

Building the Broadband Economy 2011
'Health in the Intelligent Community'

1-3 June 2011, in New York City

Conference report, by Cr Rod Macdonald

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ABSTRACT

The Intelligent Community Forum Conference was held in New York, 1-3 June 2011. The organisation and conference champions the use of broadband technology and in doing so encourages the broadest benefit across the community. In essence for social as well as economic benefit.

In addition to presentations from each of the 7 communities nominated for this year's award, various industry and political representatives delivered a ranges of papers on the advances and opportunities provided by smart use of the technology.

The Top 7 communities were identified by an international panel of judges. The title of Intelligent Community of the Year was awarded to Eindhoven (Netherlands).

The significant benefits of embracing and encouraging the use of high speed broadband were readily apparent. Importantly, the concept of social inclusion was a major theme of the conference. Examples of this included the availability of free wi-fi services as well as development of community service applications. The economic success of many businesses has been driven by use of the technology. Medical services, traffic control, emergency management, entertainment industries and on-line business and municipal services can all take advantage of fibre optic broadband technology.

Geelong is developing a digital strategy and has begun the process of engaging with NBN Co as well as our regional institutions and industry bodies. This work must continue to be supported if we, as a region, are to take full advantage of what the technology can deliver.

Recommendations

1. Develop an internal working group to examine opportunities for council to utilise broadband technology when it is in place, with the reporting of progress to council. The existing IS (Information Services) Strategic Operations Group may be an appropriate vehicle for elements of this work.
2. Continue with planning for a Regional Digital Strategy through the G21 Network (including Economic Development Pillar, where the NBN advocacy project sits)
Key elements
 - a. A strategy for community engagement & communication is essential
 - b. Include regional institutions and industry groups and major businesses in the engagement process and assessing opportunities for technology utilisation.
 - c. Develop a strong relationship and regular communication with NBN Co.
3. Continue to explore other opportunities for the region to develop collaborative ventures and working relationships for the application of broadband technology. This may include supporting industry clusters.
4. Utilise the National Digital Economy Strategy as a reference document.
5. Maintain link with Prof Lagrandeur in his research project - The development of on-line services in municipalities.

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Background

The City of Greater Geelong is currently developing a digital strategy in conjunction with councils of the G21 Regional Alliance, local industry bodies and institutions such as Deakin and Barwon Health. This is in recognition of the revolutionary impact that the Australian National Broadband Project (NBN) will have on the way business is conducted. A document has now been presented to NBN Co and Federal Parliamentary representatives. Funding was allocated in the City’s 2010-2011 budget to commence an NBN advocacy project and additional funding is included in the 2011-12 budget for a regional digital strategy. A National Digital Strategy ⁽¹⁾ has also been launched by the Federal Government.

Conference Overview

Building the Broadband Economy 2011 (BBE 2011) is the international conference of the Intelligent Community Forum (ICF). It brings together people from across the globe to explore the opportunities offered by fibre-optic broadband technology. The “Top 7” cities and regions, as adjudged by an international panel, are showcased at the conference.

The final seven are chosen from a Top 21 after a series of submissions and visits by the judging panel. This year, Ipswich (QLD) was selected as a Top 21 city, for its work in the application of broadband in a new development (incl. Springfield Business Park) and was recognised at the conference when it received one of two ‘Founders’ awards.

Each year an additional category is added to judging criteria. The focus for this year was on the adoption of broadband technology to assist in the delivery of health services (In 2012 - “Platforms For Innovation” has been selected). Around the world health services are largely delivered by state and national governments. However, local government has a significant interest in having a healthy community and in fact delivers a large range of allied health and associated community services, many of which will benefit significantly from the opportunities offered by high speed broadband. Local government is vitally concerned with ensuring the liveability and attractiveness of its locale.

Other attendees from Australia included representatives from the City of Whittlesea, City of Ipswich and the ABC.

