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A REGIONAL DIGITAL STRATEGY FOR PERTH'S EASTERN REGION



Executive Summary

The Regional Digital Strategy for Perth's Eastern Region seeks to enable residents and businesses to capitalise on the opportunities offered by digital technology.

Our digital vision is:

For the people and businesses of Perth's Eastern Region to confidently make use of digital technology to enable better living, prosperity, learning and social participation.

Seven strategic focus areas are proposed to achieve that vision:

- Lead and collaborate on digital technologies;
- Extend digital infrastructure;
- Develop residents' digital capacity and confidence;
- Promote and celebrate communities;
- Develop small business digital capacity;
- Enable new business and work opportunities; and
- Enhance provision of services.

The roll out of new ultra-speed broadband services through the National Broadband Network presents new opportunities for Australian communities; however this is only one element in the array of digital technologies that are transforming the way we live and work. This strategy focuses on the important aspect of 'digital preparedness'.

This strategy complements the Australian Government's *National Digital Economy Strategy* and the Western Australian Government's *Digital Framework* and responds to the strengths, challenges and aspirations for the development of Perth's Eastern Region.

The Eastern Metropolitan Regional Council (EMRC) covers six local government areas being: The Town of Bassendean, City of Bayswater, City of Belmont, Shire of Kalamunda, Shire of Mundaring and City of Swan. It is a large and diverse region that covers approximately one third of the Perth Metropolitan Area.

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Introduction

Digital technologies, including broadband services, can help nations, states, regions and local communities to create better futures, realise their visions and pursue their priorities.

The jurisdictions and communities who are most successful are those where their governments and regional bodies adopt strategic approaches, with projects and actions that match their unique local characteristics and opportunities.

A digital strategy sets out the vision, goals and actions that the governments and regional bodies will pursue for using digital technologies to create social, economic and environmental benefits.

The Australian Government has adopted the *National Digital Economy Strategy* with national goals and programs. The Western Australian (WA) Government pursues digital strategies through the *WA Government Digital Framework*. The Regional Digital Strategy complements the national and state strategies and responds to the strengths, challenges and aspirations for the development of Perth's Eastern Region.

The Region is a diverse and growing area extending from the edge of the Perth Central Business District (CBD) through to the agricultural and forested lands of the Darling Range. The Eastern Metropolitan Regional Council (EMRC) is a regional local government that works on behalf of its six member councils and provides services in waste management, environmental management and regional development.



The economic, social and environmental future

The EMRC and its member councils have focused on the Region's future through the development of local strategic community plans and other region-wide plans.

There are aspirations to build a great future for the Region based on:

- Diverse localities and strong communities;
- A strong and diversified economy;
- Employment opportunities and work patterns;
- Health and well being;
- Social inclusion;
- Sustainable transport;
- A healthy natural environment;
- Local services;
- Cultural and recreation opportunities; and
- Local leadership and governance.

Digital technologies can help the Region achieve these aspirations.



Vision, Goals and Strategies

A Digital Vision

The Regional Digital Strategy has a vision for the future of Perth's Eastern Region, enhanced by broadband and digital technologies:

For the people and businesses of Perth's Eastern Region to confidently make use of digital technology to enable better living, prosperity, learning and social participation.

The following goals will support this vision:

Good digital infrastructure	Communities throughout Perth's Eastern Region will have access to affordable, reliable, high-speed internet services.
Connected people	The people of Perth's Eastern Region will have the confidence, capability and access to use digital technologies to support fulfilling, creative, healthy and socially connected lives.
Vibrant communities	The different localities and cultural communities of Perth's Eastern Region will actively use digital technologies to record, share, promote and celebrate the distinctiveness, features, stories and heritage of their localities and cultures.
Thriving economy	The economy of Perth's Eastern Region will be thriving as existing and new businesses use digital technologies to grow their market shares, improve productivity, enhance their knowledge resources and build new networks of suppliers and partners.
Employment opportunities	A higher proportion of the residents of Perth's Eastern Region will work within the Region through growth in knowledge-based businesses and technology-enabled work practices such as tele-work.
Access to services	The people and businesses of Perth's Eastern Region will have improved access to services, delivered efficiently using digital tools and online services.
Environmental sustainability	Lifestyles and business activities in Perth's Eastern Region will be more sustainable and the understanding of the Region's natural assets and ecosystems will be higher, through the use of digital technologies, online information resources and smart infrastructure.

Strategies for achieving the Digital Vision

This plan proposes seven digital technology strategies:

1	Lead and collaborate on digital technologies	Agree, embrace and promote a vision and goals for the digital future of Perth's Eastern Region, and commit to a clear set of actions to achieve these. Develop Local Digital Strategies to complement the Regional Digital Strategy as relevant and required. Develop strategic management capacities and sound management arrangements that allocate responsibilities and resources.
2	Extend digital infrastructure	Advocate to ensure that residents, businesses and visitors have access to the digital infrastructure that forms the foundation of a digital future.
3	Develop residents' digital capacity and confidence	Encourage programs that provide residents of all ages and backgrounds with digital capabilities and literacy with a focus on empowering community organisations and enabling them to deliver relevant programs.
4	Promote and celebrate communities	Support the development of digital resources which promote the Region's localities, celebrate its communities and increase vibrancy.
5	Develop small business digital capacity	Support (and where appropriate, establish and operate) programs to build the confidence and capacity of businesses, particularly small-medium enterprises, for using digital technologies which includes a mix of awareness raising, information resources and targeted advice.
6	Enable new business and work opportunities	Pursue opportunities to broaden the economic base of the Region and enable new employment opportunities and work patterns. Promote the Region, promote new work practices and develop new partnerships and projects.
7	Enhance provision of services	Enhance and integrate online services by using digital technologies in ways that broaden access, improve service quality and reduce delivery costs.



About the Strategy

Methodology

This Regional Digital Strategy was developed collaboratively and included a broad range of stakeholders from across Perth's Eastern Region. It was overseen by the EMRC's Economic Development Officers Group comprising of the Economic Development Officers of each member council. Research and consultations for the Regional Digital Strategy were undertaken from January - April 2013.

The research included a review of:

- International analyses of digital trends;
- Australian Government *National Digital Economy Strategy*;
- WA Government *Digital Economy Framework*;
- Relevant strategic documents from the EMRC;
- The EMRC's 2010 submission to NBN Co: *Regional Business Case for Broadband Infrastructure Upgrades across Perth's Eastern Region*;
- Relevant council strategy and background documents;
- Resources and documents from key organisations and agencies in the Perth Metropolitan Area; and
- Data from the 2011 Australian Census.

Consultation included:

- A workshop with senior executives and officers from the EMRC and participating member councils;
- A series of roundtable consultations with local business and community organisation representatives;
- Online surveys;
- Interviews with the Economic Development Officers from each of the participating member councils; and
- Other stakeholders including representatives from relevant state and federal departments and agencies.

Acknowledgements to all those consulted can be found on page 39.



About Perth's Eastern Region

Perth's Eastern Region is large, diverse and strategically well placed. It covers 2,100 square kilometres, extending from the edge of the Perth CBD through to the agricultural and forested lands of the Darling Range, with urban, commercial, industrial and scenic areas in between.

There are six local government areas in the Region: five have participated in the development of the Regional Digital Strategy*. The areas are varied in geography, infrastructure, economic base and population, resulting in varying priorities and capacities across the Region.

About the Region

The Region covers approximately one third of the Perth Metropolitan Area. Australian Bureau of Statistics projections from the 2011 Australian Census show that the population exceeds 337,000 people and is growing at a rate of approximately 2.5% per annum, slightly higher than that of WA as a whole.

The Region is positioned as a major transport hub for WA. Perth Airport and the Kewdale Intermodal Freight Terminal are both located within the Region. Major road and rail links traverse and intersect within the Region. The major industrial areas of Malaga, Welshpool, Kewdale, Hazelmere, Forrestfield, Bayswater and

Bassendean play key roles in transport, storage, manufacturing and logistics for the State's construction and resource sectors.

The EMRC's strategic plan, *EMRC 2022 10-Year Strategic Plan*, highlights Australian Bureau of Statistics estimates of gross regional product as being around \$22 billion. Manufacturing is the largest industrial sector, accounting for about 30% of total economic output. This is followed by the transport, postal and warehousing sector and the construction sector, each contributing around 10% of the Region's output.

The regional unemployment rate is just over 4%, consistent with that of the Perth Metropolitan Area. The total number of jobs in the Region is 124,512, of which 18,303 are in the manufacturing sector and about 15,006 are in the retail sector (statistics sourced from REMPLAN, 2013). However, there is a mismatch between the skills of residents and the skill requirements of employers.

There is a diverse range of commercial, industrial and residential localities within each of the member councils and the levels of prosperity, vibrancy, infrastructure and construction development vary considerably. Some localities have been identified as being activity centres of state strategic significance. There are developments of various scales that are underway and that are expected to re-invigorate or transform some localities.

There is generally good access to education and health facilities for residents, with the new Midland Health Campus currently under construction and plans to establish a university campus in the Region.

The overall level of education qualifications is currently lower than that of Perth as a whole. In 2011, the Region had 58,116 people with a tertiary qualification and this number is growing. The largest change in qualification levels between 2006 and 2011 were increases in the number of people with higher level qualifications such as bachelor or higher degrees, vocational qualifications and advanced diplomas or diplomas.

