



Barwon Regional Partnership Digital Discovery Report

OCTOBER 2022

Executive Summary

Background

A common challenge faced by rural and regional Victorians is understanding how to identify and resolve their most significant digital gaps.

In 2019, the Victorian Government invested in a suite of digital plans that aimed to provide comprehensive information on digital infrastructure and services across Victoria's nine regions.

Each regional digital plan was developed by combining mapping and analysis of digital skills and infrastructure information with data on local business, primary production, transport and tourism to develop a digital supply and demand profile for each region.

The aim was to provide an evidence base that could be used to understand both existing and future digital requirements as well as a platform to advocate to industry and government to improve digital connectivity in regional Victoria.

But much has changed since 2019...

Executive Summary

Purpose

The **Barwon Partnership Digital Discovery** project was undertaken in mid 2022 to:

- Investigate how the digital needs, infrastructure and environment in the Barwon region have changed since the pandemic,
- Verify or amend previously published evidence,
- Determine the immediate and specific business and digital needs of key economic sectors and communities of the Barwon region,
- Consider the adoption of new, emerging and complementary connectivity technologies,
- Identify highest-value digital investment and partnership opportunities.

The **Barwon Partnership Digital Discovery** project focused on determining the specific digital needs and investment required to enable the five strategic directions identified in the Barwon Regional Economic Development Strategy 2022 (REDS).

This report is fully supportive of the prioritization of the NBN rollout. Compelling economic uplift potential presented in the *Digital Connectivity Playbook and Benefit Cases (2022)* dictate that immediate and elegant complementary interventions are required to fast-track benefits realization.

Recommendations in this report will have long-term benefits beyond the NBN rollout.

Executive Summary

OBJECTIVES

	JUNE – JULY 2022	AUGUST 2022	SEPTEMBER 2022	OCTOBER 2022
	<p>ENVIRONMENT SCAN Confirm stakeholders and priorities, map current and planned digital infrastructure</p>	<p>DISCOVERY WORKSHOPS Stakeholder engagement and education, collaborative problem identification</p>	<p>DRAFT REPORT Strategic priorities, recommendations, and stakeholder review</p>	<p>FINAL REPORT Project conclusion, advocacy pack and project evaluation</p>
	<p>Map current and planned digital infrastructure and produce artefacts for discovery workshops</p> <ul style="list-style-type: none"> • Build upon evidence provided in the Barwon Digital Plan (2019) • Consult with public and private sector infrastructure providers • Highlight changes in technologies/connectivity infrastructure • Note demographic changes (working from home/satellite working, regional migration, recovery) • Consider economic themes (key industries needs and opportunities – inc. Comm Games) • Determine duplications and gaps 	<p>Facilitate workshops to explore which digital infrastructure opportunities will enable growth in key industry areas</p> <ul style="list-style-type: none"> • Improved understanding of which specific digital infrastructures will best support economic development in key industries • Improved collective understanding of stakeholder priorities, plans and activity alignment • Improved digital engagement, illumination and clarify how Barwon region priorities align with state-wide priorities • A digital opportunities prioritisation process that ensures digital investment supports economic recovery/growth, environmental sustainability and social inclusion 	<p>High level summary of opportunities, recommendations for further consideration and collateral for collaborative advocacy efforts</p> <ul style="list-style-type: none"> • Digital infrastructure gap and opportunities analysis and recommendations • Collaboration and partnership opportunities identified • Digital investment and activity is strategically aligned with broader regional priorities • Coordinated advocacy activities enabled 	<ul style="list-style-type: none"> • Delivery of project report, artefacts and advocacy pack • Recommendations for next steps • Effectiveness of project evaluated

Executive Summary

Overview

Building upon evidence from the Victorian Government's Regional Economic Development Strategies (2022), Connecting Victoria Engagement Report (2022), Digital Strategy 2021-26, and the Digital Connectivity Playbook and Benefit Cases report (2022), the **Barwon Partnership Digital Discovery** project includes a scan of (publicly) available, planned and potential digital infrastructure.

The infrastructure and environment scan informed five consultation sessions with community and businesses leaders, who provided information about non-government infrastructure assets, as well as real-world digital experiences of customers and businesses across five key economic sectors in specific locations in August 2022.

The project uncovered how immediate digital priorities differ across key economic sectors. To deliver fit-for-purpose digital solutions for key economic sectors, the report recommends increasing collaboration to leverage partnership opportunities that make better use of existing high-capacity infrastructure, and initiatives to improve digital knowledge and capability, improve connectivity in remote locations, and reduce congestion issues in high growth residential and tourism areas.

Executive Summary

Key findings

- Increased migration from Melbourne and the shift to remote working and learning has placed additional pressure on already challenged connectivity infrastructure in the Barwon region.
- The lack of reliable high-speed internet in residential growth areas and key agricultural and tourism locations is negatively affecting residents, businesses, service providers and visitors to the Barwon region.
- Unreliable connectivity caused by network congestion in peak tourism times is impacting people's ability to access services, participate in online education, work from home, transform business and industry, share knowledge and social inclusion opportunities and benefit from digitally enabled economic growth and employment opportunities.
- Reliable connectivity is also critical during natural disasters, especially bushfires and storms, power outages and health emergencies. Connectivity in the Barwon region is at its worst during peak visitor periods. In high-growth residential areas and tourism/event locations, this occurs throughout the summer season.
- NBN and telecommunication provider coverage maps and service descriptions do not reflect user experience across the Barwon region.
- Private infrastructure networks have spare capacity and are underutilized.

Executive Summary

Key findings (continued)

- Immediate digital infrastructure needs are different for each strategically important sector/location.
- Digital infrastructure is evolving quickly – Low Orbit Satellite and other adaptive and reusable technologies could provide reliable connectivity in locations where traditional infrastructure is unavailable or unaffordable. It could also improve connectivity in high visitation and residential growth areas by diverting traffic from seasonally congested NBN and mobile networks.
- Digital infrastructure alternatives to the NBN and mobile networks are not well understood by the community and key business sectors.
- Digitally enabled business/industry transformation and growth opportunities are not well understood in key economic sectors.
- Significant secondary and tertiary benefits of reliable connectivity – such as improved access to health and support services, attraction and retention of youth and skilled workers, improved public safety and amenity, emergency management capability, environmental monitoring, investment and value-add opportunities (particularly in agriculture, tourism, advanced manufacturing, services, education and digital skills).
- Connectivity, technology and innovation capability is essential in pushing us towards a more sustainable horizon, improving social inclusion and adapting to new ways of operating in the face of a changing climate.

Executive Summary

Strategic Alignments

The Barwon REDS acknowledged digital connectivity as a key enabling factor for economic growth and the strategic directions identified for Barwon, and notes that the Digital Inclusion index score for Barwon is 63 to 70, which is below the Victorian average of 71. The project also has direct alignments to:

- *A Future-Ready Victoria – The Digital Victoria Strategy 2021-26*
- *G21 – Geelong Region Alliance Priority Project*
- *RDA Barwon South West Strategic Priority*
- *Better at Home Initiative*
- *Barwon South West Virtual Care Strategic Plan 2021-24*
- Commonwealth Government strategies and plans including:
 - *Ag2030*
 - *Digital Trade Strategy*
 - *Digital Government Strategy*
 - *Digital Economy Strategy, Towards 2025:
An Australian Government Strategy to boost women's workforce participation*
 - *Australia's Tech Future*
 - *Indigenous Digital Inclusion Plan (IDIP).*

Executive Summary

Growth barriers and opportunities

Poor digital connectivity and capability is a repetitive risk for the region in terms of attracting investment in key economic sectors and in our ability to deliver positive visitor and broadcast experiences during the 2026 Commonwealth Games. Best opportunities to address critical connectivity issues before 2026 are:

- a) coordinating better use of available (public and private) high-capacity infrastructure in key industry sectors;
- b) deploying new and emerging infrastructure solutions to reduce congestion on NBN and mobile networks in remote agricultural and tourism areas;
- c) Increasing awareness and education initiatives to improve community understanding of and appetite for digitally enabled services and growth opportunities;
- d) Providing and supporting high-capacity co-working hubs to enable remote working, create community connections to attract and retain skilled workers, generate local business opportunities, and divert more traffic from the congested NBN and mobile networks.

Growth barriers and opportunities

Informed by regional digital and economic plans, five discovery workshops and feedback from key stakeholders of strategically important economic sectors and locations in the Barwon Region

	Digital Skills, Co-working Spaces & Corporate Satellite Offices	Tourism	Healthcare Services	Agriculture	Advanced Manufacturing
GROWTH BARRIERS	Council business efficiency is negatively affected by inconsistent digital experiences for staff and customers.	Unreliable broadband access is affecting tourism operations (no access to EFTPOS, websites, video transfer, social media posts, etc.) – inhibiting innovation in tourism and ignoring visitor expectations.	Reliable digital connectivity is a motivating factor in retaining worker migration from Melbourne to fill skill gaps in education and healthcare.	Ag profitability for small holdings and capacity to invest in digital is low. Average age of farmers is increasing. Connectivity is a pre-requisite to attracting young people with greater innovation appetite to live and work in a regional location.	Low digital maturity of local supply chain is a growth barrier for advanced manufacturing in the region.
	Power network stability and digital reliability issues are impacting digital business and skills retention	Emergency management capability is compromised during peak tourism when congestion causes mobile and broadband connectivity to slow or stop.	Poor visibility of both public and private planned and available digital infrastructure and assets across the region is impeding collaboration and partnership opportunities.	Smart Ag uptake is low, due to a lack of digital awareness, knowledge, connectivity and technical support.	Awareness, knowledge, skills and access remain barriers to transition from traditional manufacturing.
	Lack of clarity about the types of digital skills, knowledge and infrastructure required for areas of strategic economic importance to the region. Power network stability and digital reliability issues are impacting digital business and skills retention. Confidence, trust and value are compromised by slow and inconsistent service. Connectivity, customer experience and broadcast capability gaps pose reputational risks for the hosting of the 2026 Commonwealth Games				
GROWTH OPPORTUNITIES	Prioritise and fund high-capacity and industry-best connectivity to established and new co-working spaces and corporate satellite offices attracting big business to the Barwon region	Create a distributed network to increase reliability and consistency of connectivity	Establish telehealth 'mobile hubs' to provide connectivity assurance for patients and providers, and digital training/devices for rural and remote patients	Use low latency, reliable, re-deployable infrastructure to address connectivity gaps	Attract more globally significant advanced manufacturers - leverage proximity to Melbourne, availability of skilled workers who are Australian citizens (defence requirement), education and training assets, transportation assets.
	Explore opportunities to establish Tier IV data centre to attract global digital entities to the region	Mentoring /staff support system for tourism operators	Use low latency, reliable, highly resilient telecommunications infrastructure to address connectivity gaps, increase digital literacy and consumer confidence	Establish Smart Ag apprenticeships and digital learning hubs	Increase appetite for digital infrastructure and knowledge and digital maturity of local supply chain.
	Use a mix of technologies to address congestion issues in high-growth residential and tourism areas at peak times. Establish a coordination role to leverage available public and private digital infrastructure assets. Educate and motivate the community to understand and embrace opportunities enabled by technology. Establish an international reputation for digital leadership during the 2026 Commonwealth Games.				

