



Eastern Regional Corridor Submission

House of Representatives Standing Committee on Infrastructure and Communications Inquiry into the National Broadband Network



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Background

The Regional Development Australia organisations Mid North Coast, Central Coast, Hunter and Northern Rivers have agreed to prepare a joint Eastern Regional Corridor (ERC) submission, *in addition to any proposals they may submit individually*, to the House of Representatives Standing Committee on Infrastructure and Communications' inquiry into the role and potential of the NBN. Preparation of this ERC submission was coordinated by RDA Mid North Coast, and involved the contribution of a number of collaborative partners:

- Coffs Harbour City Council
- Southern Cross University
- Regional Futures Institute
- Local Employment Coordinators (Hunter/Central Coast, Mid North Coast, and North Coast)
- ETC Ltd.
- Industry & Investment NSW
- North Coast TAFE
- RDA Central Coast
- RDA Hunter
- RDA Mid North Coast
- RDA Northern Rivers

- Case Studies:
 - North Coast Radiology
 - Southern Cross University
 - Youth Connection
 - Greenspan Technology
 - Local Employment Coordinators – Keep Australia Working (Hunter/Central Coast, Mid North Coast, Northern Coast)
 - Planet Lighting
 - North Coast Innovation Festival
 - National Aboriginal Design Agency

Executive Summary

The aim of this submission is to illustrate the benefits of high speed broadband and inherent social, cultural, environmental and economic improvements for the community of the Eastern Regional Corridor (NSW). The ERC offers a logical early site for the NBN rollout as an opportunity to build an Eastern Regional **Digital** Corridor (ERDC). Fundamentally, the ERDC provides an opportunity for the project to achieve high levels of immediate value creation and to contribute to the development of a more socially, economically, and digitally equitable Australia.

In making the case for the early rollout of the NBN to the ERC, the submission attends to the social, cultural, environmental and economic dynamics that will affect the penetration and impact of the NBN. Focusing on wider social forces is intended to help this document avoid the shortcomings of a simple technologically deterministic logic, which uncritically assumes that the NBN rollout will automatically produce social, cultural, economic, environmental and governmental benefits.

Significantly the ERC project has established a communication line and structure through the collaborative relationships of the Regional Development Australia (RDA) organisations Central Coast, Hunter, Mid North Coast and Northern Rivers and their respective partners and associates. This alliance provides a corridor of cooperation from Gosford to Tweed Heads.

The key points the submission aims to elaborate on are that:

- *The ERC's substantial population base and rapid population growth mean rollout to the region will contribute to the NBN's capacity to succeed as a commercial venture.*
- *The unique characteristics of the ERC make it an ideal region to provide Government with early wins for the NBN rollout with regard to desired outcomes around productivity, participation, equality and competence.*
- *The early rollout of NBN to create an ERDC has the potential to build on the region's existing natural and built resources to transform the region into a thriving contributor to the economy. This will result in the development of a viable and attractive regional alternative to overcrowded cities for Australia's future growth.*
- *In order to ameliorate urban-rural inequality, Government, industry, and educational and training institutions need to ensure that individuals and organizations across geographic and socioeconomic boundaries possess the technological capacities and tools to benefit from the NBN and the ICT applications it enables.*

The Eastern Regional Corridor

Collaborating to connect the region to the nation and the world



At the Strategic Regional Leadership Conference in Port Macquarie (Oct 2010) the Minister for Regional Australia, Regional Development and Local Government, Simon Crean discussed the concept of “Regionalism” as recognising the great diversity of the challenges that regions face. He stated “our regional agenda is not drawing lines on a map but responding most effectively to the needs of local communities and recognising how regions can achieve sustainable development. This takes account of the importance of connectedness - between regions and from regions to their capital cities and other major centres”.

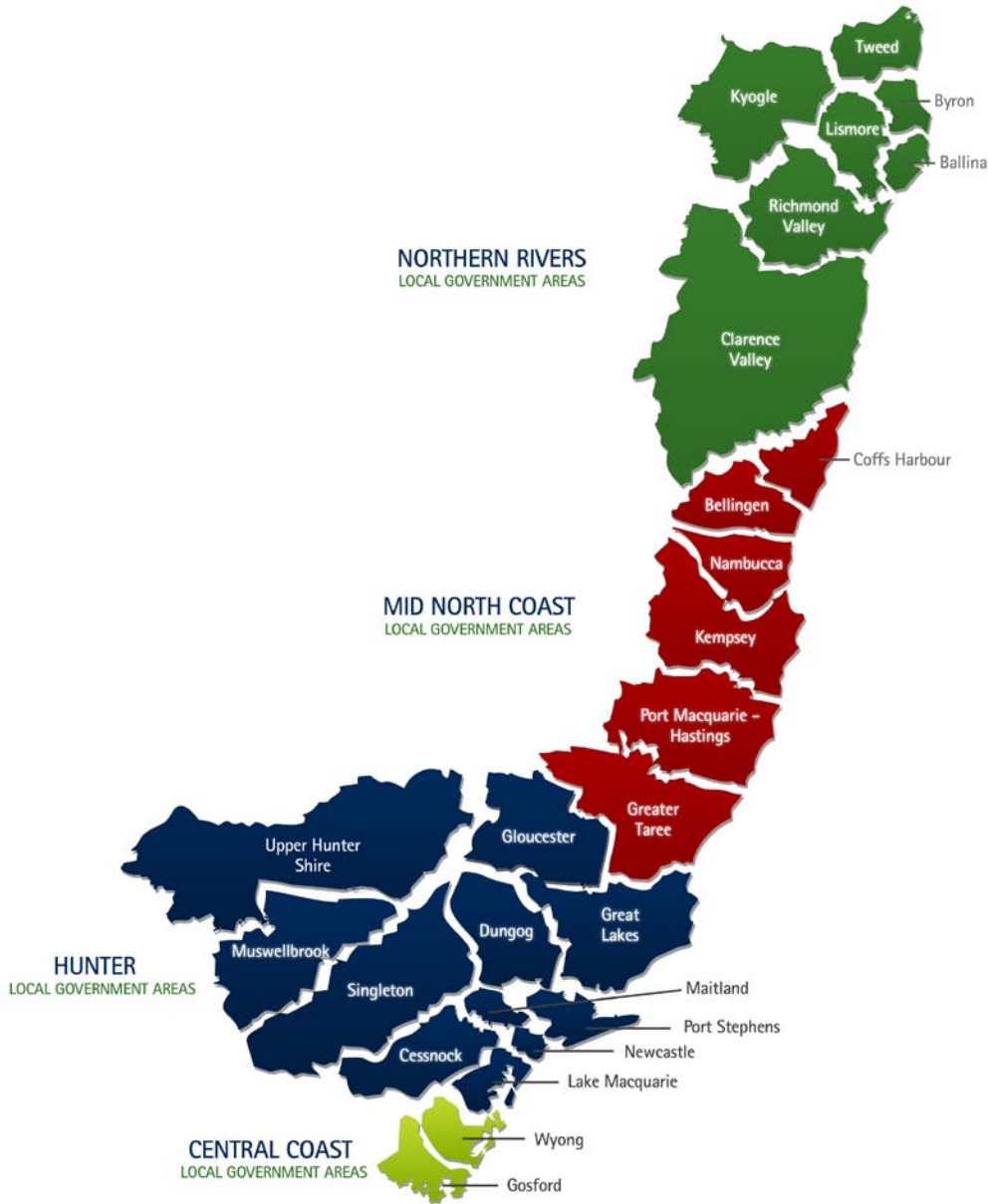
In a meeting following the Conference, the Minister referred to the potential for collaboration along the eastern corridor to create a “Super-Region”, and indicated that a focus should be on the NBN Co rollout.

These comments reflect accurately the proposal for an Eastern Regional Corridor strategy between Sydney and Brisbane, a strategy underpinned by a partnership among the RDA network organisations Central Coast, Hunter, Mid North Coast and Northern Rivers.

The Eastern Regional Corridor includes 26 Councils from Gosford in the South to Tweed in the North. The estimated current population (ABS 2009) is nearly 1.19 million residents. The population growth rate of the corridor averages 1.7%, significantly higher than the

national expectations of the Intergenerational Report of 1.2%. Of further significance is the high proportion of indigenous people across the region.

The RDA Eastern Regional Corridor network has subsequently agreed that the NBN rollout is their initial priority Program.