The age profile for the Region is very similar to that of the Perth Metropolitan Area, except in the 20–29 year old age group.



This age group accounts for 15.2% of the population in the Perth Metropolitan Area, but only 14.1% of the population in Perth's Eastern Region. The Region also has a significantly higher proportion of indigenous residents and a slightly lower proportion of overseas-born residents compared to the rest of the Perth Metropolitan Area.

The Region has world-class wineries, an abundance of heritage and cultural attractions and some of the State's most beautiful national parks and walking trails. The Swan River provides an iconic recreational and heritage precinct, as well as supporting the renowned vineyards along its valley. The Swan Valley and Perth Hills wine regions, Mundaring Weir and Lake Leschenaultia are major tourism features in the Region.

The local government areas

There are various geographic, economic and social differences between the five local government areas participating in the Regional Digital Strategy.

Local Government Area	Population	Area (km ²)
Town of Bassendean	15,000	11
City of Bayswater	62,000	33
City of Belmont	35,000	40
Shire of Kalamunda	50,000	325
Shire of Mundaring	35,000	645
City of Swan	105,000	1,000

Town of Bassendean

The Town of Bassendean is the smallest of the Region's councils, located approximately ten kilometres north-east of Perth and five minutes from the Swan Valley vineyards. With a total area of 11 square kilometres, Bassendean is bounded by the Swan River, the City of Swan to the north and the City of Bayswater to the west. The Town has a unique sense of place and aspires to be a village within a city. It has a rich heritage including historic buildings and streetscapes. The river frontage of seven kilometres is a major natural asset. Bassendean is also a growing centre of cultural activity.

The manufacturing sector contributes almost half of the Town's economic output. Home-based businesses are also important: it is estimated that 10% of households have a home-based business and the Town's *Economic Development Plan* has a focus on growing this

sector. The plan also focuses on town centre rejuvenation, tourism, the low carbon economy and digital adaptation of local businesses.

City of Bayswater

The City of Bayswater is a predominantly residential locality that is renowned for its beautifully maintained parks and gardens, located approximately eight kilometres north-east of Perth. The City also contains some commercial and industrial areas. City of Bayswater is 33 square kilometres in size, with 10 kilometres of Swan River foreshore.

The City's population is 62,000 people, with half of all residents having jobs. However, most residents work outside of the City: a total of 18,000 people work in the City which includes many who are not local residents.

The retail sector accounts for approximately 18% of all employment and the City is home to Centro Galleria Shopping Centre at Morley, which is one of the largest retail centres in the State. The health care and social assistance sector is also a significant employer with over 13% of all jobs. The City itself manages a major age care residential facility. The City is working to attract tourism and cultural activities to the area.

City of Belmont

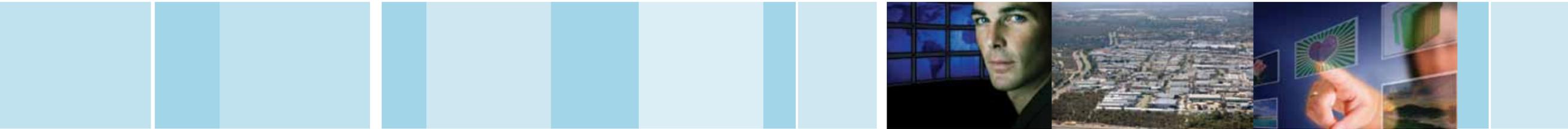
The City of Belmont is located about six kilometres north-east of Perth. The area of the city is 40 square kilometres and has 11 kilometres of Swan River foreshore. The population is 38,570 people and is growing steadily with many immigrants from diverse backgrounds moving into the city. Over 15% of residents are from non-English speaking backgrounds.

Perth Airport occupies about one-third of the City's land area. Other notable features are the Ascot Racecourse with the adjacent stables zone, the Kewdale Freight Terminal and various major road connections. The transport and storage sector is the largest employer. Other key sectors include manufacturing, retail, equine industry and tourism. The City is an employment generator with more employees than residents. There are opportunities for the City to attract a range of new businesses including corporate offices that are looking to relocate as the property prices of central Perth continue to rise.

Shire of Mundaring

The Shire of Mundaring is a large and predominantly rural shire in the east of the Region, located approximately 35 kilometres from Perth. Its area is around 645 square kilometres, of which almost half





is national park. The population is approximately 35,000 people, spread out in townships, villages and rural localities. A lower proportion of residents were born overseas than in other areas within Perth's Eastern Region.

Around two-thirds of the Shire's working population are employed outside of the Shire. Nearly 10% of those employed work in the education and training sector, while some 5% of people in employment work from home. The Shire's *Economic Development Strategy* has a focus on growing the tourism sector.

City of Swan

The City of Swan is the largest council in metropolitan Perth, covering over 1,000 square kilometres. The City is located 21 kilometres north-east of Perth. It contains diverse localities, ranging from the major commercial centre of Midland through to the picturesque wine region of the Swan Valley, national parks and rural areas. The population is around 105,000 and continues to grow strongly. Over one-third of the population was born overseas and 3% of residents are indigenous.

The largest employment sectors are the retail sector and the manufacturing sector, both accounting for over 11% of total jobs. The economic output of the manufacturing sector is now around \$4 billion but the City is seeking to broaden the industry base and attract knowledge-based businesses. It is working to bring a university campus to the City.

The EMRC

The EMRC provides a broad range of services across the Region including waste management and education, resource recovery, environmental services and economic development. Working in partnership with its member councils and other stakeholders, the EMRC delivers projects across each of these areas.

The EMRC has a focus on regional economic development that builds upon existing strengths which include location, transport infrastructure, resident workforce and existing industry base.

The EMRC's *Regional Economic Development Strategy 2010 - 2015* describes seven Key Focus Areas:

1. Local Jobs for Local People:

Improve employment self containment by working with partners to focus on initiatives that align the availability of local jobs to the local working resident population, and therefore reduce the social, environmental and infrastructure burdens that arise from commuting workers in Perth's Eastern Region.

2. Buy Local, Supply Local:

Maximise local supply and demand opportunities through initiatives that reduce leakage of economic activities to other areas. This is to encourage the growth of existing businesses and attract new business to meet local needs and generate opportunities in Perth's Eastern Region.

3. Think Smart, Work Smart:

Increase the output value of Perth's Eastern Region by developing and attracting knowledge intensive and creative industries, encouraging innovation in existing businesses, and generally creating higher value employment opportunities in the Region.

4. Joining the Dots:

Create world-class infrastructure that maximises economic productivity, creative competition for businesses in Perth's Eastern Region and resolves infrastructure bottlenecks that inhibit growth.

5. Work Hard, Play Hard:

Protect, improve and promote the liveability of Perth's Eastern Region through the supply and diversity of housing, education, health, culture and vibrancy to attract workers to live and enjoy the Region.

6. Natural Growth:

Ensure that economic growth complements rather than compromises the environmental future of Perth's Eastern Region by taking an environmentally responsible and sustainable approach.

7. Responsible Leadership:

Provide good governance that facilitates responsible economic growth, advocates for Perth's Eastern Region and encourages all stakeholders to work collaboratively together, equipped with the best knowledge to exercise sound leadership.

The Region's strengths

The research and consultations for the development of the Regional Digital Strategy have highlighted many strengths of Perth's Eastern Region:

Diverse localities: The Region contains a diverse group of localities, from the edge of the Perth CBD through to the agricultural and forested lands of the Darling Range, with urban, commercial, industrial and scenic areas in between.

Natural assets: The Region has many natural assets including the Swan River and a number of national parks and reserves. These support bio-diversity in the Region and provide many recreational opportunities.

Heritage, cultural and tourism assets: The Region also has many heritage, cultural and tourism assets including historic buildings and wineries.

Diverse housing and lifestyle opportunities: The diversity of locations across the Region means there are different housing and lifestyle opportunities. These range from inner-city apartments and suburban detached houses through to semi-rural 'tree-change' homes.

Access to services: Residents have good access to government and community services, including education and health services. They also have good access to commercial and retail services.

Volunteer culture: Many areas within the Region have a strong volunteer culture and active community organisations, particularly in the area of environmental management.

WA economy: The Region is a key part of Western Australia and is deriving the benefits of the State's strong economic growth and its proximity to Asia.

New developments and investments: There are public and private sector developments underway or planned in the region worth many hundreds of millions of dollars. These include the Perth Airport redevelopment, the new Midland Health Campus and the GP Superclinic in Midland.

Population growth: The Region is experiencing strong population growth.

Diverse skills: There is a large labour pool with a broad set of available skills.

Transport infrastructure: The location of Perth Airport, the Kewdale Intermodal Freight Terminal and the major road links within the Region are key strengths.

Land for development: There is land available for development along transport routes in a number of areas throughout the Region.

Local government collaboration: There is strong collaboration between the six member councils particularly through the EMRC.

Landgate: The Western Australian Statutory Authority Landgate is based at Midland. Landgate manages the State's land information and geo-spatial data. It is a leading public sector innovator in the use of digital technology and the management of digital data.

The Region's challenges

The research and consultations for the development of this Regional Digital Strategy have highlighted challenges faced by Perth's Eastern Region:

Employment self sufficiency: A significant proportion of the Region's workforce travel out of their local area to their place of employment each day. This has adverse impacts on traffic congestion, infrastructure, the environment and quality of life.

Two-speed economy: Although many businesses are benefitting from the buoyant mining sector, other businesses face difficult market conditions as a result of the strong Australian Dollar and other global market trends.