Executive Summary

Recommendation overview

Prioritise activities that will shift the digital dial in 12 months to assure reputational and growth opportunities generated by the 2026 Commonwealth Games.

The recommendations are made with consideration to the growth barriers and opportunities identified through research, analysis and the outcomes from several stakeholder workshops. Prioritisation criteria included ability to address immediate and specific needs of key economic sectors and communities in the Barwon region, potential to accelerate identified economic uplift and complement planned NBN improvements, and potential to maximise investment and partnership opportunities.

1. Coordinate sharing of existing high-capacity digital infrastructure, knowledge and investment.
2. Leverage new technologies to address connectivity gaps and congestion issues (Industry RFI).
3. Educate and motivate the community to understand and embrace opportunities enabled by technology.
4. Prioritise and fund high-capacity and industry-best connectivity to established and new co-working spaces and corporate satellite offices attracting big business to the Barwon region.
5. Enable and encourage access to Telehealth and other services in remote and disadvantaged locations.

Recommendation






1. Coordinate sharing of existing high-capacity digital infrastructure, knowledge and investment.
2. Leverage new technologies that are complementary to existing and planned NBN and mobile networks to address connectivity gaps and congestion issues (informed by an Industry RFI).
3. Educate and motivate the community to understand and embrace opportunities enabled by technology.
4. Prioritise and fund high-capacity and industry-best connectivity to established and new co-working spaces and corporate satellite offices, attracting big business to the Barwon region.
5. Enable and encourage access to Telehealth and other services in remote or disadvantaged locations.

Activity details

		Delivery timeframe	Investment
	<ul style="list-style-type: none"> Digital leaders in key economic sectors drive a coordinated approach to digital infrastructure, knowledge and investment for business growth and attraction. Maximise the benefits of private and public digital infrastructure investment across the region. Establish a set of principles to guide equitable and sustainable digital capability in the Barwon region. 	For at least 3 years	Board & support \$900k (Set-up within 4 months continue for at least 3 years)
	<ul style="list-style-type: none"> Work with technology providers to identify fit-for-purpose, re-usable connectivity solutions to supplement and decongest NBN and mobile networks. Improve reliability and speed of services in high-growth residential and business areas. Address peak demand impacts on tourism and emergency services along the coast and hinterland. Assure broadcast capability and connected visitor experience during the 2026 Commonwealth Games. Demonstrate digital leadership in the lead-up to the 2026 Commonwealth Games. Use a mix of new technologies to provide the connectivity required to attract and retain youth in rural areas. Attract more young people to agriculture by enabling adoption of Smart Agriculture to increase yield, biosecurity and environmental sustainability. 	By 2026	\$300k – RFI (delivered within 6 months) Solution deployment \$30m - \$100m
	<ul style="list-style-type: none"> Provide practical information and technical support to inspire business generation and growth opportunities in agriculture, tourism, advanced manufacturing, healthcare services and Aboriginal self determination. Design and deliver a series of place-based and industry-focused events that inspire people to explore how connectivity and innovation can improve sustainability, efficiency and profitability of businesses. Work with education and training providers to ensure digital skills and knowledge enable innovation and growth in sectors of strategic importance. 	Over 3 years	\$7.5m
	<ul style="list-style-type: none"> Satellite offices and coworking spaces provide fast, reliable connectivity, technical support, knowledge, public wi-fi and community interaction opportunities to attract and retain skilled workers in key growth areas. Provide connectivity and technical support for skilled workers. Activate underutilized government and community assets. Build reputation as a digitally mature region and workforce. Reduce business impacts of internet congestion at peak visitor times. 	24 months	\$17m
	<ul style="list-style-type: none"> Equip mobile telehealth vehicles with technical support staff and use diverse and resilient technologies to provide telehealth services and digital connectivity advice to people in rural, remote and disadvantaged locations and communities. Improve access to private and secure healthcare and reduce environmental impact and cost of travelling for services. Build trust in digital services through education and technical support. 	Established in 6 months and continuing over 3 years	\$25m

Next steps

1. Coordinate sharing of existing high-capacity digital infrastructure, knowledge and investment.
2. Leverage new technologies that are complementary to existing and planned NBN and mobile networks to address connectivity gaps and congestion issues (informed by an Industry RFI).
3. Educate and motivate the community to understand and embrace opportunities enabled by technology.
4. Prioritise and fund high-capacity and industry-best connectivity to established and new co-working spaces and corporate satellite offices, attracting big business to the Barwon region.
5. Enable and encourage access to Telehealth and other services in remote or disadvantaged locations.

	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23
	Scope initiative, develop governance model & TOR (~\$50k)			Recruitment of Board, commencement of operations		Ongoing board operations		
	Scope initiative (~\$50k) Stakeholder identification Needs assessment Market assessment RFI principles & funding opportunities Case for change			Develop RFI, develop procurement model, risk assessment, market engagement, RFI coordination and evaluation, legal analysis and advice, recommendations report (~\$250k)				
							Scope initiative Interdependencies analysis Stakeholder identification Program planning (~\$50k)	
					Scope initiative (~\$50k) Stakeholder identification Needs assessment Market assessment RFI principles & funding opportunities Case for change			
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Next steps

Maximise benefits through collaboration and coordination

This report has been peer-reviewed by key regional stakeholder groups, leaders and experts in strategic economic growth sectors, including the Barwon Digital Discovery workshop participants.

The stakeholder feedback process has confirmed:

- Stakeholder endorsement of the final recommendations
- Estimated capital and ongoing operational costs of implementation
- Potential funding partners
- Funding and/or support sought from Victorian Government.

Where to from here?

- Scope details of the five recommendations (see pages 12-14)
- Determine value of partner contributions
- Formalise commitment from key businesses to collaborate, share resources and knowledge and coordinate effort to implement the recommendations before the 2026 Commonwealth Games.

Executive Summary

Anticipated benefits

- **Coordinated sharing** of existing public and private high-capacity digital infrastructure, knowledge and investment.
- New connectivity technologies (such as low orbit satellite) are deployed to **address connectivity gaps** and **reduce congestion** on NBN and mobile networks.
- **Community is educated and motivated** to understand and embrace opportunities enabled by technology.
- High-capacity and **industry-best connectivity** is available in **satellite office spaces**, and in **established and new co-working spaces** across the Barwon region.
- Innovation and **economic growth is enabled across supply chains** relevant to strategically important economic sectors in the Barwon Region.
- Connectivity demands from **increased migration** from Melbourne and the **accelerated shift to remote working and learning** are met.

Executive Summary

Anticipated benefits (continued)

- **Access to services** including **online education** and **telehealth** is improved.
- **Young people** are attracted to live, work and stay in rural and remote communities.
- **Network congestion** in **peak tourism** times is reduced, improving **public safety** and **emergency management** capability, enabling **local businesses to transact digitally** and improving **customer experience** for visitors, residents and businesses in the Barwon region.
- Broadcast capability and positive visitor experience is assured during the **2026 Commonwealth Games**.

Details

Research outcomes

The following pages provide an overview of the environmental context that was presented and discussed at each of the five consultation sessions.

Information includes:

- Barwon Region overview
- Barwon Partnership composition and regional stakeholder environment
- Key outtakes from the University of Melbourne’s “The Great Migration” research and analysis
- Global megatrends and drivers
- Summary of relevant regional evidence:
 - Barwon Digital Plan (2019)
 - Barwon Regional Economic Development Strategy (2022)
 - Connecting Victoria Engagement Report (2022)



Barwon is one of the fastest growing regional locations in Australia.

“Our growth presents a once in a lifetime opportunity but must be driven with care.”

“Good growth principles underpin everything we do.”

– Barwon Regional Partnership 2022

Barwon Partnership’s Good Growth Framework

- **Environmentally and socially sustainable** economic and population growth
- **Benefits must be shared equitably**, supporting the vulnerable and marginalised
- Embrace and embed our region's rich **Aboriginal culture**
- Create and maintain **safe, vibrant, highly livable communities**





Barwon Regional Partnership

COMMUNITY

- Professor Iain Martin (Chair)
Vice-Chancellor and President of Deakin University
- Tracey Slatter (Deputy Chair), **CEO, Barwon Water**
- Bill Mithen, **CEO, Give Where You Live Foundation**
- Frances Diver, **CEO, Barwon Health**
- Melinda Kennedy, **Co-Director Murri:yul consultancy**
- Nat Anson, **CEO, Urbis Geelong**
- Lisa Kingman (OAM), **Independent community advisor**
- Jennifer Cromarty, **CEO, Committee for Geelong**
- Corrina Eccles, **Wadawurrung Traditional Owner**
- Peter Dorling, **Business Manager, Avalon Airport**

GOVERNMENT

- Penelope McKay, **Deputy Secretary, Corporate Services, DJPR**
- Robyn Seymour, **CEO, Surf Coast Shire Council**
- Martin Cutter, **CEO, City of Greater Geelong**
- Anne Howard, **CEO, Colac-Otway Shire Council**
- Martin Gill, **CEO, Borough of Queenscliff**

RDA Barwon South West has a direct link to the Australian Government through Minister McBain



The Hon Kristy McBain MP
Minister for Regional Development,
Local Government and Territories



Regional Partnerships have a direct link to the Victorian Government through Minister Shing



The Hon Harriet Shing MLC
Minister for Regional Development
Minister for Water
Minister for Equality



RDA Barwon South West Committee was established by the Australian Government and is supported by the Victorian Government through RDV. Chair is endorsed by both Ministers.