Regionalism and the National Broadband Network

Securing Australia's sustainable future

Speaking at the *Setting the Agenda for Regional Futures* Summit at the University of New England (Feb 2011), Minister for Regional Development Simon Crean asserted that 'regionalism' must become an entrenched feature of the way Australia is governed if the nation is to achieve sustainable development. The concept of regionalism suggests an understanding within Government that regional development is a key to Australia's economically, socially, culturally and environmentally sustainable future. Regional success is good for both the region and the nation: as independent federal member Tony Windsor presciently pointed out at the same Summit, "a country that is a continent cannot rely on a population limited to a few regional cities".

Regionalism consists of developing local, creative strategies and practices for achieving economic growth and productivity. Building these local strategies and practices, and ultimately accomplishing strong regional growth and productivity, requires the presence of several crucial ingredients: *participation*, *competence*, and *equality*. Nurturing these ingredients in Australia's regions has therefore become established as a core focus of government policy on regional development.

Participation

Participation is a vital element for the successful development of regionalism. For regions to thrive in an increasingly global and digital economy, it is essential that they develop the ability to identify market gaps and to be creative about plugging them. This means developing creative local solutions to market opportunities, solutions that build on the inherent strengths of the region's ecosystems and institutions – agriculture and manufacturing, for instance. Service industries provide an increasingly large proportion of jobs in Australian communities, which means regions must devise ways of adding value through innovative services based on traditional regional strengths. These initiatives will result in the development of local solutions to the problem of diversifying the region's economic base. Effective participation also requires local communities to provide input on government initiatives in skills training and infrastructure in order to steer investment toward the needs of the community.

Equality

If regional and rural Australia is to become more competitive in the national and global marketplace, it is essential to establish a level playing field between metropolitan centres and the regions. Geographical isolation need not be a barrier to growth and productivity, but removing physical location from the competitive equation involves developing greater equality in several key areas.

The primary equality requirement is the construction and maintenance of equality of infrastructure. A baseline level of equal access to resources such as healthcare, education, and affordable housing is essential if regions are to continue to build communities of participating, competent members.

Secondly, developing competitive regions requires equality of access to markets. Access to broader markets than those existing in the physical regional area affords reductions in operating costs through more efficient engagement with suppliers, and promotes increased revenue via opportunities to expand and better service their customer base. Equality of access to geographically distant markets is becoming increasingly important as the digital economy becomes progressively more central to Australian and global business practices.

The third requirement, and one largely dependent upon the provision of the first two above, is equality in the ability to attract other resources such as residents, businesses, and investment. This ability is essential to supporting sustainable growth. The ERC region possesses natural environments and quality of life factors which work in its favour in attracting residents and businesses, but attracting the investment capital needed to ensure sustainable growth depends on strong infrastructural and human resources.

Competence

Regional Australia's national and global competitiveness depends on better educated and more highly skilled communities. Infrastructure and capital investment can only be transformed into productivity when utilized by a labour force equipped with the intellectual and technical capacities to maximize its potential. Building a confident and innovative population will enable regions to develop the creative local solutions that economic growth and productivity requires.

Infrastructure

The future of a community is often directly related to that community's public infrastructure. (Ford & Koutsky, 2005, p. 216)

Investment in public infrastructure is the key to the cultivation of regionalism's three ingredients of participation, equality and competence. Infrastructural investment improves participation by enabling regions to develop and nurture their own talent early, building the region's creative potential and reducing its dependence on skilled migration. It fosters equality by removing physical location and geographical isolation from the equation: regional areas that receive the same level of service delivery around health, education, and investment as metropolitan areas are more equipped to establish local development initiatives such as clusters and innovation networks. Infrastructural investment also contributes to building community competence through the provision of local skills training and education options which are accessible for regional residents than institutions located in major centres.

Added up, investment in public infrastructure strengthens the base of resources upon which regions can develop the local strategies and practices necessary for achieving regional economic growth and productivity. Broadband is a key piece of infrastructure that will change the equation of the economy, removing physical distance as its defining element. Regional areas, which are cheaper places to do business, will be brought up to par via access to the same levels of service delivery in e-health and e-education.

The NBN

Broadband is a key piece of infrastructural development for regional Australia. Rollout of the NBN across the nation will eliminate physical distance as a defining element of Australia's economy. The NBN will allow the ERC's levels of education and healthcare to be brought up to the same levels of service delivery as metropolitan centres e-health and e-education. It will make the region a more attractive place for investment, due to the removal of barriers to communication and more skilled and competent labour force. In turn, this will allow the positive qualities of the ERC, such as the lower costs of doing business and the natural attributes and lifestyle benefits available, to become a stronger drawcard for business.

The rest of this document will make the case that the ERC is a logical location for early NBN rollout because the Government's investment in infrastructure will be returned in the form of a substantial increase in the region of the key ingredients of *participation, equality, and investment*. The cultivation of these ingredients will, in turn, increase the region's capacity to maximize the potential applications and benefits of the NBN. The overall result of this process will be the development of economic growth and productivity of the ERC, which will benefit the nation as a whole.

Responses to the points outlined by the Standing Committee on Infrastructure and Communications

A . The delivery of government services and programs

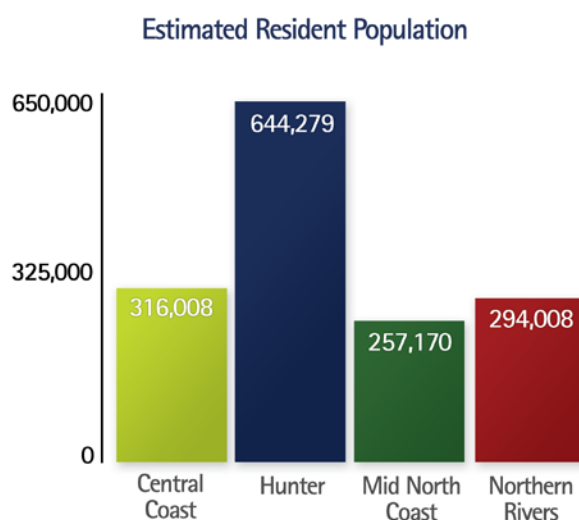
Overview

Sydney's rapid population growth rates will continue to put increasing pressure on the city's infrastructure. The ERC's combination of space, abundant natural resources, and a substantial, growing population base positions the region as a key sea-change/tree-change area of future growth. In order to facilitate the ERC's continued development as a viable regional alternative to the major cities, investment in infrastructure is crucial. In particular, advanced information and communications technology is essential for developing more coordinated governance. NBN will improve governance by:

- enhancing the ability of government agencies to interact with one another through, for example, the adoption of VOIP, thereby enabling them to better deliver government services and programs to a large and diverse population over the ERC's vast area;
- enabling ERC local governments to communicate more effectively with groups and communities spaced throughout the region, thus facilitating more effective and localized responses to issues; and
- improving emergency management through enabling high speed access to data vital for decision making and providing more accurate information through improved mapping and the GIS system.

Key ERC Facts

- *The ERC region is home to a sizeable proportion of the nation's population*
Just over 1.5 million people are spread across the 26 local government areas that comprise the corridor. This accounts for seven per cent of the nation's total population¹.



¹ERDC Estimated Resident Population (ERP) 1,511,465 as of 30 June 2009 (ABS Regional Population Growth 2009 (3218.0)).

- *Over half of NSW's non-Sydney population live in the ERC region*
In 2009, the ERC accounted for 21 per cent of NSW's estimated population of 7.1 million. More importantly, over half (51 per cent) of the state's 2.9 million population living outside Sydney reside in the ERC region².

- *The ERC is a large region with both densely and sparsely populated areas*
The ERC region has a total footprint of 66,530 square kilometres and includes a number of major regional centres (such as Newcastle, ERP 154,777³) along with many rural and remote towns. Across the region as a whole, the population is widely distributed with an average of 22.7 residents per square kilometer, compared to Sydney with an average of 371.1⁴.

² NSW ERP 7,134,421 as of 30 June 2009 (ABS Regional Population Growth 2009 (3218.0)).

