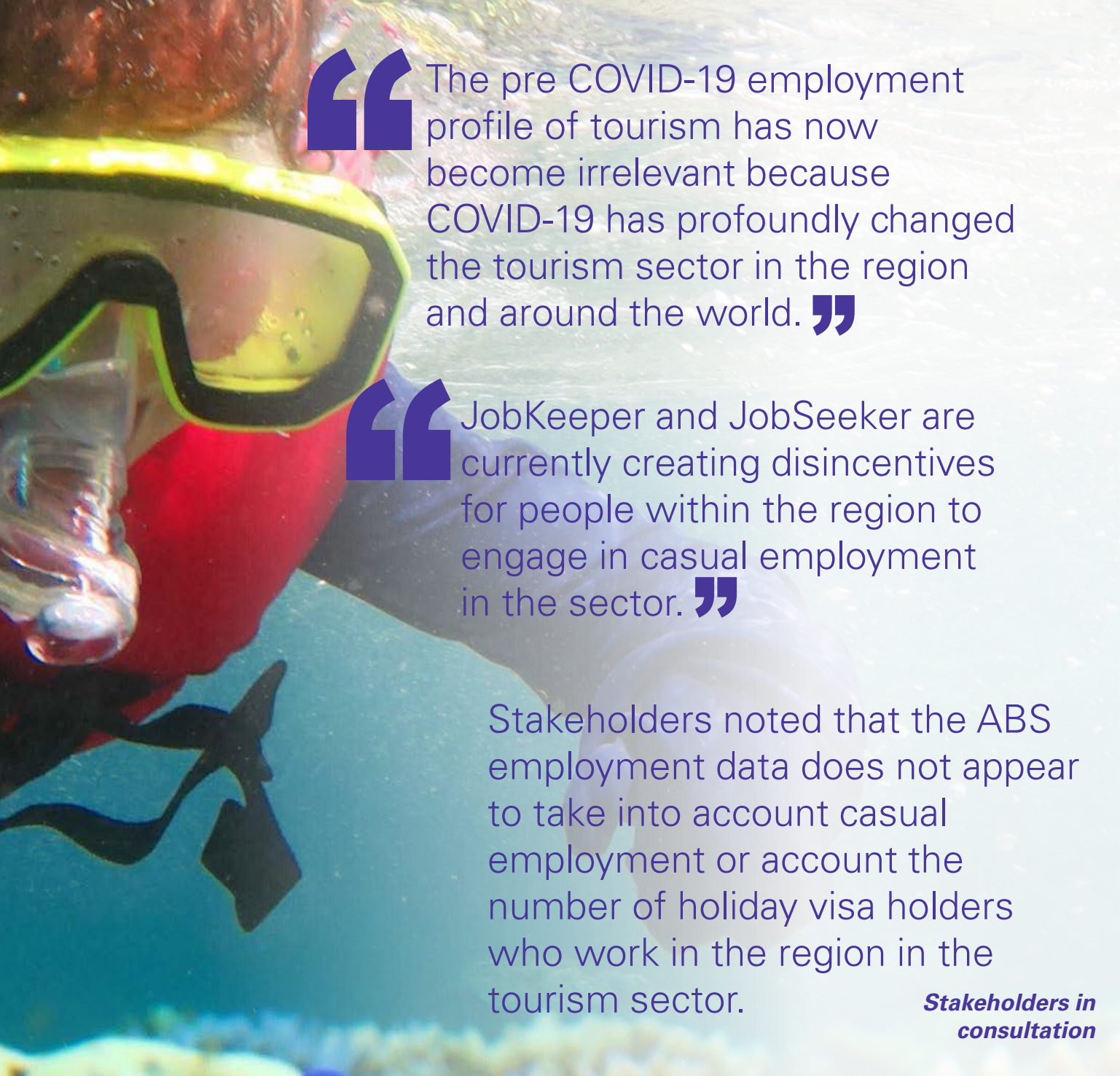
ICT and Engineering Occupations

The technology advancements and adoption predicted in the Tourism sector is expected to result in approximately 979 FTE in information technology occupations including Software Developers, Process Improvement Analysts, Data Engineers and Data Analysts. This is significantly higher than the job creation predicted in the Health Care and Social Assistance and Agriculture industry sectors by 2030

Roles supporting stronger networks and interconnections across business and industry and the customer service journey

It is expected that technology adoption will provide the opportunity for occupations that seek to support the customer service journey and experience, including through the use of technologies such as virtual reality; and network broking support roles connecting cities, regions and business ecosystems.