RDA Barwon South West Committee members include: Industry and business members with global, national and local experience in advanced manufacturing, agriculture, education, tourism and energy, supported by the **Regional Director of RDV Barwon South West**

RDV Barwon South West
Regional Director and officers coordinate and connect the activities of the RDA and both Regional Partnerships.

Barwon Regional Partnership and Great South Coast Regional Partnership were established by the Victorian Government and are supported through RDV.

Regional Partnerships' members include: Business and community members, the CEOs of our Local Government Areas, an RDA Barwon South West Committee member, the **Regional Director of RDV Barwon South West** and a senior officer (Dep Sec) from the Victorian Government.

BARWON SOUTH WEST REGIONAL STAKEHOLDERS

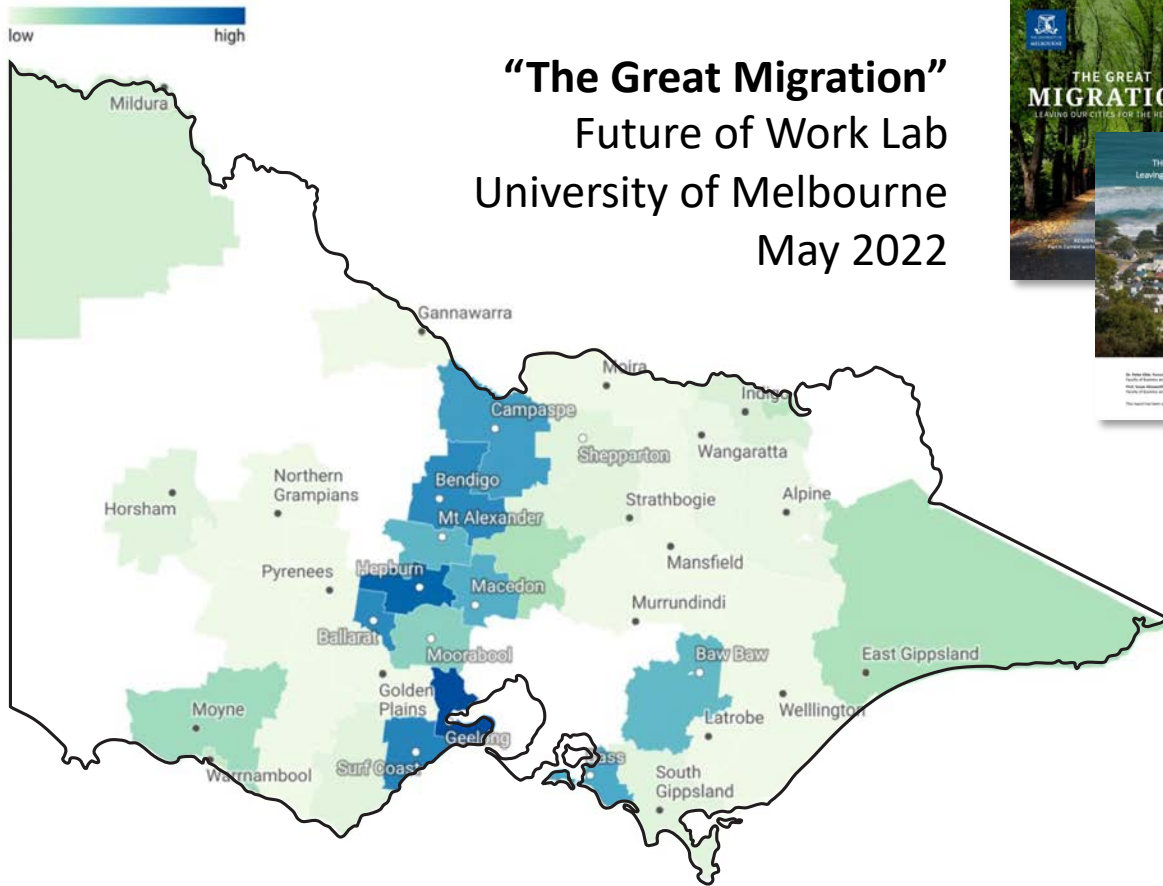


LOCAL GOVERNMENT

Regional Development Victoria (RDV)

Serving all 6 RDA Committees and all 9 Regional Partnerships with:

Shared evidence • Data analysis • United voice • Joined-up priorities • Capital city connections • Coordination • Pathways to government



“The Great Migration”
Future of Work Lab
University of Melbourne
May 2022



“Great migration” impacts in Greater Geelong and Surf Coast

Post-COVID movers - 25-44 age group.

Pre-COVID movers - 45-64 age group.

- Education and Training sector (20%)
- Healthcare and Social Assistance (15%)
- Professional, Scientific and Technical Services (13%)

27% commuting to a metropolitan region for work.

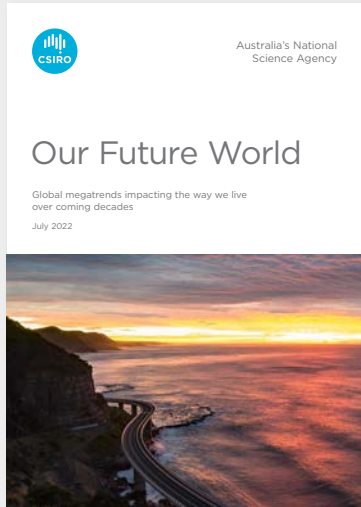
37% living and working in the same regional postcode.

65% would like work from home 2-3 days per week.

31% would like to end their commute to work.

Only 23% actively looking for employment regionally.

Only 17% interested in sharing a co-working space.



Naughtin C*, Hajkowicz S*#, Schleiger E, Bratanova A, Cameron A, Zamin T, Dutta A (2022) Our Future World: Global megatrends impacting the way we live over coming decades. Brisbane, Australia: CSIRO.
*Joint first authors
#Corresponding author

Global Geopolitical, Social, Economic, Environmental, Technological megatrends and drivers impacting the way we live over coming decades [CSIRO – July 2022]

1. **Adapting to a changing climate**
2. **Leaner, cleaner and greener**
3. **The escalating health imperative**
4. **Geopolitical shifts**
5. **Diving into digital**
6. **Increasingly autonomous**
7. **Unlocking the human dimension:**
 - Trust in Australian institutions
 - Patterns of social cohesion in Australia
 - An ‘infodemic’ within the pandemic and beyond
 - Communicating the complexities of science
 - A prolonged timeline for global poverty mitigation
 - Patterns of wealth distribution and income inequality
 - The rising bar for the great Australian dream
 - Putting environmental, social and corporate governance on the agenda
 - Socially aware and empowered consumers
 - Reinstating the value of indigenous knowledge
 - Evolving labour markets and workforce cultures
 - Gender diversity in the workplace



"We went from being the Flintstones to the Jetsons in nine months."

– Dan Schulman, PayPal

© Hanna-Barbera Cartoons, Inc.

Environment Scan





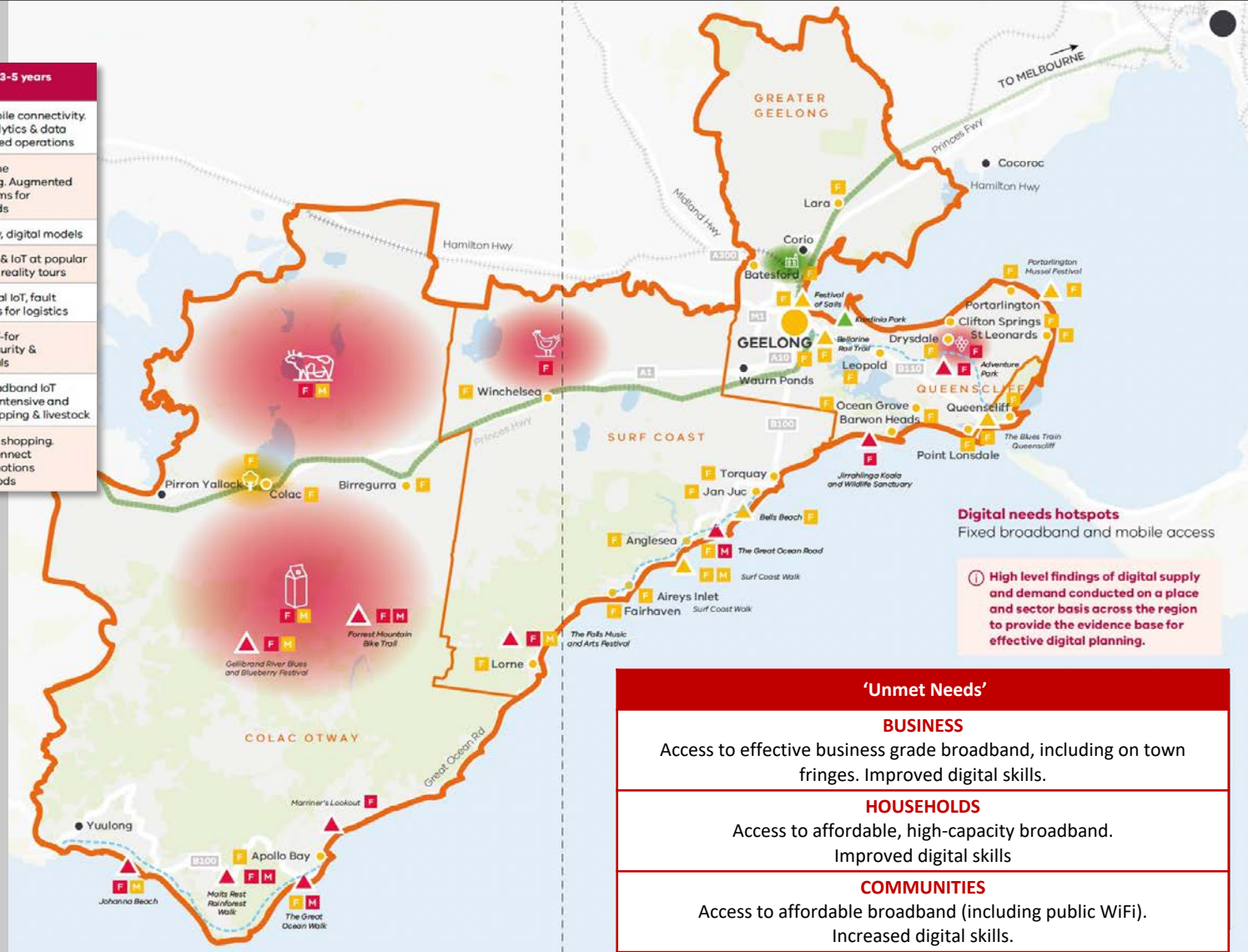
Industry	Digital intensity now (current practice)	Digital intensity needed in 3-5 years (best practice)
Healthcare & social assistance	● Fixed access for patient records	● Patient & GP fixed and mobile connectivity. Digitisation of records, analytics & data transparency. Robot-assisted operations
Education & training	● School, home fixed & mobile access	● Student fixed & mobile home connectivity, online learning. Augmented & virtual reality in classrooms for enhanced teaching methods
Construction	● Fixed and mobile connectivity	● Fixed & mobile connectivity, digital models
Tourism	● Mobile coverage of tourist hot spots	● Mobile road coverage. WiFi & IoT at popular venues. Augmented/virtual reality tours
Manufacturing	● Fixed connectivity	● Fixed connectivity, industrial IoT, fault prevention & data analytics for logistics
Public admin & safety	● Resident fixed & mobile connectivity, connected public infrastructure	● Resident fixed & mobile, IoT-for Smart Cities, enhanced security & digital profiles for individuals
Agriculture/forestry	● Mobile coverage of farming areas	● Wide narrowband and broadband IoT access, apps and skills for intensive and broadcast horticulture, cropping & livestock
Retail trade	● Shop and building access	● Retail at threat from online shopping. IoT can help retail stores connect to customers through promotions and mobile payment methods