Representatives of the Top 7 presented to the conference and were interviewed by the judging panel. Questions were also invited from the floor. In between there was a series of keynote speeches which included: Gary Shapiro, CEO of Consumer Electronics Association and John Goggin, Director - Internet Business Solutions Group, Cisco Systems. Mayors from various cities - Vienna (Austria), Eindhoven (Netherlands), Stratford, Windsor and Waterloo (Canada), Chattanooga and Riverside (USA). Issy-les-Moulineaux (France) was also a member of the Top 7.

1. National Digital Economy Strategy, 2011. <http://www.nbn.gov.au/the-vision/digitaleconomystrategy/>

The final message of the conference was most poignant. Each of the cities drove their own campaigns and were champions for their community. They received support from their central or regional governments, but at the same time had to put the plans and vision in place. Their successes were achieved only as a result of local collaboration.

This is supported by the Broadband Today Alliance :

“There is also a growing momentum for Councils to facilitate the development of Digital Economy strategies and initiatives to maximise the development and usage of next generation services and applications that utilise the NBN to its full potential.” (2)

Aims of Intelligent Community Forum

The Intelligent Community Forum is dedicated to developing and strengthening communities’ application of broadband technology. It is focused on ensuring that individual communities can take advantage of the technology available and that it is used for the social and economic benefit of its citizens.

An important premise is that the technology should be used in a manner that promotes social inclusion and therefore the benefits are shared by the whole community. It is therefore necessary to bring the whole community along on the journey.

Discussion

Broadband As An Enabler

In an article (3) on the ICF web site, co-founder of the forum, Lou Zacharilla, likens the impact of broadband technology to the invention of the steam train. Like the train, which connected communities, even countries, broadband will connect communities wherever the fibre is laid. In fact the availability of broadband within a community will fundamentally change the way a decision about where to live is made. For a regional area such as Geelong, this can be a major advantage and the benefits of a great lifestyle opportunity can bring both people and investment to our region.

So, in short, this conference is about showcasing and exploring how communities have put the technology to work. To have a cable in the ground is only the beginning. An intelligent community can transform the ways of doing business and create brand new industries and opportunities.

Consultation Essential

It was evident from each presentation that it was necessary to engage in a sustained level of community consultation to achieve a high level of understanding across the broader population. In each city, substantial engagement strategies were developed to reach right across communities and to raise the level of awareness of the digital network and the benefits it could bring.

In the City of Chattanooga, Tennessee, a series of “intentional conversations” was started. This was the method used to engage various sections of the community - from schools, entrepreneurs, community groups to industry. Technical experts and opinion leaders were

2. Terms of reference, Broadband Today Alliance. An association of Australian Councils sharing information and plans for the NBN rollout. www.broadbandtoday.com.au

3. <https://www.intelligentcommunity.org/index.php?src=blog&srctype=list&pos=10,5,254>

also enlisted to lend their support. Chattanooga developed media tours where they were able to package up news stories to publicise the progress and benefits of a fibre optic network.

Most of the Top 7 Cities agreed there was initial community disinterest and in some quarters a sense of “why do we need broadband?”. This viewpoint was gradually dispelled as the campaigns progressed and the level of understanding increased.

Action Plans for Change

Issy-les-Moulineaux had a track record of innovation in its community, as a long serving Mayor had driven many technological changes over a number of years. It was this culture that Eric Legale, General Manager of Issy Media, identified as a means “to excite people about ICT” and achieve change in behaviour and expectations. The culture he spoke of was acceptance of innovation. A fibre network was now another innovation that was available.

Eindhoven, in the Netherlands, used a somewhat inventive approach to drive change in its community and prepare a ‘smart workforce’ for the future. The “Technific” project - a technology based game for students, named Medical Investigators, was created by The Taskforce Technology, Education and Employment program (TTOA). TTOA was established to attract youth to science. The same organisation funded research projects for 2,000 people when the global financial crisis impacted their economy. Many workers in Eindhoven who would have become unemployed were instead deployed into these local research projects. It utilised local technology and capacity to keep smart and capable people in the city, curbing the drift to larger cities. As the economy has recovered they have now moved back into the rapidly growing technology based industries. The Innovative Solutions Award, where students were challenged to invent a new product was successful in attracting interest and participation. Web-based social media tools and on-line games were also part of the innovation strategy. Through their engagement, the youth were becoming familiar with the latest technology and understanding its potential.