“ The pre COVID-19 employment profile of tourism has now become irrelevant because COVID-19 has profoundly changed the tourism sector in the region and around the world. ”

“ JobKeeper and JobSeeker are currently creating disincentives for people within the region to engage in casual employment in the sector. ”

Stakeholders noted that the ABS employment data does not appear to take into account casual employment or account the number of holiday visa holders who work in the region in the tourism sector.

***Stakeholders in
consultation***

ABORIGINAL AND TORRES STRAIT ISLANDER EMPLOYMENT



The impact of technology on occupations that have a high Aboriginal and Torres Strait Islander composition has been specifically examined, noting that Aboriginal and Torres Strait Islander employment is a critical priority within the Greater Whitsunday region.

Due to the high susceptibility to automation for many occupations that employ Aboriginal and Torres Strait Islander people, a greater focus on the long term trajectory is required to support the workforce into the future.

To support the workforce transition with the appropriate skills, some of the key education and training pathways and employment pathway options can work better when they are based on a tailored approach to the needs of Aboriginal and Torres Strait Islander persons.

2. Refer to Appendix G of the Final Report for data analysis.

IMPACT OF TECHNOLOGY

The largest employing industries for Aboriginal and Torres Strait Islander people in the Greater Whitsunday region are in the Mining and METS, Health Care and Social Services, Retail and Accommodation and Food Services sectors.² Stakeholder consultation identified that employment in the agriculture sector has also increased in recent years.

The key occupations for Aboriginal and Torres Strait Islander people within the Greater Whitsunday region are understood to include mining truck driving, mining manual labour and retail assistant roles.

These occupations are exposed to a high risk of job augmentation or automation.

New roles will increasingly require digital and analytical skill sets; however, these jobs are often sourced from other metropolitan centres (such as Brisbane) with local employment programs focused on occupations that are likely to be highly impacted by the Fourth Industrial Revolution.

STRENGTHENING ABORIGINAL AND TORRES STRAIT ISLANDER PATHWAYS

A greater focus on skilling and education that supports sustainable long-term occupations for Aboriginal and Torres Strait Islander persons (and the wider Greater Whitsunday region's population) is needed.



Improving attainment outcomes in tertiary education would help to ensure pathways to meaningful employment for Aboriginal and Torres Strait Islander peoples. Evidence shows that Aboriginal and Torres Strait Islander students who complete Year 12 are more likely to be employed when they leave school, with even better opportunities after post-school study. This trend is likely to continue, with many new occupation opportunities requiring greater expertise due to greater complexity.

Tertiary education targets should be more closely linked with employment outcomes for graduates. For example, a Certificate IV was identified as the most suitable minimum benchmark qualification for Aboriginal and Torres Strait Islander students due to the large proportion of professions that require it.

Education and skilling needs to be linked to areas of occupations in growth and jobs data needs to be provided to policy makers, education and skilling providers and employers to assist them. Mentoring, career coaching and support in education and training programs have also been shown to assist individual Aboriginal and Torres Strait Islander persons with fulfilling their potential and accessing incentives and supports.

The reskilling opportunities that will exist as support is provided to those whose jobs are automated, provide a unique opportunity for mature Aboriginal and Torres Strait Islander persons to pursue new careers and embrace lifelong learning.



KEY STEPS TO ENABLE CHANGE AND SUPPORT EMPLOYMENT

Sustainable future employment for the Greater Whitsunday region will require proactive planning, workforce initiatives, skilling and education supports and co-ordinated community effort. While much is already occurring, the evidence gathered throughout this study identified some future directions that may help support the change ahead.

The Greater Whitsunday Alliance will drive to achieve these identified steps, along with key stakeholders in the region. This will better prepare our region's workforce for success in the future.

1. Develop targeted workforce transition plans for occupations at most risk of automation.

Based on the evidence gathered in the Final Report, workforce transition plans may need to be developed for occupations where significant automation is predicted.

Strategies should consider skill alignment both within the industry sector (such as Mining and METS) but also into adjacent sectors where there is high level of alignment. For example, Mining is expected to adopt autonomous vehicles much more quickly than Transport and Logistics businesses, therefore truck drivers may be able to be transitioned into this adjacent labour market.

This also provides opportunities for reskilling, and career conversations with individuals may support them with their next chosen career.

It is noted that analysis suggests an impact of -2.1 percent annually in Mining and METS by occupations to 2030, and that this will need to be a key focus of workforce transition planning.