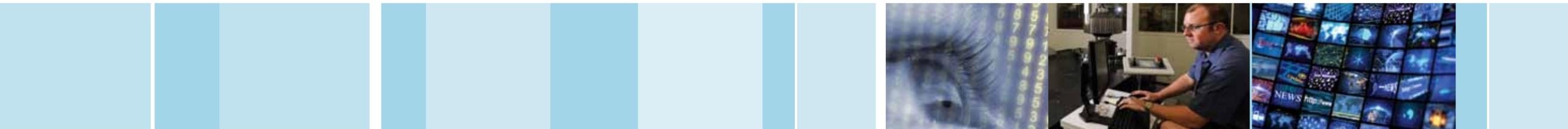
Small knowledge-based sector: The Region currently has a small knowledge and creative industry sector.

Small business capacity: Small businesses often lack the management skills, innovative cultures and other strategic capacities to thrive in an environment of change, brought about by new economic conditions and technological disruption.

MIDLAND RAILWAY WORKSHOPS

The major centre of Midland is home to the iconic Midland Railway Workshops, a world-class collection of early 20th century industrial buildings which are now being re-developed by the Metropolitan Redevelopment Authority (MRA) into a new urban village offering a rich mix of residential, retail, commercial, heritage and public open spaces.

The MRA is working with the cultural organisation FORM, which has adapted a cluster of heritage buildings into a creative industries hub - the Midland Atelier. The Atelier is home to a number of Australian and international designers working across various mediums from photography to furniture design. FORM has also been seeking funding to establish an associated digital media hub within the complex.



Digital reluctance: Many of the Region's small businesses are reluctant to adopt digital technology. This may be due to a lack of awareness or a lack of belief in the business opportunities. It may also be due to concerns about costs and a lack of confidence and capability by business proprietors.

Supply chain integration: Data shows that supply chains within the Region are not as well integrated as they could be and many businesses are importing goods when they could be sourcing those goods from within the Region.

Perth's isolated location: Perth's isolated location is a constraint on trade, particularly with Australia's Eastern States.

Less appealing areas: There are some localities in the Region that are less appealing places to live and work because of lack of appropriate development in recent years.

Skill shortages: There are skill and labour shortages for some professions and occupation types throughout the Region.

ISSUES FROM THE PERTH REGIONAL PLAN

Regional Development Australia Perth Incorporated (RDA Perth) is part of a national network of committees established in partnership between the Australian state, territory and local governments to develop and strengthen the regional communities of Australia. The *RDA Perth Regional Plan (2012)* highlighted the following issues that must be addressed in planning for the future of the Perth Metropolitan Area:

- Geographic isolation;
- Geographic size, distribution and density;
- Population growth;
- Distribution of growth;
- Demographic change;
- Two-speed economy;
- Geography of employment;
- Skilled workforce;
- Funding infrastructure and transport;
- Provision and upgrade of social infrastructure;
- Affordable housing;
- Housing choice;
- Social polarisation;
- Conservation;
- Climate change; and
- Rehabilitation.

Education qualifications: In some areas of the Region, the levels of education qualifications are relatively low.

Areas of social disadvantage: Some of areas within the Region have relatively high levels of social disadvantage. This is often compounded by a lack of affordable housing.

Social isolation of some groups: Some groups within the community, particularly some new immigrant groups and people with limited English skills, suffer from social isolation.

Access to public transport: There are a number of localities where access to public transport is very limited.

Environmental threats: The Region faces a number of environmental threats due to population growth, new developments and climate change.

Lack of broadband services: Some areas currently lack access to broadband telecommunication services. Although the rollout of high speed broadband should eventually address these, there may be a delay of many years.

Digital awareness of executives: Often, executives in local government authorities and other organisations have a limited awareness and understanding about the implications and opportunities of digital technology.

Access to ICT advice and services: Many businesses and community organisations have difficulty in accessing ICT advice and services. This is partly due to a lack of local ICT firms with the capacity to provide the full range of advice and affordable services that are required.

The Region's aspirations for a great future

The local government authorities and the EMRC have focused on the Region's future through the development of local strategic community plans and various region-wide plans.

There are aspirations to build a great future for the Region:

Diverse localities and strong communities: The Region will encompass diverse localities with strong and safe communities. Many localities will be particularly noted for their vibrancy and local creativity.

Strong and diversified economy: The Region's economy will be strong and will diversify. There will be a larger knowledge and creative industry sector. Local supply chains will be better integrated and industry clusters will have emerged around local facilities such as Perth Airport.

Employment opportunities and work patterns: There will be broader local employment opportunities and higher levels of employment self sufficiency. There will be higher levels of tele-work, including home-based work and work in 'third spaces' such as tele-work centres.

Health and wellbeing: Residents will lead healthy and active lives. People with special needs, including aged people and people with disabilities, will have good life quality.

Social inclusion: Levels of social disadvantage and social isolation will be reduced. Appropriate community support services will be available. There will be a thriving sector of community organisations.

Sustainable transport: There will be less dependency on private cars and greater use of sustainable transport including public transport, cycling and walking.

Healthy natural environment: The Region will have a healthy natural environment. Environmental threats will be proactively managed.

Local services: People throughout the Region will have good access to government and community services including education and health services. They will also have good access to commercial and retail services.

Local priorities

The differences across the Region mean that there are different priorities for development between the Councils. A number of local priorities were identified in the review of member Council strategies and in interviews with Economic Development Officers from each member Council as shown in the table below:

Local Government Area	Key local priorities
Town of Bassendean	<ul style="list-style-type: none"> • Support the growth of businesses that operate from homes and from "third spaces". • Expand digital capacity and digital adoption for households and businesses. • Support growth of the tourism sector.
City of Bayswater	<ul style="list-style-type: none"> • Increase local vibrancy. • Improve engagement with different cultural communities. • Support innovations in service delivery.
City of Belmont	<ul style="list-style-type: none"> • Attract new businesses, building on the proximity to the Perth CBD and Perth Airport. • Record and promote the area's history and heritage. • Engage young people.
Shire of Mundaring	<ul style="list-style-type: none"> • Support growth of the tourism sector. • Support growth of home-based businesses, including knowledge-based businesses. • Improve local transport.
City of Swan	<ul style="list-style-type: none"> • Attract a university campus. • Promote the growth of knowledge-based businesses. • Increase the vibrancy of Midland and other areas.

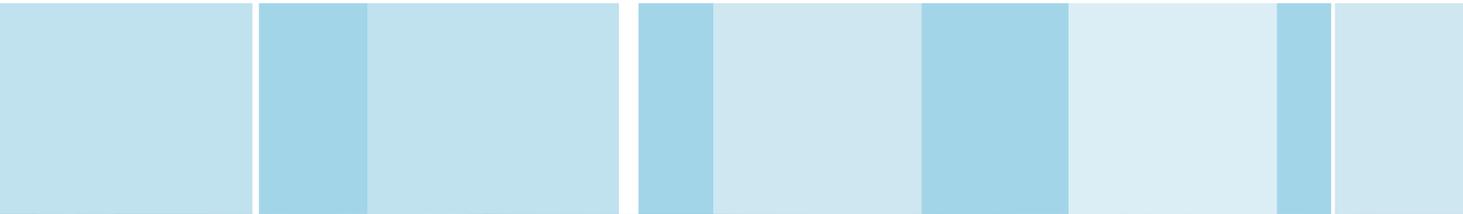
TRANSPORT PLANNING FOR THE REGION

Transport infrastructure, services and behaviours are critically important for ensuring that Perth's Eastern Region is a great place to live, work, play and do business. The EMRC has developed a *Regional Integrated Transport Strategy Action Plan* which has goals for:

- Effective integrated transport and land-use planning;
- Increased use of public transport;
- Improved opportunities for walking and cycling;
- Provision of efficient transport infrastructure; and
- Community engagement in transport planning.

Cultural and recreational opportunities: Residents and visitors will have many opportunities for cultural and recreational experiences in many different localities.

Local leadership and governance: There will be strong, effective and efficient local government leadership and governance by local government authorities and other bodies. There will be a high degree of collaboration and cooperation between the different organisations.



Digital Technology Offers Great Opportunities

Digital technologies can help regions build on their strengths, meet their challenges and achieve their aspirations.

Digital technologies are transforming our lives

While the roll out of new ultra-speed broadband services presents new opportunities for Australian communities, this is only one element in the array of digital technologies that are transforming the way we live and work. Over recent decades there have been dramatic developments in many technologies such as:

- High-speed computing;
- The miniaturisation of electronic equipment;
- Mobile phones and mobile devices;
- The Internet;
- The digitisation of information and audio-visual materials; and
- The use of "big data".

We now regularly use email, the web, social media, smartphones and mobile tablet devices. These technologies have become affordable, pervasive and interconnected.

Our families, businesses, community organisations and government institutions are instantly and globally connected in ways that were previously unimaginable.

Individuals of all ages have changed the way they work, relax, communicate, learn and shop. Many businesses have changed the way they interact with their customers, their suppliers and their staff. Governments have changed the way they deliver their services and engage with their citizens.

Digital technologies are both disruptive and transformative. For example:

- Online services are displacing face-to-face services, with huge impacts on sectors such as retail, banking and education.
- Broadband services and digital tools are enabling new patterns of work such as tele-commuting for individuals and new forms of relationships between businesses.
- Digitisation of information and entertainment resources is fundamentally changing the market for many traditional products such as books, newspapers and music.
- Global connectivity is enabling new, agile supply chains

across all sectors of the economy.