³ ABS Population by Age and Sex, Regions of Australia, 2009 (3235.0)

⁴ ABS National Regional Profile 2005-2009 (1379.0.55.001)

B. Achieving health outcomes

Overview

Addressing rural-urban health inequality

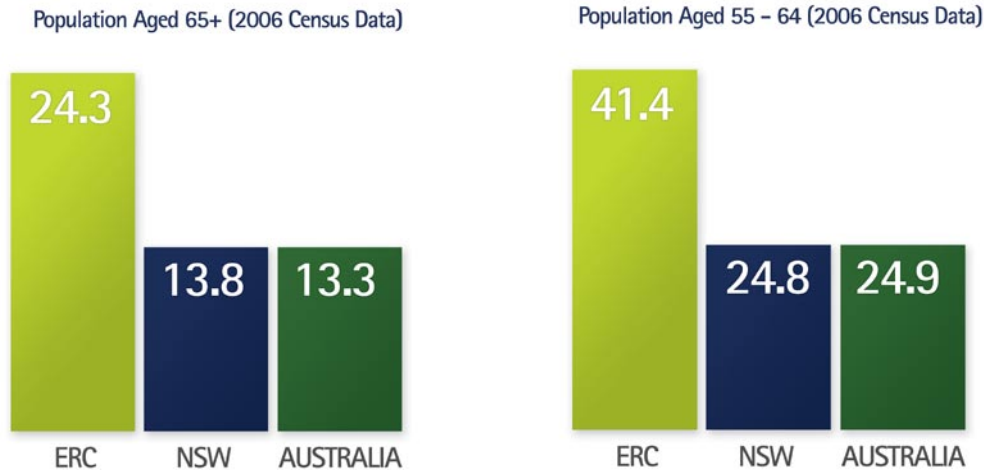
The provision of quality healthcare in rural and remote areas is a crucial requirement for raising the health of the ERC population. The region faces significant challenges in delivering high standards of health outcomes, including the need to deliver health services to more remote and rural inland communities, and the limited supply and distribution of skilled health sector workers. E-health comprises a viable option for reducing the ongoing health inequalities between metropolitan and rural Australia. The Australian Health Minister's Conference *National E-Health Strategy December 2008* states that "E-health will enable a safer, higher quality, more equitable and sustainable health system for all Australians by transforming the way information is used to plan manage and deliver health care services." Developments in e-health are inextricably linked to high speed broadband networks. The rollout of the NBN to the ERC will greatly increase the effectiveness of e-health provision in the region, reducing the impact of geographic isolation on quality of healthcare.

High-speed broadband will contribute to improved healthcare in the ERC's rural and remote communities through enabling:

- access to information about preventative health and support for self-management of chronic health conditions available to consumers.
- equity of access to diagnostic and treatment services currently unavailable in remote, rural and Indigenous communities services via real time video from medical and health practitioners
- the uptake and management of Personally Controlled Electronic Health Records (PCEHR) affording the exchange of vital information between remote GPs and city-based specialists.
- rapid transfer of large digital files and high resolution imaging to improve remote access to diagnostic services by experts and specialists.
- the execution of remote medical procedures.

Developing aged care solutions

There are over 350,000 people over the age of 65 in the ERC, and this age group has a high projected growth rate. The proportion of ERC residents of retirement age and nearing retirement age is substantially higher than state and national averages.



Along with an ageing population comes the increased prevalence and incidence of aged related disease. Aged care services aim to provide an integrated system approach to encourage and support older members of our community to remain in their own home. These are supported by acute facilities, day centres, and a range of Primary and Community Health settings. Innovative approaches to aged care, along with the use of assistive technology will allow people to safely stay in their homes longer, providing a better quality of life and reducing pressure on the healthcare system.

Telehealth technologies have been introduced into the homes of seniors requiring monitoring and support to live independently or for those who care for a person with support needs. Telehealth is designed to support individuals who

- have chronic conditions such as:
 - chronic heart failure (CHF);
 - chronic obstructive pulmonary disorder (COPD);
 - unstable blood pressure;
 - diabetes;
- may require daily health supervision and monitoring;
- may live remotely where access to a GP is difficult; and/or
- may require post hospital care.

At the cutting edge is the technology which works in partnership with those monitoring their own critical health conditions. Telehealth enables the reliable collection and secure transmission of the individuals' vital signs and related health information to a secure website. The data is accessed securely by clinical health professionals to help early intervention and informed decision-making about health and well-being. This technology has the capacity to:

- assist people to maintain their independence;
- develop partnership between the individual and the health practitioner in maintaining wellbeing;
- provide regular health monitoring (remotely) by a designated monitoring health practitioner;

- afford efficacious use of GP time in early intervention where monitoring indicates an intervention is required; and
- provide health care assistance to those in rural and remote areas.

Telehealth is designed to support those living with single or multiple long term conditions. It encourages individuals to become active participants in their health care management, monitoring immediate changes in vital signs resulting from modifications to medication, diet, exERCise or other lifestyle factors.

Increasingly, this technology will require high speed broadband technology to ensure security and speed of down- and upload of information via monitoring devices to health practitioners to ensure safety and wellbeing of those being monitored⁵.

Improving Aboriginal and Torres Strait Islander health outcomes

One of the most pressing challenges facing Australian health care systems today is 'closing the gap' between the health of Indigenous people and other Australians, as the Council of Australian Governments (COAG) has committed to doing. A central facet of this project involves addressing the severe burden of chronic diseases among Indigenous Australians.

Between 2000 and 2004, Indigenous mortality rates from diseases of the circulatory system were between two and three times higher than those for other Australians, and for endocrine, nutritional and metabolic diseases (chiefly diabetes), between eight and 11 times higher. In many cases, the challenge is compounded by remote geographic location. (d'Abbs, Schmidt, Dougherty, & Senior, 2008)

As home to over 40,000 Indigenous Australians, the ERC has major obligations to contribute to the health and wellbeing of Indigenous people under the COAG commitment.

Key ERC Fact

- *The ERC is home to nine per cent of Australia's Indigenous population.*

Early adoption of the NBN will assist in the project of improving Indigenous health in the ERC in several ways:

- Aboriginal Community Controlled Health Services and Aboriginal Medical Services around the nation will be better equipped to interact with other Services in the National Aboriginal Controlled Health Organisation (NACCHO) network. Greater resources for communication will improve the quality of primary health care to Indigenous Australians while facilitating the exercise of Aboriginal self-determination.
- The adoption of PCEHR's will allow an easier transition for Indigenous people through all levels of the health system, from remote clinics through to specialist health care providers and hospitals.
- PCEHR's will also assist remote GPs to treat their patients locally with appropriate specialist guidance and immediate feedback, affording culturally safe care.

⁵ Telehealth section supplied by RDA Northern Rivers.

Case Study

North Coast Radiology Group www.ncrad.com

The North Coast Radiology Group covers a wide expanse of area in the north coast and hinterland of NSW with connections to a practice based in Sydney. In total the Group operates from 13 locations and has over 180 employees.

The North Coast Radiology Group is recognised for its excellence in providing quality, caring and professional services to its referring practitioners, patients and customers, utilising advanced, state of the art diagnostic imaging technology. The internet is vital to the day to day business of North Coast Radiology. If high speed broadband was available there would be a definite improvement in the distribution of images and information and subsequent health care throughout North Coast and Clarence Valley regions.

A major part of the company's business supports GPs and patients in remote areas. The present bandwidth is restrictive. It limits the potential size of the Group's client base and prohibits the provision of the broadest range of services. Diagnostic technology has overtaken the Group's ability to transfer data in a timely fashion utilising the available technology.

High speed broadband will bring about a tremendous change in the operations of North Coast Radiology. The expansion of current online resources will benefit communication with clients and improve patient care. Access to a larger client base will increase the size of the business requiring the employment of additional staff. A greater bandwidth would enable the transfer of patient images and a faster diagnostic response which will save time, money and improved health care.

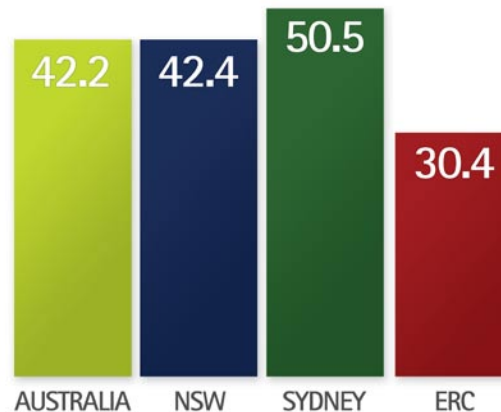
C. Improving the educational resources and training available for teachers and students

Overview

Improving educational outcomes

The ERC's low relative levels of educational participation and attainment place the region's performance behind other areas of Australia in both school and higher education.

Proportion of Population aged 15+ Completed Year 12



Key ERC Facts

- *The ERC's year 12 completion level is substantially lower than state and national averages*
- *The proportion of the population with degree-level qualifications or above (22 per cent) is ten per cent below the national average*
- *University participation rates are relatively low (3.8 per cent compared to the national average of 5.6 per cent)*

These facts provide evidence that the region is under-represented within the education system. Educational opportunities, particularly for those in the more remote towns and villages, are significantly impeded by geographical location:

- educational opportunities are unavailable (apart from small public primary schools);
- internet connectivity and mobile phone coverage is often limited and unreliable.