Commentary

‘Unmet needs’ identified in the 2019 Barwon Digital Plan did not anticipate the acceleration in migration and demand for digital services as a result of the pandemic.

Connectivity was measured primarily through the publicly available coverage maps of NBNCo, Telstra, Optus and Vodafone – which the authors noted was not consistent with on-the-ground experience in the region.

Inconsistencies between reported and actual coverage experience is now even more pronounced, with all providers reporting coverage across the region, while our consultation reveals congestion issues have worsened since 2019. Inconsistency of service is observed throughout the region, including in high growth residential areas close to central Geelong. There is a poor understanding of alternative complementary technologies that could improve reliability of service in the short term and be redeployed to other uses as primary provider capacity is increased.



‘Unmet Needs’

BUSINESS

Access to effective business grade broadband, including on town fringes. Improved digital skills.

HOUSEHOLDS

Access to affordable, high-capacity broadband. Improved digital skills

COMMUNITIES

Access to affordable broadband (including public WiFi). Increased digital skills.



Digital connectivity

Access to reliable internet and mobile services allows for access to new markets, facilitates efficiency gains and opens up opportunities for innovation. Good digital connectivity can also facilitate more inclusive access to services and flexible working arrangements.



63 to 70

Australian Digital Inclusion Index Score in Barwon in 2021⁶

(Victorian average: 71)

BARWON REDS STRATEGIC DIRECTIONS

- Accelerate the transition to new and high-value manufacturing opportunities**
 Developing future-focused products and advanced manufacturing capabilities will, along with existing supply chains and transport infrastructure, drive new and high-value manufacturing opportunities.
- Further the innovation and skills ecosystem**
 Existing innovation hubs and significant local research expertise will contribute to business incubation, productivity growth and a future-focused education and training sector.
- Realise the potential of the visitor economy**
 The diverse range of tourism offerings, including natural landscapes, creative industries, Aboriginal heritage and emerging agritourism, strongly positions the region to take advantage of changing domestic visitor trends.
- Maximise the economic benefit from expanding service-based sectors**
 Strong population growth and changing demographics have driven service-based sectors with a skilled workforce – cultivating these sectors is an opportunity for long-term growth and wider economic benefits.
- Build a sustainable and climate-resilient economy**
 Renewable energy generation, including rooftop and large-scale solar, wind and renewable hydrogen, complement strong community interest in resource recovery and recycling to drive sustainability in the region.

Commentary

The Department of Jobs, Precincts and Regions (DJPR) delivered Regional Economic Development Strategies (REDS) for Victoria's nine Regional Partnership regions. They were developed in 2022 using a consistent methodology across the state, comprising:

- data analysis to consistently describe each region's industry composition, economic and socioeconomic trends and existing regional endowments
- policy analysis to identify existing local strategies and plans to understand regional development priorities and shape an economic narrative for the region
- stakeholder engagement to identify opportunities and challenges under each strategic direction.

Barwon's five strategic directions were identified using an evidence base that considers the region's unique attributes, existing and emerging industries, and socioeconomic context. The region's capacity to activate these opportunities and grow is partly determined by enabling factors, including digital connectivity and capability.



Commentary

Three themes emerged from Connecting Victoria’s Engagement Report (2022)

[11,000 responses. 50% from regional Victoria]

1. The **accelerated shift to remote working and learning** has placed pressure on connectivity infrastructure.
2. Connectivity is critical during **natural disasters**, especially **bushfires** and **storms**, **power outages** and **health emergencies**.
3. The lack of **high-speed internet** affects a community’s ability to benefit from **economic growth opportunities**.

 Economic uplift	 Working and learning from home	 Safety	 Social Inclusion	 Telehealth	 Service Quality
<p>Businesses that don’t have high-speed internet told us they are missing out on economic growth opportunities.</p> <p>Residents told us that bad connectivity, reliability and ongoing outages make it difficult to perform remote work, study online and socialise through the internet.</p> <p>Poor connectivity is a big deterrent for regional migration.</p>	<p>The COVID-19 pandemic has led to big changes in the way we live, accelerating the shift to remote working and learning. Victorians who responded through the consultation process said that this has placed a lot of pressure on connectivity infrastructure.</p> <p>Mobile and broadband speeds have suffered, with bottlenecks and outages, making it difficult for households where people are working or learning from home.</p>	<p>Victorians that responded felt that connectivity was critical during natural disasters like bushfires and storms, power outages, and emergencies involving health and safety. They said that unreliable connectivity makes it difficult to prepare for emergencies and manage risks.</p> <p>During emergencies, better mobile and broadband coverage is needed so that community members can receive emergency messages and ask for help in realtime.</p>	<p>Respondents told us the COVID-19 pandemic has made Australians even more dependent on digital technology – in our economy, everyday lives and jobs.</p> <p>They said this reliance will increase as more interactions move online. However, some members of the community cannot carry out these activities because they do not have access to high-speed and reliable mobile or broadband services.</p>	<p>Victorians told us that attending health appointments in person is challenging for many people who live in regional, rural and remote areas.</p> <p>Access to telehealth and other online services such as mental health and child health therapy sessions helps to overcome this, but Victorians told us that current connectivity speeds and bandwidth don’t always support this.</p>	<p>People we consulted with said that broadband and mobile connectivity services in many places across the state are still not good enough.</p> <p>While some infrastructure has been upgraded, residents are still waiting months to be connected. They reported that connectivity issues happen with all service providers.</p> <p>We heard that long outages are common, and some areas are using old technology with no defined plans for improvement.</p>
<p>THE VISITOR ECONOMY</p>	<p>AGRICULTURE TECHNOLOGY</p>	<p>BUSINESS OPPORTUNITIES</p>	<p>GROWTH AREAS</p>		

Tourism is a key focus for many locations. Participants told us that some communications infrastructure cannot support the demand during peak tourism seasons, which affects businesses and leads to poor experiences for visitors. Closed international borders and other COVID-19-related restrictions have boosted intrastate travel, which has increased the load on infrastructure.

Participants said that some areas will need better internet and mobile coverage to support existing demand as well as live streaming, for example, arts, music, and sporting events, to engage a wider audience.

Lack of connectivity was highlighted as a big factor that is slowing down digital advancement in agriculture, including use of the Internet of Things (IoT) and robotics or automation.

Participants said high-tech agriculture needs 5G and enhanced connectivity to support on-farm operations, supply chain management, and to collect data about things like soil quality and water use in real time.