- Online media is changing the way people find out about the places they want to visit, the experiences they want to have and the products they want to purchase.
- Smart technologies are creating new opportunities for energy saving through efficiencies in our buildings and our energy grids.
- People and businesses are becoming more demanding about how and when they interact with their governments, for both decision making and service delivery.

These disruptive and transformative trends are bringing major changes to private and public sector organisations. The organisations that don't adapt to these changes are unlikely to survive.

Digital technologies can help communities develop

Forward thinking and practical planning helps communities to deal with the disruptions and opportunities that the new technologies create.

BIG DATA

The rise in computing power and the fall in the cost of data storage has created the phenomenon of 'big data' – massive data sets of many terabytes of information that can now be analysed to create unprecedented insights. The capture, management and analysis of big data form a rapidly growing segment of the global technology sector and the *Harvard Business Review* has referred to data science as "the sexiest job in the 21st century".

The McKinsey Global Institute has published a series of reports on big data and has highlighted ways that the use of big data can create value for public and private sector organisations by:

- Creating transparency;
- Enabling experimentation to discover needs, expose variability and improve performance;
- Segmenting populations to customise actions;
- Replacing/supporting human decision making with automated algorithms; and
- Innovating new business models, products and services.

The McKinsey Global Institute has also identified that the use of big data will become a key basis of competition and growth for individual firms.

Digital technologies help communities thrive.





The following table identifies twelve areas where digital technologies can help achieve social, economic and environmental benefits:

Digital Capacity Framework:*

Connected households	Confident and capable people living in households with good broadband connections and digital services can have better access to services and are able to be more flexible in how, when and where they work.
Local information	Rich local information, delivered through interactive digital services, allows people to be more informed, supports greater community participation and helps to bring communities together.
Vibrant and sustainable living	Technology-enabled buildings and infrastructure can reduce environmental impacts through better management of energy consumption and through reductions in required travel.
Community health and wellbeing	Online services in homes and community facilities can improve access to health and community care professionals. Online services and digital technologies can also enable many people with special needs to live independently.
Community education and skills	Access to education and training can be improved for students and learners of all ages through access to digital resources and online services in their homes, workplaces and other locations.
Community safety and security	Online services can provide better community access and sharing of information about local safety, security risks and critical incidents.
Engagement of the socially excluded	Online services can help socially excluded people to connect to other people, to access support services and to develop basic skills.
Democracy and open government	Digital tools can be used by governments to extend the way they engage with their citizens, to support collaborative decision making and to improve transparency through access to rich sets of government information.
Online government services	Carefully designed online services are integrated, efficient, timely and citizen centric.
Key economic sectors	Digital tools and online services are critically important for larger businesses and are used to support customer interactions, supplier interactions and internal operations.
Small business sector	For smaller businesses, digital tools and online services support customer interactions and other operations.
ICT sector and digital workforce	The presence of successful local ICT businesses provides employment opportunities for professional creative people and provides important technical support for other businesses and organisations.

* Sourced by Explor Consultancy

COLLABORATIVE CONSUMPTION AND RIDE SHARING

The growth in new digital tools and new business models is spurring a trend toward 'collaborative consumption' where people use online services to share cars, accommodation, bicycles, household appliances (such as lawnmowers) and other items. This reduces costs for consumers but also has environmental benefits through reduced production of under-used assets.

A related trend is 'ride sharing' where people use online services to share rides in cars. There is a rapidly growing range of commercial online services available in cities and regional areas across the world that support this trend. As well as the cost savings and environmental benefits, online ride sharing services provide social benefits because they offer new transport opportunities for routes that are poorly served by public transport.

The Australian Government's E-Government and Digital Economy Policy

The Australian Government is guided by its *E-Government and Digital Economy Policy* which includes the following policies:

- Accelerate the digital economy by working with the private sector to coordinate enabling infrastructure such as online identity, digital mail and payment systems.
- Accelerate Government 2.0 efforts to engage online, make agencies transparent and provide expanded access to useful public sector data.
- Reduce the cost of government ICT by eliminating duplication and fragmentation. Government will lead by example in using ICT to reduce costs, lift productivity and develop better services. Light-user agencies with insufficient IT scale will move to shared or cloud solutions. Heavy-user agencies with complex needs will retain autonomy but improve accountability.
- Create a better model for achieving whole-of-government ICT goals that acknowledges the decentralised Australian Public Service and differences in scale and capabilities across agencies.

Western Australian Government Digital Framework

The WA Department of Commerce has a responsibility for the development of the digital economy in Western Australia. It has developed a strategic framework based on actions in four areas:

	Connectivity	Participation	Leadership and Exemplar	Innovation
Ambition	The State connected at all levels.	People-inclusive digital experience.	New and novel demonstrations of digital initiatives.	A lively digital industry.
Intention	We will drive innovation through connectivity to: <ul style="list-style-type: none"> • High speed broadband • Wi-Fi connectivity • Satellite delivery • Mobility • Sensor networks • Private networks. 	We will identify and address areas of learning that can best position our people to grow in their knowledge of a digital world and how to participate in it.	We will act as advocates for exemplar digital projects and products and identify and promote leading examples of digital pioneers that demonstrate ways of operating in a digital environment.	We will stimulate new thought in areas that can develop applications and content for digital solutions to community and business issues.
Focus	Leveraging advancements in increased broadband connectivity. Ensuring the right access for the task. Identifying additional investment opportunities to extend digital connections.	Promoting awareness of digital benefits. Positioning ourselves to be inclusive in our digital reach. Progressing digital literacy and education. Increasing participation in the change to a digital world.	Unlocking important public information. Stimulating thought leadership. Expanding seamless services that are: accessible, transparent, delivered effortlessly and available instantly on demand.	Engaging with new and innovative digital solutions. Encouraging a vibrant and streamlined digital business environment. Stimulating new applications and content delivery.



Opportunities for Perth's Eastern Region

Digital technologies already impact households and businesses in Perth's Eastern Region but there are areas where further development can create benefits.

Digital readiness of the Region

Perth's Eastern Region is making progress in each of the 12 areas identified in the *Digital Capacity Framework*.

The 2011 Australian Census showed that 68.9% of households in the Region had broadband connections, compared to 70.1% of households for the Perth Metropolitan Area. The Census also recorded a further 6.7% of households as having dial-up or other types of connections, leaving 17.3% of households with no internet connection.

There is considerable variation in broadband connections between the different councils (see 'Broadband Services in Perth's Eastern Region').

Some localities already have access to reasonable quality broadband services but many localities currently lack access to reliable services. A number of localities are scheduled for connection to the National Broadband Network by 2014 but the roll out schedule for many areas is currently uncertain. It is reported that the lack of access to reliable broadband services in some localities is an impediment to attracting and retaining businesses.

There is some access to free Wi-Fi services around cafes, in libraries and at other facilities in a number of localities. However, this varies between the Councils and there are many towns, particularly in rural areas, where no free Wi-Fi is available. Some Councils have initiatives to expand free Wi-Fi services.

Broadband Services in Perth's Eastern Region:

Area	Households with Broadband
Town of Bassendean	65.8%
City of Bayswater	66.2%
City of Belmont	61.1%
Shire of Kalamunda	73.7%
Shire of Mundaring	72.7%
City of Swan	70.2%
Perth's Eastern Region	68.9%
Perth Metropolitan Area	70.1%

The levels of household broadband connections are partly related to the current availability of services, but they are also related to household capacity and confidence. This appears to be quite low in a number of areas, particularly in areas with higher levels of social disadvantage and lower levels of education. In some Councils, local libraries offer programs to improve digital literacy. Some also provide access to computers.

Across the Region, many businesses are not yet online and there appears to be a low level of awareness by many businesses about the strategic opportunities and the practical means of adoption of digital services. Many proprietors of home-based businesses require advice and support.

Although the Region is home to some digital-technology-based businesses, overall the sector is quite small and other businesses report that it is difficult to access the full range of strategic advice and practical technical support services for digital technology that are required by general businesses.

TREE DISEASE, DIGITAL TECHNOLOGY AND COMMUNITY ENGAGEMENT

Corymbia Calophylla (Marri) is an iconic and ecologically important Western Australian tree species which grows in many parts of Perth's Eastern Region. Over the past decade, the species has suffered from a fungal disease which causes Marri Canker in tree trunks and branches. There is currently a poor understanding of the distribution, incidence and severity of the disease and the EMRC has secured funding to undertake research into the disease in partnership with Murdoch University.

An innovative approach is being adopted that draws on members of the community, including members of the Region's active environmental groups. A smart phone application allows community members across the Region to record incidents of the Canker and contribute to a comprehensive database. The application (which will be available for download at no cost) will allow people to photograph affected trees and have the photographs automatically tagged with data including time and place, and then to send the photograph to the research database.



DIGITAL TECHNOLOGY AND OPERATIONS CONTROL

Rio Tinto's Remote Operations Centre at Perth Airport is an operational control room with sophisticated communications systems which allows the company to be a global leader in fully integrated, automated operations.

The Remote Operations Centre remotely controls the whole rail system, 30 train sets, 7 mines and 3 ports. This type of technology is probably not seen beyond the military. Haulage trucks that operate without humans are being trialled with plans to introduce this into full operation. As part of Rio Tinto's 'Mine of the Future' programme, this automated mine-to-port iron ore operation is part of the company's drive to maintain its position as Australia's leading iron ore producer.