If the ERC is to meet the targets set by the Bradley Report, serious attention needs to be paid to ways of increasing the educational participation and performance of the region's youth.

The ERC needs well-qualified people if it is to thrive in a rapidly moving global economy. For the region to maximize its immense potential for research, innovation, and productivity, it requires an intellectually and technically skilled workforce. If Minister Crean is correct in arguing that "those who are trained in the region, stay in the region"⁶, then viable options for quality education in the regions and centres spanning the ERC must exist. Investment in communicative infrastructure is crucial if distance is to be removed from the equation.

⁶ Simon Crean, talk given at the Regional Futures Summit at the University of New England, 17 February 2011

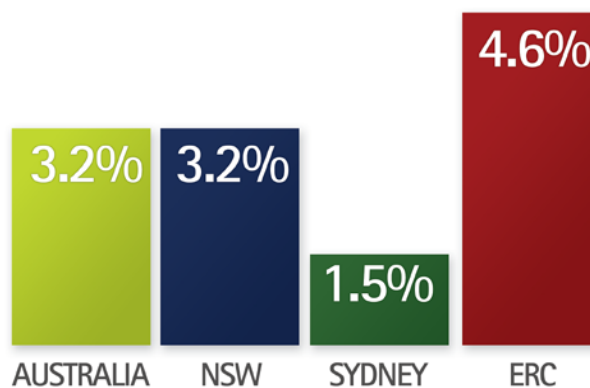
Early access to the NBN network will:

- enable rural and remote schools to incorporate e-learning into their curriculums, allowing access to cutting-edge techniques of web-based learning, virtual classrooms and digital collaboration with other students;
- facilitate enhanced learning experiences through providing rapid access to broadband content;
- provide more equitable access to a wider variety of study and training options for citizens of rural and remote areas;
- allow students in any geographical location to engage with industry professionals to develop workplace-specific competencies; and
- allow people to remain in their communities while undertaking pedagogically-sound education and training programmes.

Indigenous education

The ERC is home to a substantial number of young Indigenous Australians:

**% of Indigenous Australians 15 – 19
as a proportion of all population 15–19.**



Key ERC Facts

- *Compared to state and national averages, in the ERC region Indigenous Australians comprise a high proportion of all residents aged 15-19.*
- *10 per cent of all Indigenous Australians aged 15-19 reside in the ERC.*
- *Almost 11 per cent of Indigenous Australians in the ERC are aged 15-19. In comparison, only seven per cent of the total ERC population is in the 15-19 age range.*

Engagement or participation in education is a key factor affecting life chances for all Australians, and is particularly important for the ERC's Indigenous Australians, who have lower levels of educational attainment than non-Indigenous Australians.

Key ERC Fact

- *Of all Indigenous Australians residing in the ERC aged 15-plus, the rate of year 12 completion is less than 18 per cent.*

In order to achieve *Closing the Gap* targets on Indigenous education it is vital to increase Indigenous educational indicators such as attendance and retention rates and core skills such as numeracy and literacy rates. Additionally, it is important to ensure Indigenous Australians are equipped with adequate levels of digital literacy to facilitate Indigenous involvement in digital economy, e-health and e-governance.

A recent review of programs that have been used to improve Indigenous educational participation found that a common feature of successful educational programs was that of a creative collaboration, which builds bridges between public agencies and the community, often by engaging parents or community-based organisations (Purdie & Buckley, 2010). The NBN has the potential to help address the issue of Indigenous disadvantages in education in the ERC by:

- facilitating the development of networks of Indigenous teaching personnel, parents and community members which allows for involvement in all aspects of the schooling process from initial planning, to implementation and delivery of programs, to develop indigenous ownership of educational programs;
- making available online applications that provide learning activities which are relevant to students' experiences and to their current needs and interests; and
- facilitating training and development of indigenous-specific digital literacy.

Case Study

Southern Cross University www.scu.edu.au

Southern Cross University (SCU) supports six Australian campuses and overseas based students. SCU currently has over 16,000 students, with around 3,000 enrolled as external distance learning students. All of the units taught at the university have an online presence with extensive use of videoconferencing, web-conferencing, video, audio and other online tools to facilitate learning.

High speed broadband will enable SCU to provide students with opportunities to engage in world class communication and media rich student-centred learning environments.

Limitations of the current available bandwidth are restricting teaching innovations and students' access to the types of technologies that are available overseas. In particular, improved bandwidth would enable improved collaborative learning opportunities for all students and provide opportunities for links with industry and other universities to create engaging learning environments.

SCU is currently designing and developing an innovative range of learning and delivery designs to provide students with access to flexible, relevant and engaging study options to meet their work and family responsibilities. The aim is to develop a new generation of flexible delivery.

By enabling students to engage with professionals in industry, authentic and interactive learning environments are being created to allow students to practice workplace skills. These activities will encourage students to be 'work-ready'.

Improved access to higher bandwidth would enable SCU to demonstrate how regional Australia can provide engaging learning experiences for all students, regardless of how, when and where they study.

Case Study

Youth Connections www.youthconnections.com.au

Youth Connections provides young people aged 13-19 on the Central Coast with access to employment, education, training and recreational opportunities so they can reach their full potential. It provides skills development programs to prepare young people for work in a range of industries.

A key program, YC Media is both a communication channel for all activities, events and projects happening at Youth Connection in addition to providing a vehicle for skill development. Young people gain the skills required to work the obtain media and entertainment industries through the production of videos, photography, communications, graphic design, event management and the broadcasting. More than 750 young people have gained hands on broadcasting skills through their involvement with YCRadio.

One program, Y-Generate TV, is in the process of expanding from a YouTube channel promoting videos produced by YC Media to a fully operational online TV station. Funding from government and industry sources has supported the construction of a media studio with the capacity to stream live broadcasts through the internet.

Although the media studio is currently under construction, the ability for live streaming is subject to the availability of high speed broadband. Until the NBN rollout, broadcasting of work produced by Y-Generate TV will continue to be restricted to placement on You Tube or the transmission of audio only through the community radio station.

The NBN project will greatly enhance the ability of Youth Connections to train young people for emerging industries within the entertainment and media sector by providing access to hands on learning in all aspects of television broadcasting.

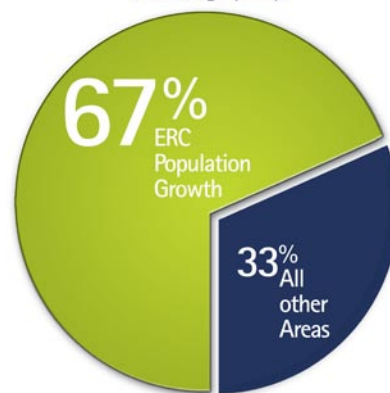


D. The management of Australia's built and natural resources and environmental sustainability

Overview

The ERC, with its coastal communities and rural hinterlands linked by a number of large regional centres, is a major site of the sea-change/tree-change phenomenon. The ERC region is the fastest-growing region in NSW outside Sydney. Over the next 25 years, the population of NSW is projected to grow to 9.1 million⁷, with almost three quarters of this growth expected to occur within the Sydney region⁸. The ERC region will account for two thirds (68 per cent) of the growth in the remainder of the state. Certain key areas are expected to grow rapidly over that period. Port Macquarie, for instance, is projected to grow by 38 per cent⁹.

New South Wales Population Growth to 2036
(excluding Sydney)



The region is surrounded by environments of national and international heritage importance, including many national parks, world heritage areas, and marine protected areas. Many sea- and tree-changers relocate to the ERC because of these natural attributes and the lifestyle benefits they provide. However, these coastal environments and national parks are particularly vulnerable to inappropriate development which threatens biodiversity and cultural heritage sites (Gurran, Squires, & Blakeley, 2005). In addition, global climate change, particularly rising sea levels, is likely to impact coastal environments in the near future.

The challenge facing sea-change/tree-change areas is to protect conservation sites and manage threats to coastal processes and environments while expanding amenities and services to provide for a rapidly growing population. The NBN offers opportunities for environmental sustainability via providing applications in a number of key areas.

⁷ NSW State and Regional Population Projections, 2006-2036: 2008 Release. Department of Planning.

⁸ Calculated by Statistical Division, excluding Gosford and Wyong.

⁹ Port Macquarie-Hastings Council Population and Household Forecasts, 2010:

<http://forecast2.id.com.au/default.aspx?id=231&pg=5000>

Travel

Key ERC Fact

- *The ERC is a large region with both densely and sparsely populated areas*
The ERC region has a total footprint of 66,530 square kilometres and includes a number of major regional centres (such as Newcastle, ERP 154,777¹⁰) along with many rural and remote towns. Across the region as a whole, the population is widely distributed with an average of 22.7 residents per square kilometer, compared to Sydney with an average of 371.1¹¹.