New
connectivity
solutions

Elon Musk to disrupt telecommunications next with Starlink internet satellites



Starlink, the latest internet venture by

By Joe Devanesan | 3 February, 2021

[Are low earth orbit
satellites the future of
internet connectivity?](#)



Regional Development Australia
Digital Connectivity

Digital Connectivity Playbook and Benefit Cases
2nd May 2022 (FINAL DRAFT)

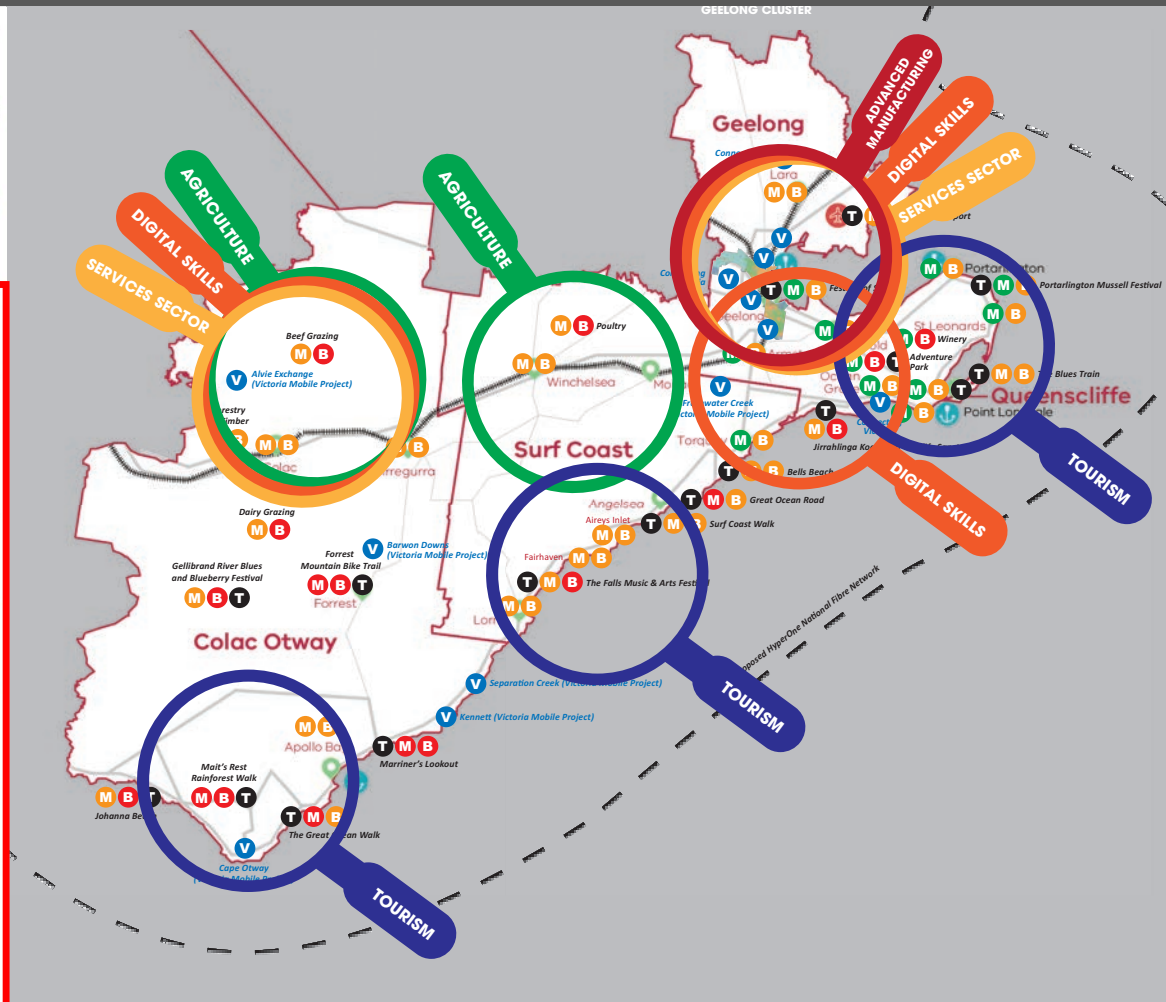
Commentary

PwC insights indicate that the state of Victoria could potentially deliver \$50bn+ economic uplift by 2030 from digitization. The *Digital Connectivity Playbook and Benefit Cases (2022)* identifies ten high-value benefit cases across regional Victoria:

- Four place-based clusters (including Geelong)
- Five industry-based clusters (in which the Barwon region has significant competitive advantage)
- One social inclusion focused cluster.

The report’s connectivity assessments are based on publicly available coverage maps provided by NBNCo, Telstra, Optus and Vodafone and anecdotal evidence of narrowband networks.

Consultation with Barwon industry leaders revealed that significant private digital infrastructure networks are servicing key sectors – particularly in Geelong and Northern Geelong. User experience on public networks is inconsistent, particularly at peak times (after school and tourism peak times).



We consulted with community and industry leaders in sectors with high-levels of potential uplift from digital enablement, as identified in the state-wide *Digital Connectivity Playbook and Benefit Cases report (2022)*, particularly where the Barwon region has a noted competitive advantage and/or strategic intent for economic growth in the sector.

Details

Consultation outcomes

The following pages provide details of the focus, participants, agenda, evidence and output from the five consultation sessions held in August 2022.

Consultation sessions explored the digital priorities of strategically important economic sectors in the Barwon region:

- Digital Skills and Coworking
- Tourism sector
- (Health) Services sector
- Agriculture sector
- Advanced manufacturing sector

Please refer to [individual workshop appendices](#) for more details of provider reported connectivity performance, versus actual user experience in key regional locations in 2022.

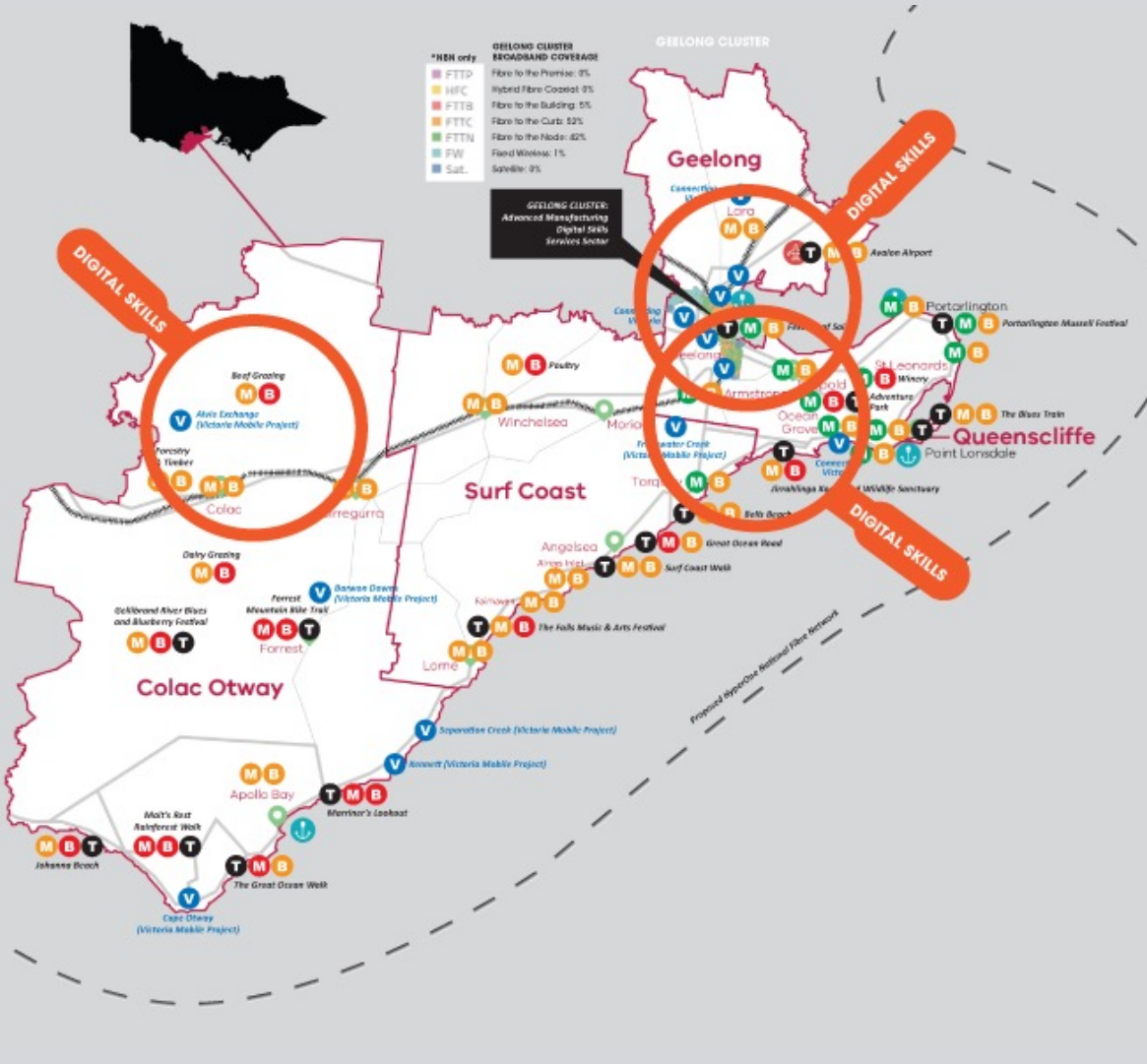
WORKSHOP PARTICIPANTS – AUGUST 2022

Digital Skills, Co-working Spaces & Corporate Satellite Offices	TOURISM	[HEALTH] SERVICES	AGRICULTURE	ADVANCED MANUFACTURING
<p>Dr. Gjoko Muratovski Director, Digital Futures and Industry Professor Deakin University</p> <p>Andrew Hamilton Owner Hamilton Group</p> <p>Dr. Adam Mowlam Manager, Smart Cities City of Greater Geelong</p> <p>Kate Coghlan Media & Communications Director G21 - Geelong Region Alliance</p> <p>Martin Dodrell Policy Manager, Telecommunications and Digital Economy, DJPR, Vic Govt</p> <p>Tom Jetson Coordinator, Barwon Regional Partnership, RDV</p> <p>Peter Auhl Principal Consultant & Facilitator Fruitful Communications</p> <p>Lisa Bennetto Principal Consultant & Facilitator Fruitful Communications</p>	<p>Liz Price CEO Great Ocean Road Regional Tourism</p> <p>Brendan Sanders Business Manager Tourism Greater Geelong & The Bellarine</p> <p>Oliver Nickson Coastal Planning and Projects Officer GORCAPA</p> <p>Matt Taylor Manager Economic Development Arts & Tourism Surf Coast Shire</p> <p>Shannon Maloney Economic and Community Development Program Leader Borough of Queenscliffe</p> <p>Tom Jetson Coordinator, Barwon Regional Partnership, RDV</p> <p>Peter Auhl Principal Consultant & Facilitator Fruitful Communications</p> <p>Lisa Bennetto Principal Consultant & Facilitator Fruitful Communications</p>	<p>Cameron McLean Leader Data and Technology functions GMBHA</p> <p>Chris Reeve Director Strategy & Planning South West Alliance of Regional Health</p> <p>Christina Street Digital Marketing Geelong Chamber of Commerce</p> <p>Brad Kemp Head of Technology & Digital division WorkSafe & TAC</p> <p>Tom Jetson Coordinator, Barwon Regional Partnership, RDV</p> <p>Peter Auhl Principal Consultant & Facilitator Fruitful Communications</p> <p>Lisa Bennetto Principal Consultant & Facilitator Fruitful Communications</p>	<p>Nicole Newman Chair, The AgriCollective G21 - Geelong Region Alliance</p> <p>James Myatt Manager Economic Development & Tourism Colac Otway Shire</p> <p>Leigh Dennis Strategy Manager Catchment Management Authority</p> <p>Ralph Cotter Regional Leader, Barwon South West Agriculture Victoria</p> <p>Tom Jetson Coordinator, Barwon Regional Partnership, RDV</p> <p>Peter Auhl Principal Consultant & Facilitator Fruitful Communications</p> <p>Lisa Bennetto Principal Consultant & Facilitator Fruitful Communications</p>	<p>Leanne Nelson Programs & Engagement Geelong Manufacturing Council</p> <p>Kevin Foard Industrial Liaison & Mobilisation Lead Hanwha</p> <p>Matthew Collins Head of Commercial Avalon Airport</p> <p>Craig Warren Chief Digital Officer Deakin University</p> <p>Peter Auhl Principal Consultant & Facilitator Fruitful Communications</p> <p>Lisa Bennetto Principal Consultant & Facilitator Fruitful Communications</p>