2. Increase the digital foundation skillset for the Greater Whitsunday region's workforce, including actions to:

a) Build digital foundations into all para-professional and professional qualifications

Education and training will be critical to supporting the workforce where their occupations have been augmented by technology and they are required to adapt to the new occupational skills, tasks, functions and working requirements.

b) Develop micro-credentials to support digital foundations for the existing workforce accessible within the Greater Whitsunday region

The workforce will increasingly require ongoing training as new technologies continue to emerge. This will require a dynamic, contemporary and short-course based approach to upskilling both for digital foundations and around specific technologies for the profession, sub sector or industry.

Consideration should be given to the most suitable education and training approach and delivery method for the occupation, and to support the Greater Whitsunday's regional growth. Some occupations will require a mix of practical and theoretical training and skilling which may be wholly, particularly or unsuitable for online learning.



3. Develop local training opportunities that are aligned with future skill needs

Many stakeholders identified that one of the challenges in recruiting locally was that the required education and training for key occupations was not offered within the region. Analysis of all Vocational Education and Training (VET) and university enrolment and completion rates is included in Appendices I and J of the Final Report and do not show a clear link to occupational growth and industry demand in the Greater Whitsundays region.

This may provide the opportunity for the Greater Whitsunday region to identify better alignment for education and training, micro-credentialing or other professional training growth based on the expertise within the region, and the workforce needed into the future.

Stakeholders also identified a need to strengthen Science, Technology, Engineering and Mathematics (STEM) in schools, and provide education and training in some of the ICT occupations which are typically sourced from outside the Greater Whitsundays region.

4. Job redesign of roles with high levels of predicted augmentation

Jobs will require redesign to transition the workforce from performing tasks that are capable of being performed by technology, into roles that utilise essential human skills such as leadership, management, problem solving and empathy.

Organisations will be responsible for designing their augmented workforce including what jobs will be impacted by technology and to what degree and how these employees will be utilised in new tasks and functions.

This will provide the opportunity to drive further efficiency and points of difference for the Greater Whitsundays region within the Australian context, and if done well, will exceed customer expectations.

Job redesign will be increasingly important in a financially constrained environment and will require specialist skillsets that support business improvement.

5. Leadership and change management supporting digital adoption and workforce transition

The changes expected to arise from automation and augmentation of the workforce will require supportive leadership, clear vision and strategy and a commitment to innovation and positive culture.

This is expected to require investment in leadership to ensure that the benefits of technology are realised, that people are treated with compassion, and that the workforce are inspired by the future employment opportunities. This will require Chief Executives to become digital transformation sponsors and executive change champions while also requiring middle management leadership capability to enable lifelong learning, drive opportunity, manage change resistance, and ensure organisational readiness for technology adoption. This may also require micro-credentialing, executive coaching and other supports to support leadership development.

6. Recognise the importance of and create “bridging” roles that combine industry and ICT knowledge and skills.

Roles that combine industry expertise with technology expertise are already being increasingly required across organisations to help tailor technology to local practice and support workforce adoption.

These new roles may require micro-credentialing or coaching support from others who have undertaken a similar role. Recognition may be sought through professional associations for this as a specialist area of expertise or occupation.





7. Education and training pathways for emerging occupations

There will be a need to develop new curricula, professional standards and training for the new and emerging occupations.

Education and training for new emerging roles will require different approaches to suit the relevant role and will likely include combinations of specific tailored programs or courses, development of undergraduate curricula, VET courses and micro-credentials to support these occupations.

This will require a more industry led, contemporary and agile approach to education and training that may be best led through partnership arrangements between education and training providers, industry and employers within the Greater Whitsunday region.

8. Consolidate and build on the innovation and entrepreneurial ecosystem

With the widespread adoption and utilisation of technology within each industry, there is an increasing opportunity for innovation and entrepreneurialism to capitalise on the emerging technology market.

There is a significant opportunity for local markets to develop innovative technology platforms that address local, national and even global problems. Encouraging an entrepreneurial culture within the Greater Whitsunday region will become increasingly critical to the future workforce and draws on the innately human skills that cannot be replicated by technology.

9. Promote skilling opportunities to attract and retain young people

Stakeholders identified that the Greater Whitsunday region could do more to attract and retain young people to the regional workforce and to the Greater Whitsunday region's education and training providers. Targeted skilling could be enhanced for example through CQUniversity's School of Mining and Manufacturing.

Initiatives such as the Regional Jobs Committees and the current regional jobs and employment focus provide significant opportunity for the Greater Whitsunday region into the future.





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