The management and maintenance of our natural amenities and environmental sustainability are a priority, and the encouragement of home based businesses which rely on high speed broadband as opposed to travelling long distances by motor vehicle to an office base (there is no/little accessible, reliable public transport available outside school-bus runs) might ensure the sustainability of our environmental credentials.

Teleworking in the Northern Rivers¹²

Teleworking (using fixed and mobile broadband technologies to regularly work outside the confines of an office) will grow to new heights should the government deliver on its promise of building a nationwide fibre network capable of 100Mbps speeds. According to the Australian Bureau of Statistics, only 6 per cent of workers in Australia currently telework, however, that number is increasing in the Northern Rivers.

The Northern Rivers region has frequently been described as a region of villages and transport is consistently identified by employers, residents and agencies as one of our region's key challenges. As a result our residents are highly car dependent. Increasing the availability of work and income generation from home-based business and their utilisation of high speed broadband network will have a significant impact on our natural amenity and environmental sustainability. Telecommunications infrastructure is a form of transport, as it provides a means of access to goods and services. Adequate broadband capacity could help make up for the lack of public transport availability.

Included in the environmental cost benefits are:

- reduction of green house gases: the use of petrol (fossils fuels)and resultant pollution;
- infrastructure costs – development of road systems and on-going maintenance – reduction in impact on road usage and therefore reduction in road maintenance and repair required;
- reduction in not having to increase road and private transport infrastructure with a resultant impact on natural ecosystems;
- reduction in the development of more road systems and the resultant decrease in land acquisition from agricultural and other pursuits and reduction of invasive weeds; and
- reduction in requirements for public parking in Northern Rivers town centres and resultant reduction n green spaces in town centres

Businesses in the Northern Rivers that have a strong online presence are already becoming more competitive in a globally-connected world. In the future, travel to work and across the country for business, education, health care will be increasingly replaced by digital

¹⁰ ABS Population by Age and Sex, Regions of Australia, 2009 (3235.0)

¹¹ ABS National Regional Profile 2005-2009 (1379.0.55.001)

¹² Teleworking section supplied by RDA Northern Rivers

applications such as next generation, high definition videoconferencing and telepresence and other new services that require rapid transfer of data. This in turn will have a significant effect on our environmental sustainability.

Case Study

Greenspan Technology www.greenspan.com.au

Greenspan is a leading edge company providing innovative integrated environmental monitoring solutions throughout the world. With the head office based in Coffs Harbour the annual turnover is currently more than \$10 million with expansion plans to treble operations to \$30 million by 2012.

This innovative company designed and built the Flood Forecasting, Warning and Storm water Diversion System for the City of Kuala Lumpur in Malaysia. The \$1 billion SMART Tunnel project won numerous awards and was featured in three major documentaries. Greenspan is currently modernising Canada's IT system for remote data acquisition through their national environmental department.

Greenspan has a comprehensive team of more than 40 engineers, scientists, IT specialists, software developers, data modelers, field technicians and marketing professionals. With this growth plan, Greenspan is set to become a significant contributor to the NSW North Coast economy through salaries, procurement of local goods and services and employment opportunities for IT professionals.

High speed broadband is critical to Greenspan's business as it is hosting data live from the field using IP modems for clients. This data is crucial for management of infrastructure and maintaining safety. Greenspan is expanding its web based data hosting product with the main infrastructure located in Coffs Harbour and clients located throughout Australia, the United States and Asia. As this client base expands they will need the highest speed connections available to enable synchronization of data between servers in Coffs Harbour and those proposed to be installed in Houston and Singapore in 2010.

E. Impacting regional economic growth and employment opportunities

Overview

Unemployment in the ERC in December 2010 was 5.8% compared to the Australian rate of 5.1%. Workforce participation rates are as low as 51 per cent in parts of the region, against a national backdrop of 61 per cent and a national goal to increase it to 69 per cent.

High speed broadband is a fundamental piece of infrastructure needed to change this picture. The Department of Communications, Information Technology and the Arts acknowledges that “there can be little doubt that information and communications technology (ICT) is the fundamental technology driving innovation in our society. The Australian Government recognizes the important role that ICT plays in the innovation process and in achieving economic growth for Australia.”

Economic growth

Regional economic growth is a pre-condition to any meaningful reduction in the high unemployment levels in the region and wider adoption of e-Commerce has the capacity to stimulate substantial economic growth. According to Frost and Sullivan (2010) e-commerce is relatively immature in Australia and lags the UK and US by about three years. In 2007-2008 only 43% of all Australian businesses used the internet to place orders and less than 25% used the internet to take online orders.

Forecasts from three 2010 surveys (IBISWorld, Paypal and Frost and Sullivan) indicate annual growth for e-commerce in Australia could be between 5% and 12%. Limited, slow and/or unreliable broadband access is given as one reason that there is not greater use of e-commerce in regional Australia.

By providing increased speed, reliability and access, NBN will enhance the potential of e-commerce by enabling the provision of a wider range of online services, particularly those which require data rich website content or transfer of large volumes of graphic rich data.

High speed broadband will also increase the efficiency of regional businesses, resulting in substantial savings in transport, communications and staff safety. Current transmission speeds enable video conferencing but the quality is unsatisfactory. Higher speeds will enable meaningful multiple office communications without the need for travel, saving on travel costs, removing staff from the dangerous congested roads and enabling their time to be put to more productive use. A secondary benefit for those still needing to drive or to distribute their goods would be early warning of road blockages from the RTA after accidents. The lack of alternative routes in the region regularly causes traffic jams that last as long as 4 hours.

The NBN will also reduce the impact of geographical inequalities on economic productivity and growth and enable the region to become a viable location for existing firms from outside the area to establish operations. This is already happening slowly as business owners and staff opt for a better quality of life away from capital city congestion. Such economic diversification will reduce reliance on natural resources.

But there will be significant enhancement for the existing business community in the ERC - a substantial number which are small to medium sized employing less than 5 people - which will be more competitive with their capital city counterparts when location is no longer an issue of distinction. Existing innovative firms will have the technological infrastructure they require to create value and ensure their global competitiveness.

The ERC has already shown it is keen to embrace innovation with the Hunter and North Coast Innovation festivals being among the biggest such events in Australia in 2010 both in the number of firms taking part and the number of events held.

Employment Opportunities

The ERC's high level of unemployment and underemployment was recognized by the Federal Government's appointment of three Local Employment Coordinators (LEC) covering the four Regional Development Australia regions in 2009. The Local Employment Coordinators role was created as part of the Federal government's response to the Global Financial Crisis under the Department of Education, Employment and Workplace Relations (DEEWR). Twenty priority employment areas were identified around Australia as being hit particularly hard by the economic downturn because of their location, industry composition, demographic profile and past economic performance.

It is estimated that 2,000 jobs will be created by the construction and ongoing servicing of the NBN across the ERC providing opportunities for a significant skills upgrading and reduction in un and under employment levels. The challenge for regional areas will be to develop the workforce required for the rollout including skills development. New jobs and skill sets will also be created and required as businesses increase usage of the system.

The region is well serviced with skills providers and has the expertise and infrastructure to provide the skills training and trade qualifications needed to enable construction. The LECs are well positioned and suited to the role of coordinating the employment sectors stakeholders to develop the local workforce and skills for the NBN rollout. The role covers networking, brokering and facilitating across employment sector stakeholders and includes leveraging stimulus spending to create local jobs. The stakeholders currently engaged include employers and industry leaders, Job Services Australia providers, registered training organisations, apprenticeship centres, state training services, business chambers, all levels of government, group employers, industry networks, NGO's and group training organisations. There has also been close liaison with the indigenous community and emerging businesses.

As Coffs Harbour is a second round NBN test site, it is being used as a model for developing case studies and test projects. These projects will include methods for quantifying workforce and skills requirement, identifying and quantifying skills shortages and assessing regional readiness.

There is already active planning and engagement with key stakeholders at a local and regional level for the implementation of NBN. The Eastern Regional Digital Corridor GO Broadband group has been formed, high level meetings have been held with NBN Co to assess the status of workforce development and the Industry Capability Network is currently

conducting a series of workshops to make local contractors and suppliers aware of the impending construction opportunities to maximize local employment opportunities.

The LECs have also held teleconferences with the DEEWR NBN Working Strategy Development Group to assess how the Department is approaching the workforce development and how that work can be assisted and utilised in the region.