The websites of individual member councils provide varying degrees of local information resources. Although some have used online tools for community consultations, the provision of interactive online services is currently limited. Other service providers, including education institutions, health providers and state government organisations use online services to varying degrees.

Key economic opportunities

There are particular economic opportunities for Perth's Eastern Region which can be addressed with digital technology:

Improving employment self-sufficiency

Local areas are striving to improve the level of employment self-sufficiency.

Digital technologies are enabling new patterns of work, with employees of private and public sector organisations being productive and connected while away from their employers' premises. There are also opportunities for freelancers and micro-businesses to thrive without traditional offices.

The work arrangements can take a number of forms. They can include home-based working, working while travelling, working while on the premises of clients and working in 'third spaces' such as tele-

work centres and co-worker hubs. For employees of organisations based outside of the Region, these tele-work arrangements can be occasional or regular.

Growing geographic information technology firms

Within the Region, Landgate is a leading innovator in the use of digital technology and the management of digital data. It specialises in land information and geo-spatial data. The organisation is based in Midland and sees advantages in working with local technology firms and other businesses.

There is a rapidly growing market for digital products that use geo-spatial information and a number of technology firms are now developing new products based on the information managed by Landgate. There is an opportunity for new digital technology firms who are based in or near Midland to develop productive partnerships with Landgate and to create a pool of expertise in geo-spatial data products within the Region.

Exploiting big data opportunities

The opportunities offered by exploiting big data (see page 17) apply to the key industry sectors in Perth's Eastern Region, including manufacturing and logistics.

CCTV IN BELMONT

Community safety is a priority for the City of Belmont and the City has invested in a comprehensive digital closed circuit television (CCTV) network, supported by funding from the Australian Government. The network has been carefully designed and incorporates innovative technologies such as low-light cameras, fail-safe network features and vehicle registration plate recognition.

There are already over 200 cameras in the network and there are plans to extend the network to the City's industrial areas and to major road junctions. It is also planned to install cameras in all of the City's halls and facilities, with integration to access control systems so that buildings can be remotely opened.

The Belmont community is reaping the benefits of the investment in CCTV through improvements to community safety and through more efficient work practices by City staff.

The McKinsey Global Institute report from 2012, *Manufacturing the Future: The Next Era of Global Growth and Innovation*, summarised the trends and opportunities facing the worldwide manufacturing sector and highlighted the role of digital technology and information. The report stated:

"Across manufacturing industries, the use of big data can make substantial improvements in how companies respond to customer needs and how they run their machinery and operations. These enormous databases, which can include anything from online chatter about a brand or product to real-time feeds from machine tools and robots, have great potential for manufacturers – if they can master the technology and find the talent with the analytical skills to turn data into insights or new operating improvement."

AUSTRALIAN TELE-WORK TRENDS

The Australian accounting software firm MYOB commissioned a survey about tele-working practices in 1,005 Australian small businesses. These were some of the findings:

- Some 25% of firms said that their employees worked 'mainly away from the office' and 32% said that their employees 'worked partly from home and from the office'.
- Businesses whose employees worked mostly from a location other than the business premises were 24% more likely to see a revenue rise in the last year and were 32% less likely to see a revenue fall.
- Key benefits experienced by the businesses with staff who tele-work include improved employee satisfaction, travel savings, reduced overheads, increased productivity and a reduced carbon footprint.

BIG DATA AND LOGISTICS

Sense-T is a major digital research program being undertaken in Tasmania to build an economy-wide intelligent sensor network that will integrate different data sources and develop new tools to enable businesses, governments and communities to make better decisions.

One of the projects in the program, Pathways to Market, focuses on logistics and other elements of the food sector. The \$10 million project will collect real-time data about the conditions under which food is produced, processed, transported, stored and sold. The information will be available to consumers, producers and distributors. There are six streams in the research project:

1. Research into food stability, traceability, logistics and environmental impact, following two products through the domestic and Asian market.
2. Development of new commercial technologies, including sensors that can be embedded in packaging to track various factors including those relevant to effective logistics.
3. Research into consumer preferences.
4. Methodologies to measure contributions to regional and national natural capital accounts.
5. Development of mobile applications for businesses and consumers.
6. Development of new data visualisation tools.

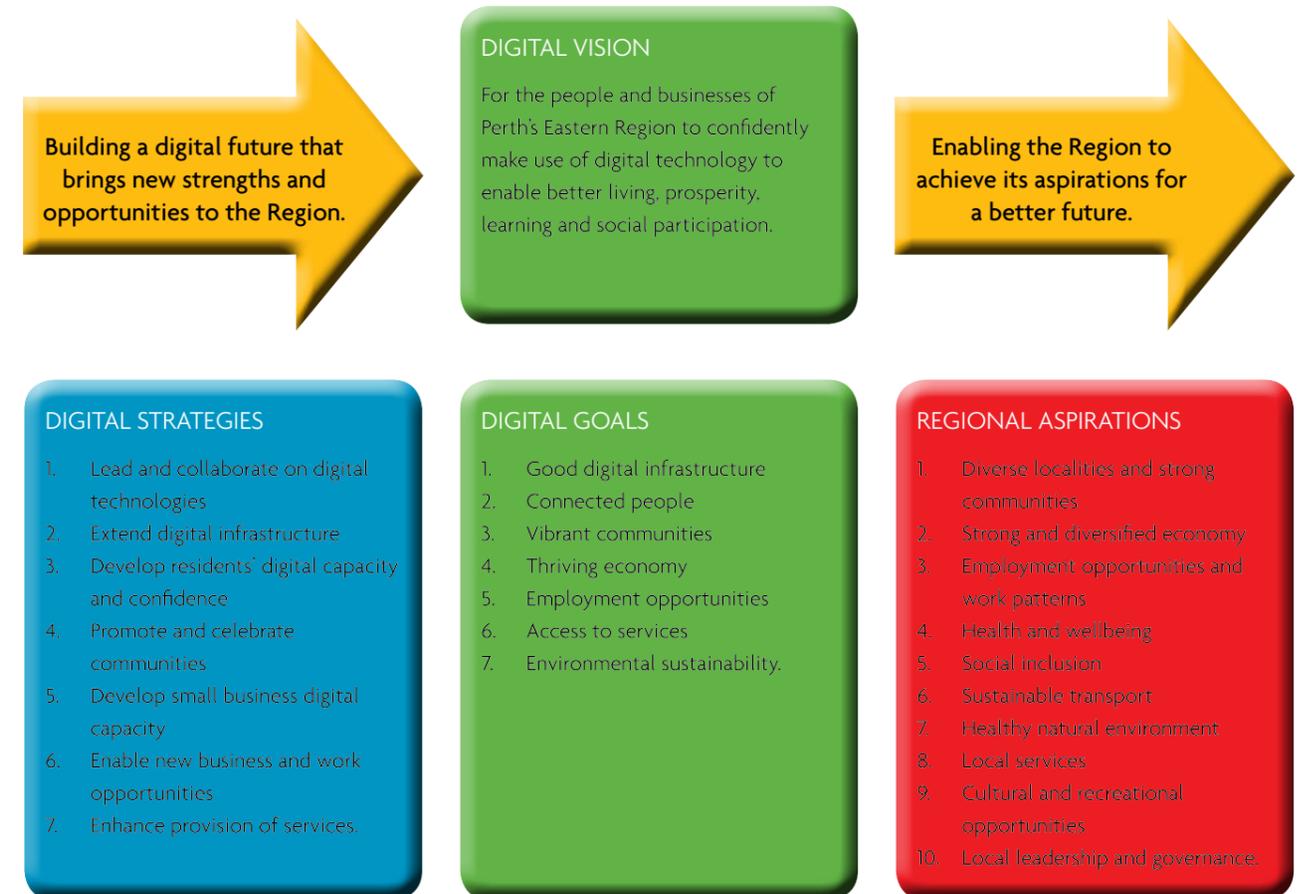


Building the Region's Digital Future

Perth's Eastern Region can help build a better future enhanced by digital technologies by adopting a vision, goals and a comprehensive set of strategies and actions.

Strategies to build the digital future

Pursuit of the seven digital technology strategies outlined in the diagram below, will assist the Region to achieve the digital goals and the Region's aspirations for a better future.





1. LEAD AND COLLABORATE ON DIGITAL TECHNOLOGIES

Agree, embrace and promote a vision and goals for the digital future of Perth's Eastern Region, and commit to a clear set of actions to achieve these. Develop local area digital strategies to complement the Regional Digital Strategy as relevant and required. Develop strategic management capacities and sound management arrangements with allocated responsibilities and resources.

Effective leadership, collaboration, governance and management arrangements are essential components in working towards the regional aspiration for strong, effective and efficient local government.

Effective program management includes strong stakeholder communication and promotion of the Region's digital future. To ensure success, local residents, businesses and community organisations must understand the digital context and direction of

the Region in which they operate. Effective communication will also help build support from potential funding partners and help enable inward investment opportunities.

The consultations identified that many council executives and elected members lack the necessary strategic capacities and understandings about digital technology to oversee and support the implementation of the Regional Digital Strategy. The actions contained in this strategy address that issue. It also recognises that local governments may lack the scale, resources and capacities to develop and operate the complete suite of digital systems and infrastructure that will be required into the future. The Strategy proposes that Councils investigate opportunities to share some systems.