Workshop Agenda

One of five online workshops investigating the digital priorities of strategically important economic sectors and locations in the Barwon Region

9am (5 mins)	Welcome & introductions <ul style="list-style-type: none"> Acknowledgements, overview of agenda and session format. 	Facilitator: Lisa Bennetto
9.05am (5 mins)	Context & methodology <ul style="list-style-type: none"> Role and composition of Barwon Regional Partnership. Overview of Barwon region’s challenges and opportunities. Digital Discovery Project objectives and methodology. 	
9.10am (15 mins)	Review available and planned infrastructure and on-the-ground experience in specified location/s <ul style="list-style-type: none"> Validate (or not) the accuracy of publicly available information against user experience and knowledge for specified locations. Identify any significant omissions or errors in publicly available data. 	
9.25am (10 mins)	Confirm business objectives, challenges and opportunities of workshop participants <ul style="list-style-type: none"> What are the problem/s to be solved? Will current and planned digital infrastructure address those business needs? 	Facilitator: Peter Auhl
9.35am (15 mins)	Alternative/complementary technologies, assets and activities <ul style="list-style-type: none"> How might we address business needs in the short term and leverage potential for adaptive reuse in the longer term? Might potential solutions offer any additional economic, environmental or social benefits in the lead-up to the Commonwealth Games? How might we reduce implementation costs and increase affordable access for all? 	
9.50am (10 mins)	What is the recommended digital capability investment priority for this sector and location?	
10am	Close & Next steps	

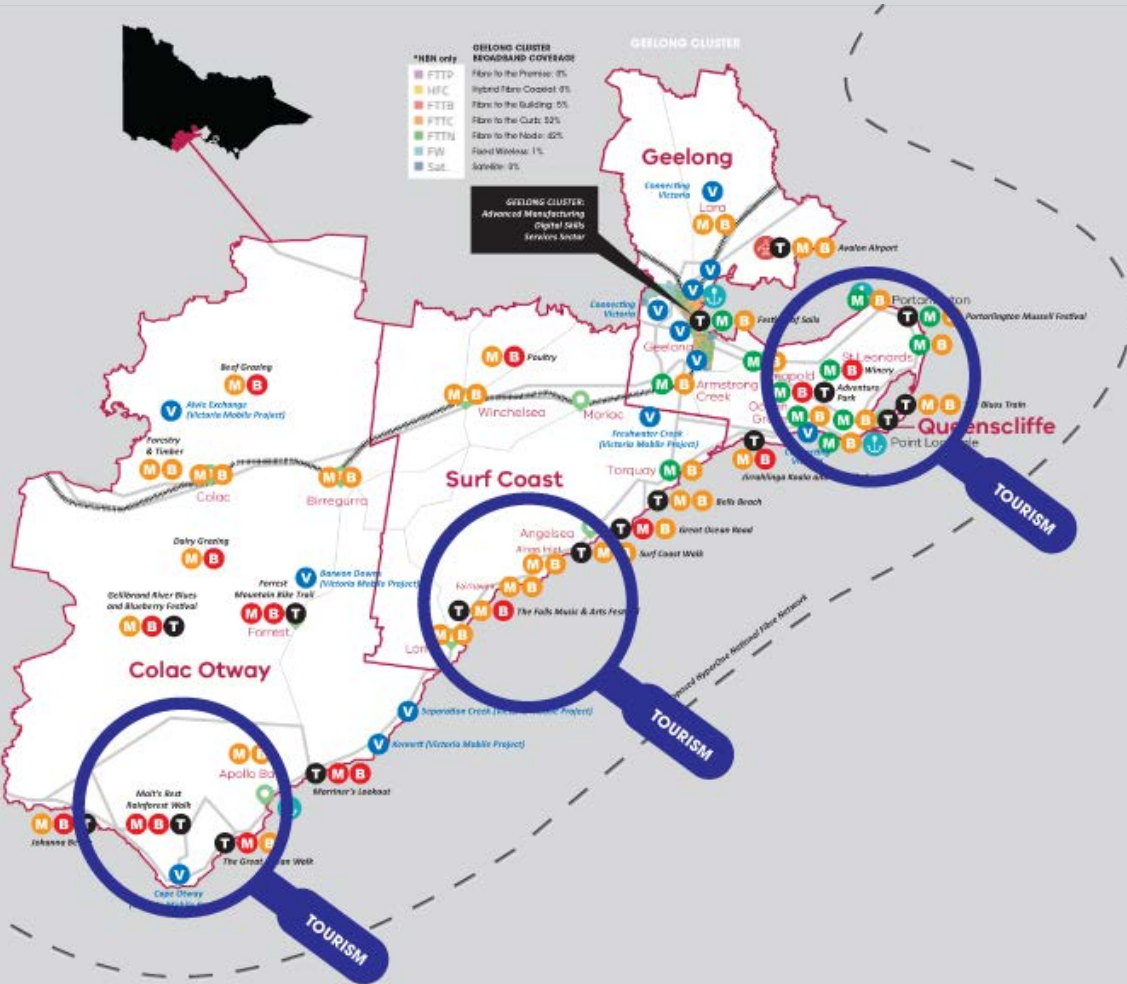


Stakeholder Observations: Digital Skills, Co-working Spaces & Corporate Satellite Offices

- Lack of clarity about the types of digital skills required for areas of strategic economic importance to the region.
- Power network stability and digital reliability issues are impacting digital business and skills retention.
- Reliable digital connectivity is a motivating factor to attract and retain recent worker migration from Melbourne to growing local opportunities in education and healthcare
- Council business efficiency is negatively affected by inconsistent digital experiences for staff and customers
- Access to motivation/inspiration/education - Digital divide
- Position as leader - during Commonwealth Games connectivity, customer experience, broadcast capability
- Opportunity to educate industry areas to better understand how digital engagement and activity can help attract and retain youth in the region.
- Opportunity to coordinate and improve utilisation of digital assets to establish the Barwon region as a digital skills exemplar
- Opportunity to realise benefits of establishing co-working spaces in underutilised government assets
- Unreliable connectivity in high growth areas is a barrier to working regionally
- Flexible solutions are required for regional workforces.
- Focused, mature digital skills environment will attract and retain S/M/L businesses
- Digital connectivity in rural and remote areas is affecting youth retention / migration attraction / retention and expectation (Netflix, socials, work from home)
- Digital infrastructure would help digital companies to consider setting up offices in the regions.
- Tier IV data center to attract big tech company and future proof city
- Is there an opportunity to create a "AARNET" style collaboration group for the Barwon Region?
- Strong and reliable business digital connectivity to give confidence to local business to upskill and compete nationally and new businesses to set up in the region.
- What are the services new businesses need to setup and scale
- On the back of the Comm games, how to be show an area of digital leadership - be amazing at something
- Ensure there is a base level of service for all.
- Leverage the proximity to Melbourne, Subsea cable, Data Centre, create the continued investments into the region. From Priorities from G21's perspective: set 2026 Commonwealth Games as a goal to get speeds up to metropolitan Melbourne, particularly in peak periods. We need to Improve speeds and bandwidth for public schools (and community services) who can't access AARNet, address peak demand impacts on tourism and emergency services along the coast and hinterland, look at needs of advanced manufacturing, future industries which will be increasingly reliant on high speed broadband.

Potential actions

1. Education program to increase awareness of how digital activity will shape the future of sectors of strategic economic importance to the region.
2. Audit of current and potential co-working locations and capabilities
3. Establish network of digitally-enabled co-working spaces across the region using a mix of public and private infrastructure.