A regional skills strategy is being prepared to ensure that major infrastructure projects such as NBN and the Pacific Highway Upgrade are able to meet project deliverables in a cost effective manner by ensuring the supply of critical skill sets. In particular it will:

- Quantify the demand for skilled resources for the NBN rollout and other infrastructure projects
- Ensure that the supply of skilled resources is able to meet the demand in a timely and sustainable manner
- Identify potential workforce participants
- Identify the up-skilling needs of existing workers
- Identify the relevant programs and qualifications
- Identify appropriate training authorities and funding sources
- Deliver the appropriate training in line with industry standards ensuring that both safety and quality and continuous improvement are of paramount importance
- Link the participants with potential employers via local employment service providers or private recruitment agencies
- Link the skills development process with existing and emerging skills needs of the region

The ERC RDA network (Central Coast, Hunter, Mid North Coast and Northern Rivers) has developed a collaborative strategy to address the issues of Skill Development and Employment. The RDA's have also been working in collaboration with the ICN network to identify opportunities for local trades through the NBN contractor rollout process. These projects add value to economic participation and productivity in the region.

Case Study

Local Employment Coordinators and Keep Australia Working www.keeptaustraliaworking.gov.au

Jobs and Skills for National Broadband Rollout

Up to 25,000 jobs will be created nationally over the eight year life of the NBN rollout with a percentage of these to remain for ongoing systems maintenance. The challenge for regional areas will be to develop the workforce required for the rollout including skills development. New jobs and skill sets will also be created and required as businesses increase usage of the system.

Local Employment Coordinators (LECs)

The role of Local Employment Coordinators was created as part of the Federal government's response to the Global Financial Crisis under the Department of Education, Employment and Workplace Relations (DEEWR). Twenty priority employment areas were identified around Australia as being hit particularly hard by the economic downturn because of their location, industry composition, demographic profile and past economic performance.

The role covers networking, brokering and facilitating across employment sector stakeholders and includes leveraging stimulus spending to create local jobs. The LECs are now well positioned and suited to the role of coordinating the employment sectors stakeholders to develop the local workforce and skills for the NBN rollout. Stakeholders currently engaged with LECs include Employers and Industry, Job Services Australia providers, Registered Training Organisations, Apprenticeship Centres, State Training Services, Business Chambers, all levels of government, Group Employers, industry networks, NGO's and Group Training Organisations. The role also covers working with emerging businesses and industry sectors.

Each of the LECs has worked with their Keep Australia Working Advisory Committee to develop a strategic Regional Employment Plan for their priority employment area. These plans all include multiple projects relating to skills and workforce development, engagement with multiple employment partners, engagement with RDA and connecting with large scale infrastructure projects.

Priority Employment Areas

The Eastern Regional Digital Corridor from the Hawkesbury River to the Queensland border is covered by the three priority employment areas of Central Coast-Hunter, Mid-North Coast and Richmond-Tweed and Clarence Valley matching the footprint of the four Regional Development Australia Committees in the Eastern Regional Digital Corridor.

Current and Proposed Activity for National Broadband Rollout

The three LEC's are actively planning and engaging with key stakeholders at a local and regional level for the implementation of NBN. The three LECs have joined the Eastern Regional Digital Corridor GO Broadband group, have held high level meetings with NBN Co to assess the status of workforce development and have engaged with Jobs Services Australia providers, Registered Training Organisations, State Training Services and Industry & Investment NSW. The LECs work closely with the Industry Capability Network on a range of projects and this partnership is being extended to involvement in the NBN rollout.

The LECs have held teleconferences with the DEEWR NBN Working Strategy Development Group to assess how the Department is approaching the workforce development and how that work can be assisted and utilised in the region.

With Coffs Harbour having been accepted in the second round of NBN test sites, the LECs are using the opportunity to use Coffs Harbour as a model for developing case studies and test projects. These projects will include methods for quantifying workforce and skills requirement, identifying and quantifying skills shortages and assessing regional readiness.

The LECs will play a useful role as the interface between the department's work nationally on NBN workforce development and the implementation of local strategies to meet NBN needs. The LECs are actively engaged in ensuring that the region will be able to meet the skills and workforce requirements of the NBN rollout through the Eastern Regional Digital Corridor.

F. Impacting business opportunities and revenues, particularly for small and medium business, and Australia's export market

Overview

Small and medium business productivity

The productivity opportunities opened up to small and medium businesses by universal access to high-speed broadband are highly relevant to the ERC given the high proportion of SMEs in the region.

Key ERC Fact

- *Small firms (0-19 employees) make up 96.1 per cent of the region's businesses, and adding medium firms (20-199 employees) raises the figure to 99.9 per cent¹³.*

The substantial number of technologically innovative and creative SMEs already established in the region provides a base equipped to utilize the new value propositions and business models enabled by increased network capacity, including opportunities such as:

- allowing small and medium businesses in the region to access markets and develop relationships with customers anywhere in the world, removing geographic location from the equation and leveling the playing field in terms of competitive advantage;
- improving ERC businesses' rates of harnessing the efficiency and productivity benefits of ICT and the digital economy relative to their state, national and international counterparts; and
- enabling firms to offer new products and services.

Small businesses are slower than large ones to adopt ICTs, and potential small-business benefits and firm and sector specific strategies drive the adoption and use of ICTs (OECD, 2004). Therefore, in order to ensure utmost NBN uptake and maximise potential productivity increases in regional Australia, local government, educational institutions, and business associations must play a role in encouraging use of ICTs and adoption of e-business models through providing information regarding the industry- and region-specific benefits of uptake to individual SMEs.

Additionally, lack of ICT skills and business skills are significant barriers to effective uptake once adoption decisions are made. It is crucial that local government, in association with educational institutions, provides a framework for moving beyond basic connectivity and ICT readiness to facilitate more widespread uptake and use of complex ICT applications by small firms in regional Australia.

ERC's innovative manufacturing base

The ERC has a strong and growing manufacturing industry. The manufacturing sector employs a relatively high proportion of the ERC's overall labour force in comparison to NSW and Australia.

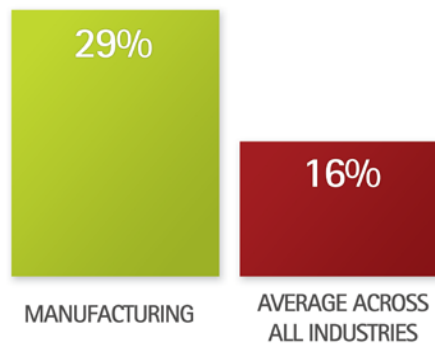
¹³ ABS Counts of Australian Businesses, including Entries and Exits, Jun 2007 to Jun 2009 (8165.0)

Employment by Industry Sector
Manufacturing



Manufacturing firms tend to innovate: of all industry sectors in Australia, the manufacturing sector contributes by far the largest proportion of innovations in operational processes.

Innovation in operational procedures
by industry

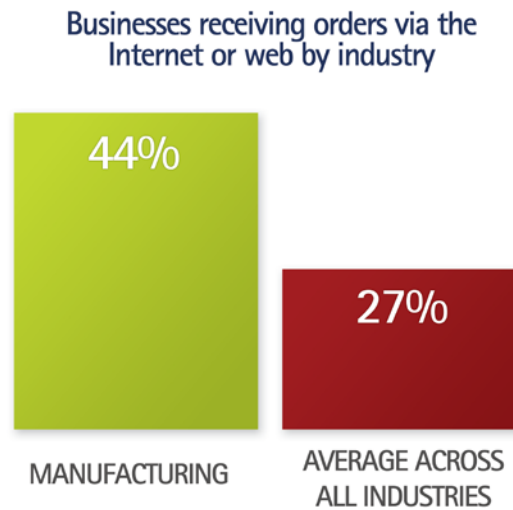


The fact that these innovations are already embedded in industry practices and processes means manufacturing firms are well positioned to convert innovation into improved productivity.

In order to survive and expand in the competitive international marketplace, our manufacturers – *91 per cent of whom employ less than 20 people*¹⁴ – have adapted and focused on niche markets. In this environment, market share is based on an organisation's ability to deliver quality, custom designed products quickly and cost effectively. This focus means a critical reliance on information and communication technology in order to maintain high turnaround of products which involve the constant transfer of high-definition technical data between clients, designers and CAD/CAM operators. In the world of computer focused niche markets, success is based on quick and efficient response times to clients. The

¹⁴ ABS Counts of Australian Businesses, including Entries and Exits, Jun 2007 to Jun 2009 (8165.0)

proportion of manufacturing firms receiving orders via the Internet or web tops all other industry sectors¹⁵.