Regional Projects/Actions

	Project/Action	Scope and Approach
R1.1	Commit to a digital future	Agree to the Regional Digital Strategy and provide active ongoing support for its promotion and implementation. Align other regional strategies and programs with the Regional Digital Strategy.
R1.2	Establish leadership and governance arrangements	Establish appropriate leadership and governance arrangements. This may include a regional management committee with membership from the EMRC and each council.
R1.3	Seek partners and funding	Promote the Regional Digital Strategy to potential partners and funders including Federal and State governments. For some actions, consider possible partnerships with other regions throughout Australia that are implementing their own digital strategies.
R1.4	Develop regional operation plans	Implement appropriate management arrangements and operational plans for implementing the Regional Digital Strategy. Allocate responsibilities and resources ensuring that there are clear accountabilities and effective program/project management for the different actions.
R1.5	Promote the Region's digital future	Promote the Region's digital future through online and other channels to local residents, potential new residents, local businesses, potential new businesses and digital program partners. Present compelling messages about the future that the Region aspires to, and the strategies, programs and resources that will help achieve that future.
R1.6	Develop executive capacities and understandings	Facilitate programs to develop the strategic capacities and understandings about digital technologies and their opportunities by executives and elected members of member councils and the EMRC.
R1.7	Investigate opportunities to share technology systems	Investigate the opportunities to share the management, operation and use of key technology systems between member councils. The systems that could be shared may include new software systems, or 'cloud based' services, required to support some of the projects/actions proposed in this report.
R1.8	Monitor progress	Develop regional digital development measures and monitor progress against those measures.
R1.9	Adjust operational plans	Regularly review progress and adjust the Regional Digital Strategy and programs.

Local Projects/Actions

	Project/Action	Scope and Approach
L1.1	Strengthen member councils' digital capacities	Become exemplars of modern digitally enabled government organisations by strengthening capacities for planning, implementing and managing digital programs, services and infrastructure.
L1.2	Develop local digital strategies	Develop and implement local digital strategies, aligning with the Regional Digital Strategy but supporting local priorities.
L1.3	Develop local operational plans	Implement appropriate management arrangements and operational plans for implementing local digital strategies that allocate responsibilities and resources. Ensure that there are clear accountabilities and effective program/project management for the different actions.

2. EXTEND DIGITAL INFRASTRUCTURE

Advocate to ensure that residents, businesses and visitors have access to the digital infrastructure that forms the foundation of a digital future.

While the construction of the rollout of high speed broadband is currently underway there is uncertainty in the timing of the roll out. Monitoring the rollout of high speed broadband and advocating for high priority may be beneficial in working towards achieving the goal that 'communities throughout Perth's Eastern Region will have access to affordable, reliable, high speed internet services'.

It is also important that broadband connections are available in different public places that are frequented by various groups in the

community. These places include cafes (where an increasing number of people choose to complete their work) and community facilities, such as libraries and parks. Consultations highlighted that Wi-Fi hotspots now exist, however the number of these can be built upon to provide greater coverage across the Region.

In addition to affordable broadband, household connection to digital services requires access to computers or similar devices. Some households struggle to afford computers and the Strategy proposes hardware access programs managed by community organisations as such programs have proved to be beneficial in a number of other communities.

Regional Projects/Actions

	Project/Action	Scope and Approach
R2.1	Advocate for broadband connections	Monitor the introduction of new broadband services through the National Broadband Network. Identify areas with the greatest need for service improvement and advocate rapid introduction.
R2.2	Explore short-term opportunities for broadband improvements	Liaise with telecommunications providers and seek the assistance of the WA Department of Commerce to explore short-term opportunities to upgrade existing broadband services pending the full rollout of high speed broadband in the Region.



Local Projects/Actions

	Project/Action	Scope and Approach
L2.1	Extend Wi-Fi hotspots	Extend Wi-Fi hotspots giving priority to places that are most valuable for residents using online services to learn, to tele-work and to access key services. Also provide Wi-Fi hotspots in areas of value to visitors.
L2.2	Publicise rollout of high speed broadband and Wi-Fi availability	Publicise the availability and locations of the rollout of high speed broadband infrastructure and Wi-Fi hotspots to residents, businesses and investors.
L2.3	Extend digital infrastructure in community facilities	Extend the digital infrastructure available to residents in community facilities including libraries. In addition to Wi-Fi and public access computers, consideration should be given to the provision of mobile tablet devices for loan within some facilities.
L2.4	Facilitate hardware access programs for disadvantaged groups	Facilitate hardware access programs managed by community organisations which provide low cost access to computer hardware, including second hand hardware for disadvantaged groups.

3. DEVELOP RESIDENTS' DIGITAL CAPACITY AND CONFIDENCE

Encourage programs that provide residents of all ages and backgrounds with digital capabilities and literacy with a focus on empowering community organisations and enabling them to deliver relevant programs.

Community consultation and ABS statistics have shown that many households, particularly those with social disadvantage, lack the necessary digital confidence to benefit from digital technologies. Lack of digital literacy impedes employment opportunities, access to education, access to other services and reinforces social isolation. Some councils currently operate valuable digital literacy programs and the Strategy supports their extension.

The Strategy has a strong emphasis on supporting digital literacy programs which are delivered by community organisations. This approach is proposed because many community organisations are well placed to tailor programs to suit the particular needs of the groups that they serve (which can be distinguished by age, cultural background, disability or other factors). Community organisations are also able to draw on key resources including volunteers.

The consultations provided strong support for the involvement of community organisations in delivering digital literacy programs. They also identified the value in region-wide efforts to assemble suitable digital literacy training resources.

Regional Projects/Actions

	Project/Action	Scope and Approach
R3.1	Convene a forum of digital community champions	Convene a regional forum of digital community champions (see L3.1). The forum will help identify community needs, share knowledge and resources, advise on the planning of digital programs and develop community partnerships.
R3.2	Assemble resource collections to support digital literacy programs	Assemble suitable resources for use by councils and community organisations in their digital literacy programs. Resources might include short digital stories showing how people of different backgrounds are benefitting from digital technology.
R3.3	Strengthen digital capacity of key community organisations	Facilitate a program to strengthen the digital capacity of community organisations throughout the Region. The program could include mentoring and advice. It could also include the provision of digital planning toolkits for organisations. The development of such toolkits could be undertaken in partnership with other organisations beyond the Region.

Local Projects/Actions

	Project/Action	Scope and Approach
L3.1	Nominate community digital champions	Nominate community digital champions (ideally respected local people) who can promote the opportunities of digital technology within the community and encourage community organisations to support improvements to digital literacy.
L3.2	Extend digital literacy programs of libraries and community facilities	Review and extend the digital literacy programs delivered in libraries and other community facilities.
L3.3	Facilitate digital literacy programs by community organisations	Encourage the delivery of digital literacy programs by local community organisations, particularly organisations that have strong links to community sectors with particular needs. Such community sectors could be based on age (e.g. youth or seniors), culture/ethnicity/language, disability or family circumstance (e.g. young mothers). Digital literacy programs could incorporate suitable resources, information sessions and one-on-one support.
L3.4	Partner with education institutions and other organisations providing digital literacy services	Partner with local schools, education institutions and other organisations in the delivery of digital literacy programs.
L3.5	Encourage volunteers to assist in digital literacy programs	Encourage volunteers to help deliver the digital literacy programs. Seek to engage younger people and active older people as volunteers.

4. PROMOTE AND CELEBRATE COMMUNITIES

Support the development of digital resources which promote the Region's localities, celebrate its communities and increase vibrancy.

The Strategy proposes actions to enhance understanding about and engagement with the Region's heritage, culture, environment and economic opportunities. These actions would help expand pride and cultural experiences for residents and help attract visitors, investors and cultural partners.

Many member councils are seeking to improve local vibrancy and to expand the local range of cultural and artistic activities. A number of communities around the world are successfully promoting digital art and the consultations identified this as being a potentially beneficial approach.

Consultations with Landgate and others identified the potential to integrate land information about regional bio-diversity. This would create a range of benefits and could provide new interpretative resources for tourists.

Many places are now developing digital resources and apps which effectively promote and support local attractions, local heritage and local outdoor recreation activities. The consultations confirmed the value of such resources for many localities in Perth's Eastern Region.

The councils now have a range of links with overseas communities, based on recent immigration or business investment. The strengthening of such links can create business, education and social benefits. Digital technology provides low-cost opportunities to strengthen links and the Strategy proposes that councils consider creating such digital links.



Regional Projects/Actions

	Project/Action	Scope and Approach
R4.1	Establish a regional digital art competition	Encourage a competition for the development of engaging digital art works by artists in the Region by partnering with relevant organisations (local schools, art galleries etc).
R4.2	Integrate land information about regional bio-diversity	Investigate a partnership with Landgate to integrate geo-spatial information from many sources about the Region's bio-diversity, ecosystems and natural assets. The information could be used for a number of purposes including planning, research (by universities and others), education and tourism promotion.
R4.3	Commission a Swan River app	Commission a mobile device app which provides rich interpretative information about the Swan River by partnering with tourism and environmental departments. Partnerships can also be sought with Landgate and local digital technology firms. The app could draw on integrated information about the Region's bio-diversity (see R4.2).
R4.4	Review and extend current digital promotion activities	Review current use of digital and online services for promoting the Region and its events. Extend the use of relevant digital technologies including mobile apps.