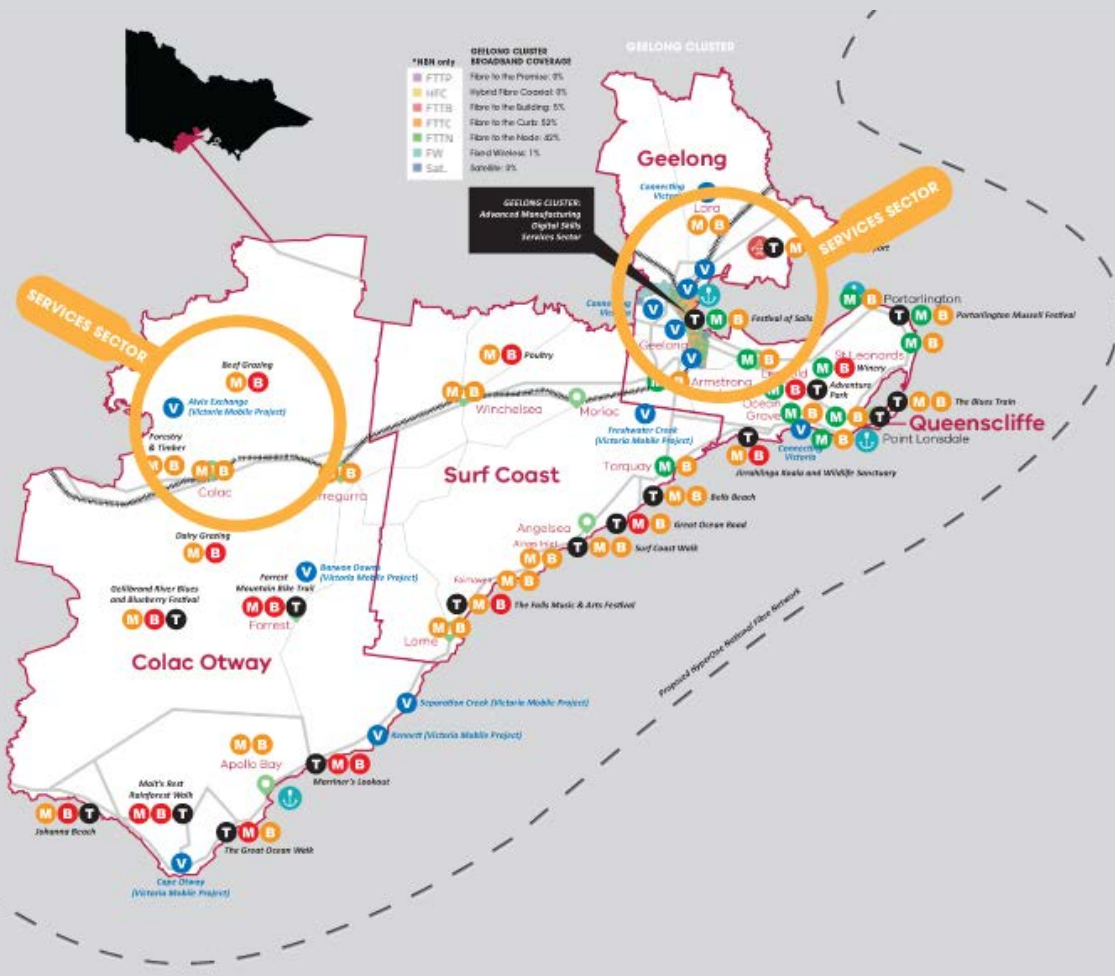


Stakeholder Observations: Tourism Sector

- Poor broadband experience in key visitor locations during whole of summer and other peak periods
- Unreliable broadband access is affecting tourism operations (no access to EFTPOS, websites, video transfer, social media posts, etc.)
- Tourism operators are unaware of digitally-enabled customer service improvements and business growth opportunities
- Unreliable digital access is inhibiting innovation in tourism and ignoring customer needs
- On the ground mobile experience is poor or non-existent in many parts of the region
- Poor connectivity at events and tourism assets impedes customer experience
- Emergency management capability is compromised during peak tourism when congestion causes mobile and broadband connectivity to slow or stop.
- High risk that poor digital connectivity will impact broadcast viewing experience during the Commonwealth Games, with international reputational consequences.
- Some community members are concerned about potential negative visual and health impacts of planned digital infrastructure improvements in the region.
- Bells Beach event operators install their own temporary digital infrastructure to assure customer and broadcast experience.
- Some community members are concerned about increased visitation affecting the amenity of the region.
- Digital experience for visitors is at its worst when visitor numbers are at their peak.
- Active tourism offerings (trails, water activities, etc.) negatively impacted by poor or non-existent connectivity.

Potential actions

1. Create a distributed network to increase reliability and consistency of connectivity.
2. Investigate opportunities to partner with telecommunications and integration providers to identify targeted solutions to:
 - reliability and consistency of digital access along Surf Coast and GOR
 - address congestion at peak visitation times
 - address community concerns about environmental/health impacts of digital infrastructure
 - inland? enable growth in AgTourism and value-add businesses
 - embrace and embed Aboriginal cultural and environmental knowledge and support Country Plans
 - generate new employment and business opportunities for indig, women, disabled, etc
3. Mentoring /staff support system for tourism operators.
4. Collaborative digital initiatives to reduce costs, increase quality and consistency of customer experience, improve promotional activity.



Stakeholder Observations: Services Sector

High-capacity digital infrastructure

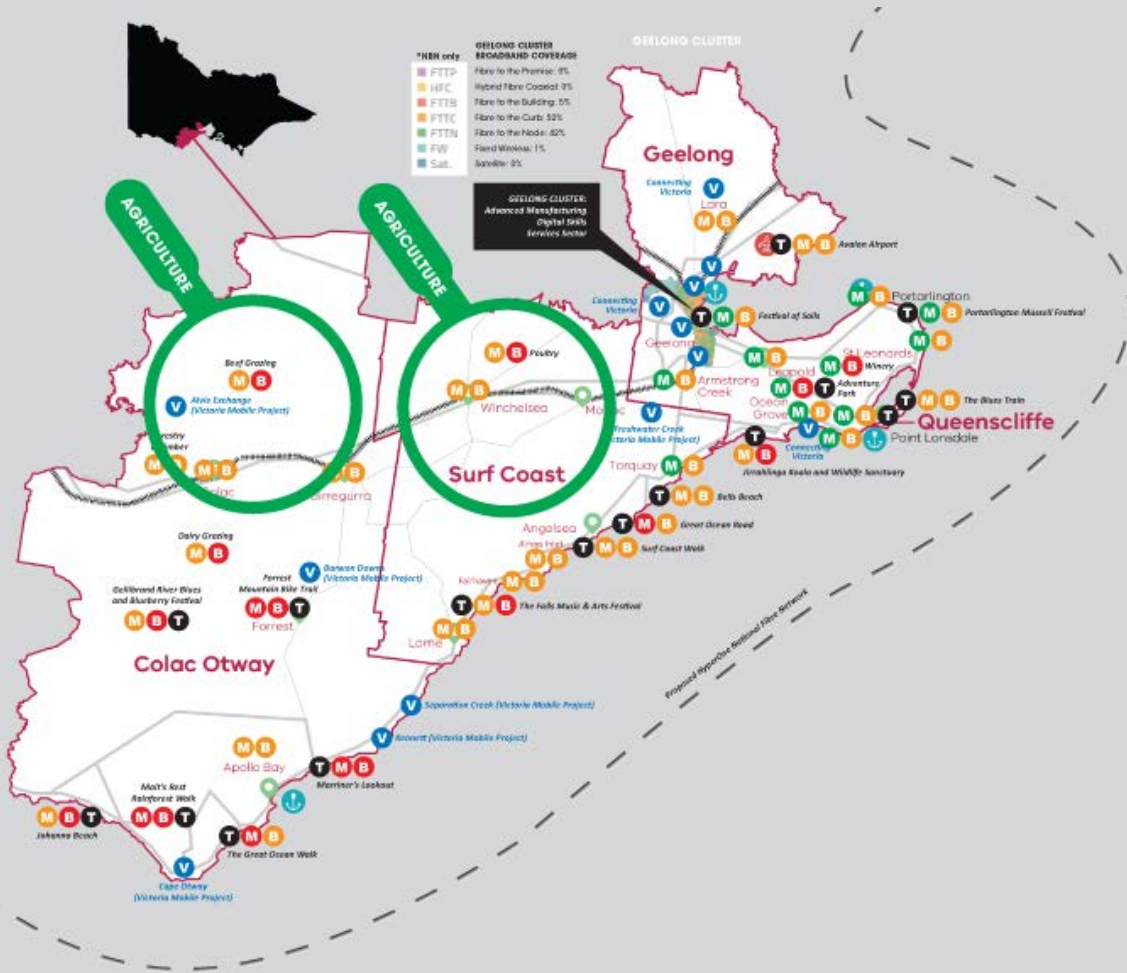
- Major service providers (SWARH, WorkSafe, TAC, GMHBA, etc.) have invested in their own digital infrastructure for high-capacity digital assurance.
- Major service providers are supplementing and/or transitioning to public or shared infrastructure solutions as part of their upgrade plan.
- Major service providers host data warehouses (localised infrastructure required for large files – e.g. MRI)
- Data Centre providers are interested in establishing a presence in the Geelong region.
- Universities and hospitals in Geelong are able to scale-up digital capacity as required, at metro prices.
- No current gap for high-capacity digital requirements in service centres of central and north Geelong.
- Capacity available on some private infrastructure.
- Poor visibility of both public and private planned and available digital infrastructure and assets across the region is impeding collaboration and partnership opportunities.
- Mobile coverage – Good in central/north Geelong (all carriers). 5G available.
- Telstra still has best reach outside central Geelong. Optus carrier of choice for 4,000 employees of TAC/WorkSafe – but Telstra required for ‘black spots’.
- Outside of Geelong, it is not uncommon for whole towns to lose internet and mobile connectivity for days at a time (Timboon example)
- VicTrack may have capacity to provide high-capacity digital connectivity to locations on train line. Opportunities for local access remain unclear/unaffordable.

Equitable access to digital infrastructure

- Uptake of Telehealth services is slow in more rural and remote locations, due to unreliable connectivity and poor digital knowledge/skills.
- Access to devices, know how and connectivity are affecting digital equity and health outcomes.
- Connectivity is inconsistent and unreliable in peak times (after school and during holiday/event times) across the region, including high growth residential areas.
- Co-working spaces are available in some areas, but digital capability, infrastructure and services vary and there is little collaboration between co-working spaces.
- Appetite for high-capacity co-working spaces is likely to increase with “great migration” of working-age people to the region following pandemic.

Potential actions

1. Opportunity to establish telehealth ‘hubs’ to provide connectivity assurance for patients and providers, and digital training/devices for rural and remote patients.
2. Data Centres?
3. Address congestion issues in high-growth residential and tourism areas at peak times.
4. Coordination role to leverage available public and private digital infrastructure assets.