The established group of manufacturers in the ERC has continued to grow and gain an ever increasing market share in spite of the poor quality and highly expensive internet services currently available when compared to major centres. Business function is already severely impaired with organizations having to juggle usage and cobble together data allowance packages to be able to continue to compete internationally.

This admirable perseverance has maintained the significant annual growth but indications are that without improved telecommunications infrastructure these businesses are considering relocating, either putting pressure back on already overloaded major centres, or ultimately overseas.

RDA – ERC Local Government Engagement and Community Communications

The ERC RDA network (Central Coast, Hunter, Mid North Coast and Northern Rivers) has developed a collaborative strategy to address the issues of engagement, information, and skill acquisition that need to be addressed in order for the NBN to add maximum value to economic participation and productivity in the region. The strategy involves two interrelated projects.

Project one: local government engagement

The ERC RDA network will ensure that key people within each LGA are abreast of the challenges and opportunities associated with the NBN rollout and that appropriate protocols are identified and if possible implemented.

Each LGA will be provided with relevant information on the following issues:

- Legislative impacts
- Administrative and resource pressures
- Facilitating access to Council owned and/or managed assets
- Assisting subcontractors with the location of underground services and other access paths

¹⁵ ABS Summary of IT Use and Innovation in Australian Business 2008-09 (8166.0)

- Providing the necessary access (potentially on a fee for service basis) to Geospatial Information Systems (GIS)
- Network design liaison
- Restoration works - each council will need to provide guidance to NBN Co. on restoration standards once the fibre pathways have been created

Further, RDAs will conduct Councillor briefing sessions at all ERC councils to provide information on the benefits of the NBN rollout and facilitate a cooperative engagement with NBN Co.

Project two: industry, business and community engagement and demonstration

To a fair extent the NBN Project has created division in the community due primarily to a lack of understanding of the process for development and the many benefits that the project will bring to the community. As such, the ERC RDA network plans to initiate two key programs to ensure the community is fully versed with the capabilities of Broadband and the options for take up for the service as soon as it is available in their council/region, with one of these programs – iConnect – directed specifically toward SME engagement.

The iConnect engagement project will be initiated to engage with local peak bodies, industry associations, business chambers and SMEs in order to highlight the many opportunities associated with the NBN that have the potential to increase efficiency and ultimately improve productivity. The project will comprise tailored briefing sessions, workshops and demonstrations. It is envisioned that this model will have appeal outside the ERC once completed.

- iConnect is designed to demonstrate new service and business models made possible through the use of innovative digital technology
- iConnect industry/SME and business mentoring, in partnership with industry associations and peak bodies, will provide support and services to the private sector and NFP sector to assist connectivity with NBN services and understand capabilities.

Case Study

Planet Lighting www.planetlighting.com

Planet Lighting, based in Bellingen, is an internationally award winning producer of low energy lighting, supplying major building projects around the world. Major international installations include LED lighting system in 12 km of handrails across more than 40 metro stations in Dubai's rail subway system.

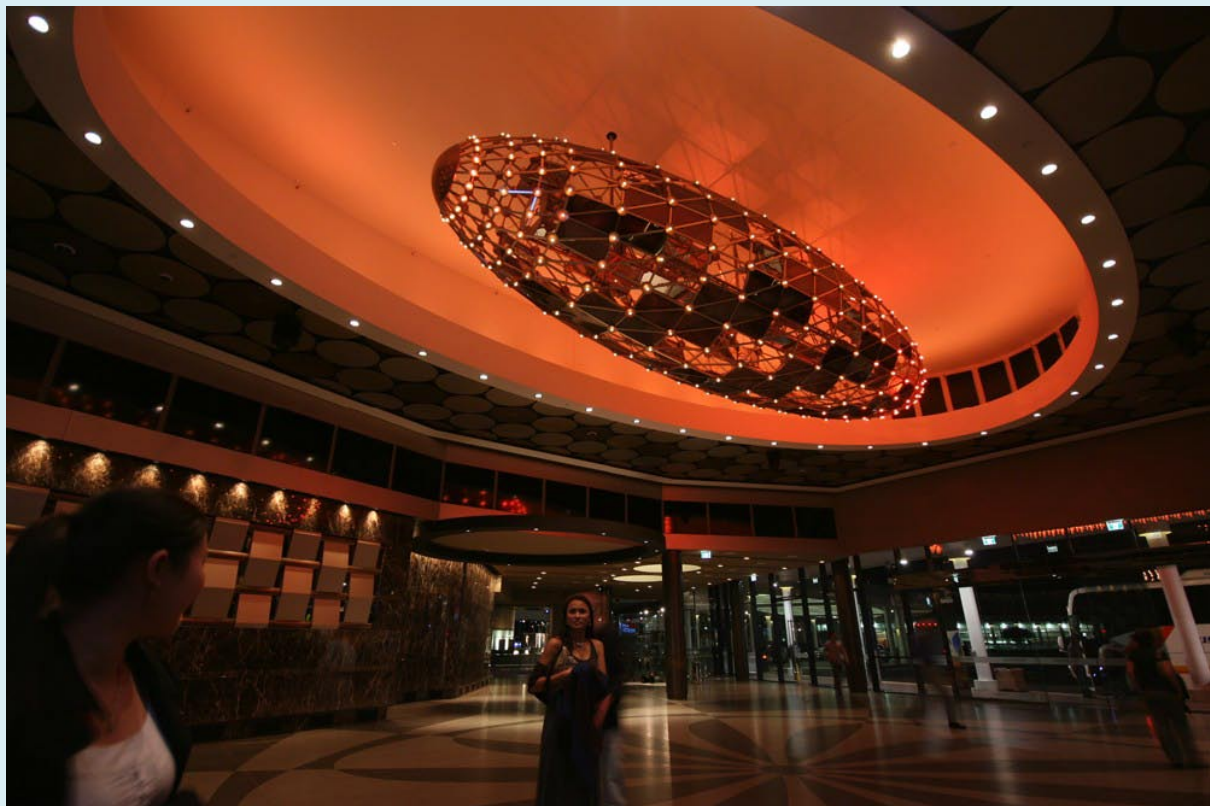
Planet Lighting has distributors in all states of Australia and in eight countries around the world including the US, China, the UK and Europe.

Planet Lighting is reliant on regular communication with its overseas clients and distributors. They regularly forward electronic submissions to potential customers including high definition images and complex technical drawings. The time required to uploading and transferring these documents at times does not meet clients' expectations and deadlines may not be met.

Planet Lighting also provides remote troubleshooting service to clients during installation and is currently reliant on email and phone communication. Access to high speed broadband will allow internet conferencing between support technicians based in Bellingen and installers anywhere in the world.

LED technology changes rapidly and international distributors will be able to participate in face to face, online product education presentations.

Following the rollout of the NBN, Planet Lighting will have additional tools to improve its service to its international clients and keep its international distributors up to date with new products.



G. Interaction with research and development and related innovation investments

Overview

ERC Centre for Regional Leadership

An important aspect of the broadband equation is its potential for innovation, particularly in the context of the growth of home based businesses and SMEs. Due to the demographic and geographic characteristics of the region (economically complex, with areas of high investment, pockets of socio-economic extremes, and few large businesses) early NBN rollout over the ERC will provide significant opportunities to measure the impacts of the NBN on these sectors of the economy. This research will be invaluable in evaluating delivery processes and designing models for future NBN rollout.

Additionally, rollout to the ERC provides the potential to investigate factors that may result in greater successes from ICT infrastructural investment. One such factor is the development potential of 'strategic leadership'. Strategic leadership refers to the abilities to anticipate, envision, maintain flexibility, find essential issues (think strategically) and pool the most relevant resources, competencies and powers to create a viable future for the communities in question (Ireland & Hitt 1999). The capacity of SMEs to capitalise on the potential of ICTs and improve productivity, and the value of supporting this process by providing strategic leadership, is a key issue for the future development of the region.

Regional Leadership Centre

The Strategic Regional Leadership Conference in October 2010 was coordinated by RDA Mid North Coast with the assistance of the Regional Studies Association. One of the international key note speakers Dr Markku Sotarauta stimulated discussion from the parallel scenario of his experience in Finland. The knowledge economy has been crucial to Scandinavia. In Finland the big university cities have specialised in knowledge based industry and innovation and have prospered. Less favoured regions have had little qualified human capital to build on innovation. In the region of South Ostrobothnia in Finland it was recognised that university and academic engagement has a significant cross sector potential between academia, business and public administration.