Local Projects/Actions

	Project/Action	Scope and Approach
L4.1	Promote localities through digital channels	Develop and implement online promotion strategies for local areas including strategies to target potential visitors, potential residents and potential investors. Rich, compelling digital and social media resources could be created for each target group.
L4.2	Support the creation of digital resources about local heritage	Support the creation of digital resources by communities that provide engaging content about local heritage, history and environment by working with schools, cultural institutions, indigenous communities and community organisations.
L4.3	Commission the development of apps that support outdoor recreation activities	Commission, or support the commissioning of, mobile device apps which support outdoor recreation activities in local areas. In some areas, apps could be developed about local walking trails.
L4.4	Promote digital art	Support and promote digital art and digital artists in local areas. The means of support would depend on local factors and may include commissions of works, place-based festivals and shared studio spaces.
L4.5	Create digital links with companion communities overseas	Creating digital links with overseas communities that have some connection with the local area. Connections could be based on sister city relationships or on the places of origin of immigrant groups. Digital communications and information sharing could be used to strengthen educational, cultural, family and business links with the companion communities.



5. DEVELOP SMALL BUSINESS DIGITAL CAPACITY

Support (and where appropriate, establish and operate) programs to build the confidence and capacity of businesses, particularly small-medium enterprises, for using digital technologies which includes a mix of awareness raising, information resources and targeted advice.

Consultation coupled with the Economic Development Plans of individual member councils confirmed that a large number of small businesses lacked the confidence and capability to effectively use digital technology to survive and thrive. Many businesses lacked basic online presence. The situation in Perth's Eastern Region is common to that of many regions in Australia.

There was strong feedback in the consultations about the benefits of providing suitable programs at the regional level.

Small businesses lack understanding and ready access to advice about:

- The business impacts and opportunities arising from digital technologies; and
- The practical steps and resources for responding to these impacts and opportunities by using digital technologies.

The consultations confirmed that the most effective and efficient approaches for addressing these issues involve a mixture of:

- General marketing and awareness raising;
- Practical stories, relevant to particular businesses;
- Advice from business peers; and
- Advice from trusted advisors.

There was also feedback that many residential developments in the Region were not being designed or built with sufficient regard to the opportunities and implication of digital technology.

DIGITAL SENIORS

Digital technologies provide important opportunities for seniors to have rich and fulfilling lives but many lack digital literacy skills. In some communities, seniors are now actively helping themselves to acquire the skills and to access the technology.

In Western Australia's Peel Region, *PeelSeniorNet* is a dynamic community organisation which is improving the quality of life of its members by 'encouraging the use of computer skills and utilising the internet'. The association is led by seniors and supported by the City of Mandurah. It provides training courses in a 'happy and safe' environment at the City of Mandurah's seniors' centre and also provides seniors with access to coaching, publications and regular newsletters. The association has been very successful in improving the digital literacy and the level of connectedness of seniors in the Peel Region.

Regional Projects/Actions

	Project/Action	Scope and Approach
R5.1	Establish a digital awareness raising program	Establish an ongoing and active awareness raising program for small businesses about the importance of digital technology for business survival and growth. Incorporate well-targeted marketing approaches and information sessions. The program could be delivered in partnership with other organisations in the Perth Metropolitan Area.
R5.2	Assemble digital business case studies	Assemble and publish a set of case studies about relevant local industry sectors, showing how businesses have planned for, adopted and benefited from digital technology. The case studies should include video resources.
R5.3	Facilitate a digital business advice program	Facilitate or establish a digital business advice program. This program could provide digital business advisors who can provide practical advice to many small businesses about: <ul style="list-style-type: none"> • The business impacts and opportunities arising from digital technologies; and • The practical steps and resources for responding to these impacts and opportunities by using digital technologies.
R5.4	Provide businesses with digital planning toolkits	Develop digital planning toolkits for the Region's small businesses in partnership with other organisations beyond the Region. Disseminate information to relevant small business organisations as required.
R5.5	Facilitate regional business networks	Facilitate and support a series of industry sector digital support networks across the Region. The networks should enable participating businesses, particularly small businesses, to share knowledge, experiences and resources about the use of digital technology. The networks should promote contacts between members through online and face-to-face means. Consider an online directory and discussion platform to support the networks and use feedback from network members to adjust their various digital support programs. The networks should be developed in partnership with relevant business associations.
R5.6	Collect data on digital readiness of local businesses	Collect data on the levels of digital readiness and maturity of local businesses.
R5.7	Identify and communicate priorities for technical service provision	Provide information to local technology providers about the practical technology advice and services required by the Region's businesses. The advice could highlight current gaps in service availability. This information could be based on feedback from the proposed regional business networks (see R5.5) and could also be informed by data on the digital readiness of local businesses (see R5.6).
R5.8	Promote greater awareness in the building industry	Work with appropriate agencies and organisations to promote greater awareness about the implications of digital technology by developers, designers and builders of homes in the Region. This should address: <ul style="list-style-type: none"> • Technology driven changes to the way people are working, living and learning in their homes; • Opportunities to use technology to reduce environmental impacts; • Implications for new house designs; and • Practical details for installing and accommodating new technology within homes.



	Project/Action	Scope and Approach
R5.9	Facilitate practical training courses	Facilitate the provision of relevant practical technology training for businesses in the Region. Priorities could be informed by feedback from the proposed regional business networks (see R5.5) and could also be informed by data on the digital readiness of local businesses (see R5.6).
R5.10	Establish a directory of digital service providers	Investigate the feasibility and the need of an online directory of digital service providers for businesses. The directory could include providers of services for digital business strategies, online marketing, website design and technical support.

Local Projects/Actions

	Project/Action	Scope and Approach
L5.1	Facilitate online directories of local businesses	Encourage local businesses to be listed in online directories, enabling a basic online presence that is discoverable by search engines.
L5.2	Celebrate and promote local businesses that are digital technology leaders	Celebrate and promote the local businesses that are leaders in successfully adopting digital technology and creating business benefits. Case studies of leading businesses should be prepared and published online (see R5.2).

6. ENABLE NEW BUSINESS AND WORK OPPORTUNITIES

Pursue opportunities to broaden the economic base of the Region and enable new employment opportunities and work patterns. Promote the Region, promote new work practices and develop new partnerships and projects.

This strategy addresses regional aspirations for a diversified economy with a larger knowledge and creative industry sector, and regional aspirations for higher levels of employment self sufficiency and increased tele-work. These aspirations are reflected in the EMRC's

Regional Economic Development Strategy 2010 - 2015 and in the Economic Development Strategies of each member council.

The Strategy responds to the current industry profile, including the significant manufacturing sector, and builds on the key economic opportunities identified. The proposed actions have been identified through the consultations.



Regional Projects/Actions

	Project/Action	Scope and Approach
R6.1	Promote the Region as a base for knowledge based businesses	Promote the Region as a good place to establish knowledge-based businesses by highlighting the Region's advantages and resources.
R6.2	Promote tele-work and flexible work practices	Promote tele-work and flexible work practices to public and private sector employers who have employees in the Region. Identify and promote appropriate practices, work arrangements and policies.
R6.3	Promote understanding about new technologies for manufacturing	Promote better understanding and uptake of new digital technologies (such as 3-D printing) for the manufacturing and related sectors. This promotion could be done in conjunction with business associations and education and training organisations.
R6.4	Investigate geo-spatial data cluster	Work with Landgate and the WA Department of Commerce to investigate the growth of a regional cluster of digital technology firms, specialising in the development of innovative applications based on the use of geo-spatial data. The role of a proposed digital enterprise hub at Midland should be considered (see L6.2).
R6.5	Investigate a suitable research development project based on regional data sets	Investigate a possible digital research and development project that could be funded to exploit the 'big data' opportunities of the Region. The regional data sets that could be valuable cover local manufacturing, long distance logistics and transport, local traffic flows and geo-spatial data. The project could involve digital technology businesses, other local businesses, universities and state government agencies. It could also involve other Australian regions with large manufacturing and logistics sectors. There may be opportunities to support such a project through the <i>Industry Innovation Precincts Program</i> announced in the Australian Government's industry innovation statement: <i>A Plan for Australian Jobs</i> . Establish a partnership with the WA Department of Commerce to investigate and scope the project.

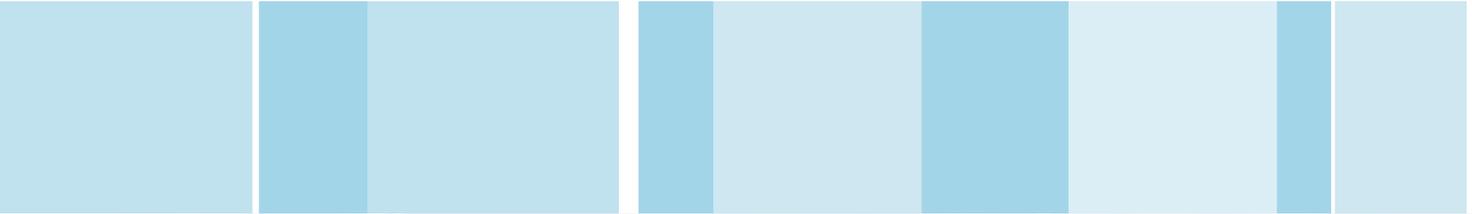
7. ENHANCE PROVISION OF SERVICES

Enhance and integrate online services by using digital technologies in ways that broaden access, improve service quality and reduce delivery costs.