Stakeholder Observations: Agriculture Sector

- NBN rollout completed across Barwon Region.
- NBN and telecommunications carrier service maps do not reflect the lived experience in the Barwon region.
- Connection and speed unreliable and inconsistent in high-growth residential area between Geelong and Torquay.
- Satellite NBN coverage is not available everywhere and in some places is not available at all times.
- Slow speeds and poor reliability makes Satellite NBN poor value.
- Poor knowledge of low orbit satellite opportunities.
- Low appetite and uptake of digital solutions due to lack of reliable services
- Poor knowledge of potential benefits of digitally-enabled transformation of agriculture sector (yield increase, bio-security improvements, environmental sustainability, value-add business generation, youth retention and attraction, innovation, drought and flood mitigation and recovery, mental health, influencer sponsorships, agritourism)
- In high tourism zones, network capacity is compromised all summer, making it unreliable for business and essential services.
- IoT networks still in infancy with some “progressive” farmers running pilots and upskilling.
- Technology providers have poor visibility and knowledge of infrastructure, knowledge and support gaps in farming communities.
- Awareness and skills development required for digital opportunities in agriculture. Education is “completely missing”.
- Infrastructure, education & engagement required to enable farmgate websites, supply chain management, regulation compliance, agritourism opportunities supported by Tourism Vic)
- Federal Govt target to increase Smart Agriculture adoption by 30% by 2030.
- State Government target ?????? & other alignments
- Inbound agricultural product supply chain is fractured and unreliable. Outbound is ok.
- Pockets of excellence in dairy (soil moisture monitoring, weather stations, Southern Farming Systems, ground water bores)
- DELWP’s Digital Twin work may assist with flood plain management (dabbling)
- Skilled labour shortages in agriculture are negatively impacting business outcomes.
- Connectivity is a pre-requisite to attracting people to live and work in a regional location.
- Ag profitability is low and average age of farmers is increasing.
- Aggregation of smaller properties.
- Agriculture and Smart Agriculture is not promoted at schools and training centres.
- University budgets for Ag & Food Science has been cut back in favour of food technology and processing courses..

Potential actions

1. Smart Ag apprenticeships
2. Smart Ag learning hubs
3. Low latency, reliable, re-deployable infrastructure.

Holistic transformation requirements

It's more than just technology. Consultation sessions identified gaps in digital knowledge, skills, culture, direction and coordination that must be addressed to inspire people, increase capability and unlock growth potential.

DIGITAL INFRASTRUCTURE

- NBN and telecommunication provider coverage maps and service descriptions do not reflect user experience. Misinformation is affecting trust, confidence, interest, appetite.
- Digital evidence does not include non-NBN high-capacity digital infrastructure assets in assessment of central and northern Geelong digital capability.
- Private infrastructure networks have spare capacity and are underutilized.
- Immediate digital infrastructure needs are different for each strategically important sector.
- Digital infrastructure is evolving quickly. Low Orbit Satellite and other adaptive and reusable technologies were not considered in the Barwon Digital Plan (2019).

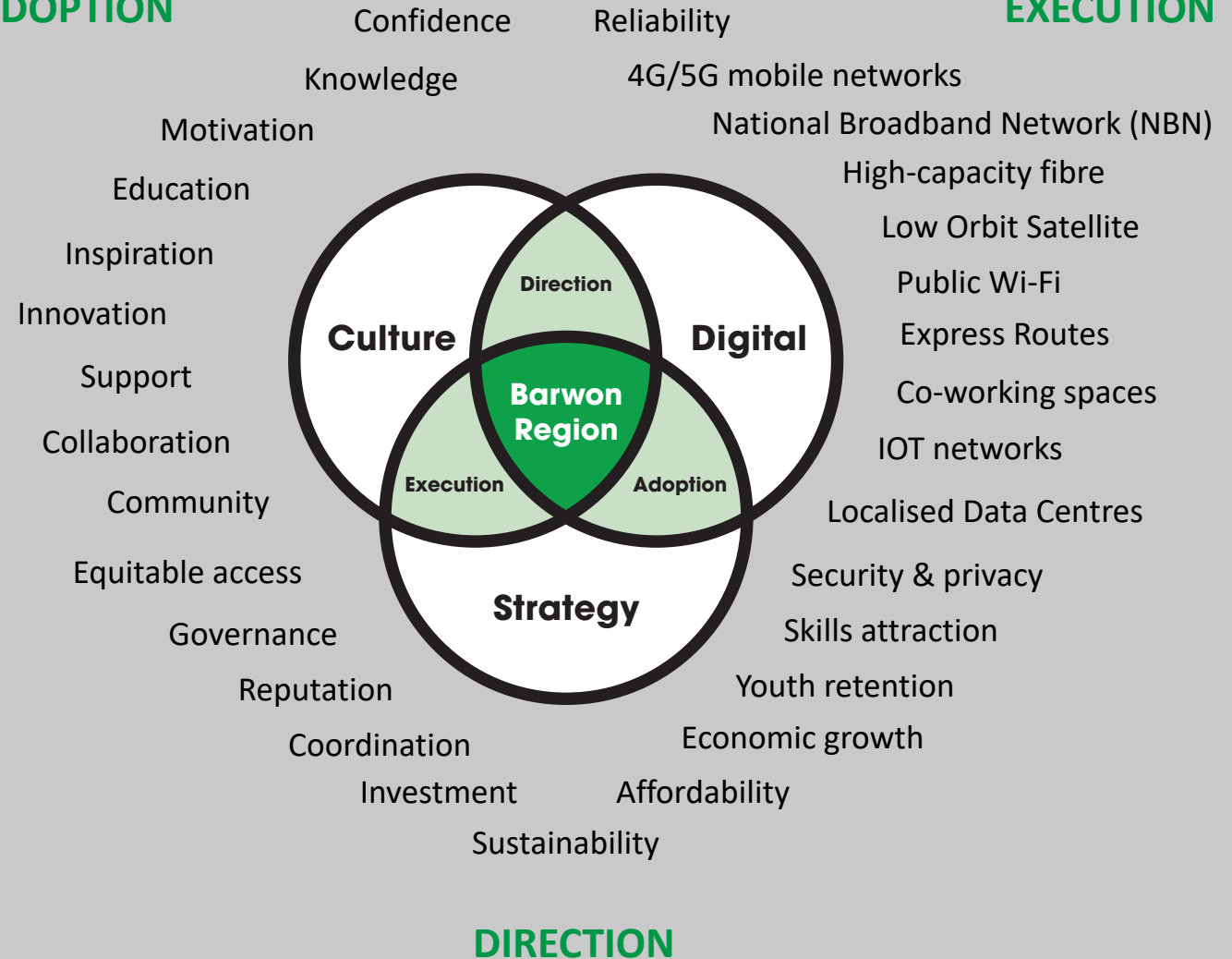
DIGITAL CULTURE

- Digital infrastructure alternatives to the NBN and mobile networks are not well understood.
- Digitally-enabled business/industry transformation and growth opportunities are not well understood in key economic sectors.
- Secondary and tertiary benefits of reliable connectivity (such as improved access to health and support services, youth retention and attraction, public safety and amenity, emergency management, environmental monitoring, etc.) are also not well understood.

DIGITAL STRATEGY

- Define a digital capability plan for the Barwon region that focuses on strategic, cultural and governance aspects of developing the digital ecosystem (not just infrastructure).
- Explore coordination and collaboration models to leverage the potential capability of existing public and private infrastructure.
- To address immediate connectivity and resilience gaps, investigate deployment of complementary infrastructure that is fit for purpose and is suitable for adaptive reuse when NBN service becomes available.

ADOPTION



About the authors/facilitators



Peter Auhl

Peter is a holistic transformation specialist who combines strategic, cultural and digital reform to improve business agility. His 25-year career has focused on delivering results in strategy, technology, communities and economies.

Peter conceived and led Ten Gigabit Adelaide – a major economic reform initiative that helped to reposition both the City of Adelaide and the state of South Australia as a global leader in citizen-led, technology enabled business transformation. He has delivered innovative change programs and solutions across a diverse portfolio of businesses including planning, transport, economic development, peak industry groups, infrastructure, education and technology. Peter was named CEO Magazine Australian “CIO of the Year” in 2017, #6 in the CIO50 list of 2018 and was the Australian Digital Innovator of the Year in 2019.



Lisa Bennetto

Lisa provides strategic planning, governance, stakeholder engagement, communications and marketing advice to commercial and government organisations, with a particular focus on enabling equitable digital maturity in local government, businesses and communities. She drove the Municipal Association of Victoria’s digital agenda, conceiving, resourcing and delivering profitable activities to educate and engage key stakeholders in government and technology sectors.

Lisa was a founding director of Earth Visual Communications, who served blue chip clients in manufacturing, resources, energy, transport, technology, finance, retail, education, sport, government and health for over 20 years. Specialising in coordinating multi-stakeholder initiatives, Lisa delivers strategic plans for regional alliances, peak bodies and statutory authorities.

Appendices

1. [Digital Skills and Co-working Capacity workshop evidence and outcomes](#)
2. [Tourism sector workshop evidence and outcomes](#)
3. [Services sector workshop evidence and outcomes](#)
4. [Agriculture sector workshop evidence and outcomes](#)
5. [Advanced Manufacturing sector workshop evidence and outcomes](#)

Key reference documents

[Barwon Regional Digital Plan](#) (Barwon Regional Partnership, 2019)

[Regional Digital Plan Supporting Information, Barwon](#) (Barwon Regional Partnership, 2019)

[Barwon Regional Economic Development Strategy](#) (Regional Development Victoria, 2022)

[Barwon Regional Economic Development Strategy – Supporting Analysis](#) (Regional Development Victoria, 2022)

[Connecting Victoria Engagement Report](#) (Department of Jobs, Precincts and Regions, Victorian Government, 2022)

[Digital Connectivity Playbook & Benefit Cases](#) (Regional Development Australia / Regional Development Victoria / PwC, 2022)

[A Future-Ready Victoria – Victorian Government Digital Strategy 2021-26](#) (Department of Premier & Cabinet, Victorian Government, 2022)

[Our Future World – Global megatrends impacting the way we live over coming decades](#) (Naughtin C, Hajkowicz S, Schleiger E, Bratanova A, Cameron A, Zamin T, Dutta A – CSIRO, 2022)