The process of engagement in Finland involved government (local and federal) policy makers, business representatives, universities, and other higher education institutions. A fund was developed to support initiatives. Without planning, an Australian example has emerged in the ERC with the engagement of Professor Peter Croll at Southern Cross University, who has been instrumental in securing the second stage roll out of the NBN for Coffs Harbour. However, without resources to achieve the model's potential, this strategic and visionary model may whither.

The focus of the Regional Leadership Centre project is to expand the capacity of the innovative and productive capacity of the ERC through research and the knowledge economy. The RDA has been effective in galvanising educational support through the North Coast TAFE and agreements with several institutions including Newcastle University. The project will establish a coordinating body to bring together key organisations including:

- Policy makers (Australian & State Government)

- Representatives of Industry and the trading NFP sectors
- University, TAFE and other higher education institutions
- Local Government and other community based organisations of influence
- Thinkers

The Regional Leadership Centre will seek to forge partnerships with knowledge based institutions to conduct research into the region with particular reference to the digital economy and the uptake of innovation. The Centre's role will include producing papers and presentations, developing a program of locally held conferences, forums and seminars, and establishing a Strategic Leadership Fund to support and develop research and innovation in the region.

Case Study

North Coast Innovation Festival www.ncinnovationfestival.com.au

The North Coast Innovation Festival promotes a diverse range of events in various locations along the NSW Mid and Far North Coast, reaching out to a population in excess of 570,000. The events include workshops, seminars, site visits, information sessions, webinars and displays. Each event showcases aspects of innovation, creativity, research, knowledge and entrepreneurship.

The main objectives of the festival include bringing together businesses from all industry sectors to share new ideas and approaches on how to work smarter, unleash the creativity of employees and colleagues, increase the regions skilled workforce and learn new ways of doing business in a smart and innovative way.

The festival theme in 2011 will focus on technology and processes and aims to showcase example where organisations and business have extended their impact beyond regional boundaries, particularly through innovations in technology.

The Festival is an annual event and will continue to foster a culture of innovation in the region. Regional access to high speed broadband will expand the opportunities to showcase innovative technology and work practices, made possible by the NBN rollout.

Adopting new innovative work practices and processes can help businesses maintain a competitive edge by attracting investment, making new business connections which will ultimately increase their bottom line and ensure the economic growth of the NSW Mid and Far North Coast regions.



H. Facilitating community and social benefits

Overview

Overview

The primary feature differentiating regional communities from cities is population density. The low density of population in regional areas means most people face a greater distance between the places where they live and resources such as information, social support services, mental health services, and community outreach groups.

Due to the effects of this low population density and abundance of space, regional Australia is set to be a primary beneficiary of the opportunities for building community social capital promised by the NBN rollout. Internet use has been shown to foster community vitality in regional areas through civic engagement and community participation (Stenberg et al., 2009; Stern & Dillman, 2006), and has been linked to higher degrees of community participation across various organizations and groups. Social networking applications, including expert knowledge groups, blogging, online book clubs etc. as well as access to media content, promises to contribute to ameliorating social isolation in regional, rural, and remote areas.

Instilling awareness and competency

Building and improving broadband infrastructure are only the first steps. Equal access to the Internet alone does not necessarily mean that people will have equal accessibility, or be able to take advantage of the opportunities afforded by ICTs in equivalent ways. Research has shown that a more important barrier to effective and productive employment of ICTs than access to technology may be the divide between those with high and low levels of proficiency to use the technology to achieve outcomes. Awareness and training on the capabilities of broadband are therefore vital if broadband is to lead to substantial community and social benefits.

As part of its commitment to regional development, the ERC RDA network is in the process of developing the *iShow* mobile demonstration and engagement programme. The concept of the *iShow* is to demonstrate the benefits of technology and the capacity of the NBN to deliver a new level of connectivity particularly in regional and rural Australia.

The history of the rollout of the world's most significant technologies has often involved the initial introduction of the technology to the public in a theatrical or entertainment based programme. For example, children of the baby boomer generation were taken to shop windows of electrical stores in main street to witness television for the first time. While the Internet has been with us for some time, the capacity to demonstrate its speed and content provides an opportunity for the community to connect with services in a meaningful and respectful manner.

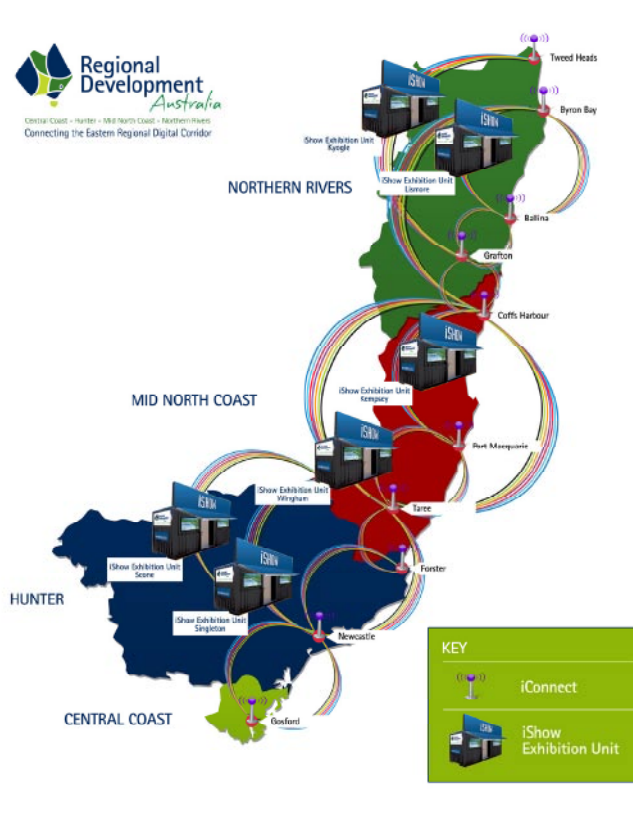
iShow on the road and in the streets

- The *iShow* demonstration project will be taken to the community via regional shows, field days, and special events.

- Traveling show of purpose built containers (or equivalent) mobile structures that may be transported and erected easily and cost efficiently to form a focal point for the demonstration of the capacity of the NBN
- Accessibility will enable demonstrations via trained personnel of the benefits of the proposed technical applications and the opportunity for continuous connectivity provided by the NBN.
- Community forums – a series of community engagement forums to outline the benefits and challenges associated with the rollout of the network, how NBN network architecture will look inside and outside of people’s premises as well as indicative costs of migration and service plans.
- The iShow demonstration will provide a core access point for content and service providers.

The iShow will provide a creative focus for the familiarization with the digital revolution that will be precipitated by the NBN to a significant and eager audience. The demonstration will be coupled with relevant e-health, e-education and if possible e-emergency services to showcase content that will benefit the community and stimulate the use and development of ICT options in the community. The iShow design allows flexibility for delivery of the proposed content. For example, it can be tailored to meet the needs of a small workplace or local site.

While visiting regional centres, the iShow will establish a further process for connection by drawing together the local services available. It will also develop where possible free Wi-Fi zones in main streets (or suitable venues) and as a result create opportunity for open networking and presentations in public spaces.



Case Study

National Aboriginal Design Agency www.saltwaterfreshwater.com.au

The proposed National Aboriginal Design Agency is an initiative covering the full extent of the Eastern Regional Corridor. It is a brokering service between Aboriginal artists and manufacturers, producing design products such as carpets, lighting, furniture and home-wares with an Aboriginal aesthetic. The agency brokers deals with manufacturers in Australia and overseas on behalf of the artists it represents.

The Aboriginal design strategy is an integrated employment and training initiative aimed at 'closing the gap' in the region's Indigenous communities by establishing home-based art and design businesses. The home-based business will overcome traditional barriers to employment, such as child-care and transport as artists will be trained to conduct business from home.

The Agency has identified more than 170 established artists in the region and has initiated programs to support young emerging artists as 52% of the Aboriginal community in the region is under the age of 19. The Agency has negotiated the establishment of Certificate courses in Aboriginal Design conducted through the North Coast Institute of TAFE since February 2010. The course is the first in Australia and trains participants in specific areas of graphic design, fashion design, interior design and industrial design.

The artists, operating from home, will enter into licensing agreements with local, national and international manufacturers and develop designs and income will be generated by royalty payments. The Agency is particularly targeting artists and groups currently operating under the Community Development Employment Project program.

The establishment of viable home based design businesses is dependent on the availability of a reliable high speed broadband service able to cope with transmission of large documents.

In addition to the creation of enterprise development and employment opportunities in rural and remote areas this form of culturally based employment also provides participants with the opportunity to grow their understanding of their own culture.

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Acknowledgements



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Elizabeth McGregor - Acting Chair
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Industry Capability Network

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