Effective and efficient government and community services are important for the Region's economic, social and environmental development. Digital technologies offer many opportunities to enhance services. It is also important for local government organisations to be exemplars of modern digitally-enabled organisations. Leading governments across the world are focusing on trends including the use of social media to engage with their communities and stakeholders, the open provision of government data and the adoption of mobile devices.

Consultations and research highlighted opportunities for councils to extend their provision of online services and confirmed that many councils lack the scale, resources and capacities to pursue this individually and should therefore consider collaborating across the Region.

The consultations also identified specific opportunities for the Region to support community services and sustainable transport. The Strategy includes proposed projects/actions for addressing these opportunities.



Local Projects/Actions

	Project/Action	Scope and Approach
L6.1	Facilitate suitable business incubation services	Facilitating suitable incubation and commercial mentoring services to support the growth of local knowledge-based businesses by partnering with relevant organisations such as Innovation Centre WA.
L6.2	Develop a digital enterprise hub at Midland	Develop a digital enterprise hub at the Midland Railway Workshops site. The hub should offer a vibrant space and suitable support services for small digital technology and digital media firms. Partner organisations might include the Metropolitan Redevelopment Authority, FORM, Spacecubed and relevant education institutions to develop a business plan for a financially sustainable operation.
L6.3	Facilitate home-based business networks	Facilitate and support a local network of people who operate home-based businesses that enable participants to share knowledge, experiences, resources and social support. The network should promote contacts between members through online and face-to-face means.
L6.4	Facilitate local tele-work venues	Facilitate the establishment of local venues and centres for tele-working. Some venues could be at local community facilities while others could be privately managed.
L6.5	Adopt tele-work and flexible work practices	Adopt appropriate tele-work and flexible work practices for employees (see R6.2).
L6.6	Review local planning regulations to support home-based work	Review local planning regulations and where appropriate, revise them to support suitable home-based work.

GOOD DESIGN FOR ONLINE GOVERNMENT

The UK Designs of the Year Award is presented to the most innovative, interesting and forward-looking design produced over the last 12 months from around the world. The designs considered each year are in the categories of architecture, transport, graphics, interactive products, furniture and fashion, but the 2013 award went to gov.uk, the UK Government's new website for online services.

The gov.uk website provides a one-stop digital shop for UK government services and information. It has been carefully designed according to 10 principles:

1. Start with user needs, not government needs;
2. Do less;
3. Design with data;
4. Do the hard work to make it simple;
5. Iterate, then iterate again;
6. Build for inclusion;
7. Understand the context of users;
8. Build digital services, not websites;
9. Be consistent, not uniform; and
10. Make things open.



Regional Projects/Actions

	Project/Action	Scope and Approach
R7.1	Collaborate on development of online services	Co-ordinate shared work by member councils to extend online government services. Convene a regional online services working group with representatives of each member council to address opportunities for shared approaches and shared systems in the provision of more extensive and more cost-effective online services (see R1.7).
R7.2	Introduce a region-wide capability for online community consultations	Working with the proposed regional online services working group (see R7.1), research the feasibility of a shared capability and system for online community consultations which could be used by all member councils.
R7.3	Develop advice about good practices for using social media	Develop practical advice for member councils on the appropriate and effective use of online social media.
R7.4	Promote regional collaboration in the use of online services in education and health sectors	Promote collaboration across the Region in the use of online services and digital resources by public and private providers of education and health services. Convene forums of sectoral representatives to explore the possibilities of collaboration.
R7.5	Facilitate an online community of practice for social service workers	Facilitate an online community of professionals and key volunteers who provide social and related services throughout the Region. The online community should enable the sharing of local knowledge and resources between professionals and volunteers in different community and government organisations.
R7.6	Investigate increased use of technology for language interpreter services	Investigate innovative ways to increase the use of technology for improving access to language interpreters. This would help people with limited or no English language skills to better access government and community services. The use of high quality video and audio conferencing to remotely located interpreters could be considered.
R7.7	Commission apps that support sustainable transport	Commission and support apps that support sustainable transport across the Region including cycling and walking.
R7.8	Promote use of online services to support ride sharing and community resource sharing	Promote the safe use of online services to promote ride sharing and the community sharing of household resources.
R7.9	Promote use of smart transport infrastructure	Promote the increased use of smart transport infrastructure, including infrastructure creating rich data sets from sensors, by transport organisations and agencies that operate in the Region.

Local Projects/Actions

	Project/Action	Scope and Approach
L7.1	Review and extend online services	Review websites and current provision of online services to provide more extensive and more cost effective online services that meet the needs of residents, businesses, visitors and investors (see R7.1)
L7.2	Extend use of online services for community consultations	Extend the use of online services for community consultations and work in collaboration with other councils (see R7.2).
L7.3	Extend use of online social media	Extend the use of online social media for engaging with communities and other stakeholders (see R7.3).
L7.4	Open up access to information and data	Give priority to the digitisation and online dissemination of valuable information that is currently paper based. Particular priority should be given to information that is of value to the Region's businesses and potential investors. Councils could also open up access to key data holdings, including geo-spatial data holdings, and enable third parties to create new digital resources that are of benefit to businesses, residents, visitors and investors.
L7.5	Adopt mobile devices	Extend the use of mobile devices including tablet devices by employees and the people who visit various offices, libraries and other community facilities. Consider the adoption of BYOD (Bring Your Own Device) programs for staff, contractors and volunteers.



Implementation

Regional Implementation

The EMRC and its member councils already have effective collaborative arrangements to commence implementation of the Regional Digital Strategy. The Economic Development Officers Group is well placed to co-ordinate the initial work.

The first steps are the initial four actions proposed in the first strategy: 'Lead and collaborate on digital technologies'. These actions are about commitment, leadership, funding and practical action planning. Success will also depend on securing appropriate partnerships and identifying a number of potential partnerships. This document identifies some potential partners including:

- Australian Government - Department of Broadband, Communication and the Digital Economy;
- Australian Government - Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education;
- Innovation Centre WA;
- Landgate;
- RDA Perth;
- WA Department of Commerce;
- Business associations;
- Universities; and
- Other regions pursuing digital strategies.

Implementation will then focus on the sound management of projects and actions. It is also about monitoring progress and adjusting strategies as required.

Local Implementation

As relevant and required, each member council can develop and implement its own Local Digital Strategy, aligning with the Regional Digital Strategy but supporting local priorities.

Before developing local digital strategies, member councils should ensure that they have the necessary internal capacities for planning, implementing and managing their digital programs. They will need clearly defined management roles for digital strategies, appropriate local governance arrangements and well developed strategic understandings about digital technologies and their opportunities by executives and elected members.

Each member council will need to scope and plan projects and actions that address their local priorities. The seven strategies proposed in this document provide a suitable frame. Each member

council should review the proposed local actions set out in this document, decide which of the proposed actions match local priorities and then develop practical operational plans.

The strategic and contextual factors to be considered by member councils include:

- Future aspirations, as set out in strategic community plans and similar documents;
- Local strategies and priorities, including economic development strategies;
- Community characteristics, including socio-economic characteristics;
- Economic characteristics, including local industry profile and the importance of home based businesses;
- Environmental characteristics, including the extent of bushland and river frontage;
- Cultural and heritage characteristics, including the current provision of arts events and festivals;
- Infrastructure and development characteristics, including key investments and projects; and
- Budgets.

The implementation and opportunity factors to be considered by member councils include:

- Current capacities for planning and implementing digital programs, services and infrastructure;
- Current level of provision of online services;
- Current availability and future roll out plans for broadband services and Wi-Fi;
- Range of services currently provided in libraries and other community facilities;
- Capacity of community organisations to provide digital literacy programs; and
- Capacity of schools and education institutions to support digital literacy programs.

Local implementation is about the sound management and resourcing of local projects and actions, with appropriate regional collaboration. Local Digital Strategies should be regularly reviewed and adjusted.

FAB LABS

One of the major technology trends for manufacturing has been digital fabrication, including technologies such as 3-D printing which allows complex objects to be created using equipment that has become affordable for small workshops and homes. This is disrupting the manufacturing sector and creating new opportunities for small firms.

The digital fabrication trend has spawned the global 'Fab Lab' network, based on a concept that originated at the Massachusetts Institute of Technology.

A Fab Lab is "a fully kitted fabrication workshop which gives everyone in the community, from small children through to entrepreneurs and businesses, the capability to turn their ideas and concepts into reality". Fab Labs can enable new innovations and new business opportunities for manufacturing businesses.

Fab Lab Adelaide is one of the first Fab Labs in Australia and is managed by the Australian Network for Art and Technology with funding from the South Australian Government. It offers services and equipment so that small businesses can learn about, and develop skills in, prototyping and small scale manufacturing. The Fab Lab also supports local designers, inventors, artists and students.





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Glossary of Abbreviations

ABS	Australian Bureau of Statistics
BYOD	Bring your own device
CBD	Central business district
CCTV	Closed circuit television
EDOG	Economic Development Officers' Group
EMRC	Eastern Metropolitan Regional Council
ICT	Information and communications technology
LGA	Local government area
LDS	Local Digital Strategy
MGI	McKinsey Global Institute
MRA	Metropolitan Redevelopment Authority
NBN	National Broadband Network
RDA	Regional Development Australia
RDS	Regional Digital Strategy
WA	Western Australia