Stratford, Ontario, has a population of 32,000 people and also identified that the brain drain was a real issue. Waterloo University was established in the town and they moved to take over an old industrial site, similar to Deakin Waterfront Campus. The MBA degree was reinvented with an emphasis on the digital world. This strategy kept young people in the city and attracted other businesses. Digital Media was among these industries attracted and an emphasis on “start-up culture” was encouraged. Like Geelong it also focused on keeping existing businesses as well as diversifying.

Innovation

It was highlighted in a presentation by Robert Bell (Co-Founder of ICF), that obstacles to change will always exist, but that an Intelligent Community “always works out a way to make things happen”. The co-operation of non-profit organisations, business and government was an essential part of this. He used the example of Dundee (Scotland) as successful in Team Building and achieving change. Various research bodies such as the Scottish Crop Research Institute and ideas groups were created to generate new thinking. In the City of Riverside (California), CEOs of hi-tech companies got together to brainstorm ideas and in the spirit of collaboration, they set up facilities for innovation in their premises.

Bell also spoke of the innovation in Eindhoven to create “Brainport”, a non-profit organisation that exists solely to connect innovators in both business and government sectors. Employers, research institutes, the Chamber of Commerce, universities and governments from the region’s three largest cities are all involved. Its task is to solve social concerns and contribute to the community by generating ideas and opportunities. To some extent we have seen elements of this in Geelong with the instigation of Northern Futures.

Brainport focuses on projects that are viable and sustainable. An example is the Brain Port Health Project which has a goal of improving productivity by 1% per year. It will start with 150 companies employing 10,000 people. This was identified as a high value project as their regional health care cost 17 billion euros and was predicted to rise to 25 billion per year by 2020. Hospitals, government and the technology industry are all involved. The aim of the project is to use technology to achieve savings and minimise labour shortages.

Necessity can also drive innovation if there is strong leadership. The example of Tallin, Estonia was presented. When Russia withdrew from the country (1992- 1994⁽⁴⁾), they were economically in bad shape. Project Tiger Leap, the provision of computers and lap tops in every school, was implemented. It was used to drive a growth in “e-services” such as banking, health and government. SKYPE was a product that was created in Tallin. Today up to 16% of voting is done on-line in Estonia and is a world leader in on-line voting. Internet voting was offered at the general election in 2005. Often Estonia is referred to as E-stonia, such is the takeup of ICT⁽⁵⁾

Digital Inclusion

Throughout the conference the emphasis was on ensuring that the new technology was available to all. Essentially this relies on the premise that if a sector of the community is by-passed the social issues and associated costs are significant. On the other hand, inclusion will assist a community to reach its full potential. Therefore, the broadband network must be available to all and affordable.

We have seen in many cities, especially in public libraries and city centres, that wireless broadband, (sometimes at reduced speed) is available free for public access. Another example of this is in Riverside, California, where a free one megabyte speed Wi-Fi is available across the city. Faster speeds are available for a fee. Such a system would obviously be attractive for visitors and residents.

In Windsor Essex (Canada) a public portal was developed for youth, seniors and immigrants. Each site catered for the specific needs of the target group. As an example, government services, club and religious information was available for migrants.

Riverside also developed a creative approach to providing computer hardware to schools at no cost, while providing a learning environment for disadvantaged youth and those in trouble with the justice system. “Project Bridge” is an e-waste collection and sales program, which raises \$250,000 per year and provides training for the youth. They also refurbish equipment which is provided free to schools. In return, schools assist with teaching skills.

4. <http://www.osce.org/item/58452>

5. http://www.msnbc.msn.com/id/9697336/ns/technology_and_science-tech_and_gadgets/t/estonia-first-allow-online-voting-nationwide/

Collaboration

Collaboration didn't come easily or instinctively to all of the Top 7. Brian Gregg, Chief Administrative Officer, County of Essex (Canada), commented that when things were going well, the necessity to collaborate was non-existent. However, when their economy began to collapse in 2008 as a result to the Global Financial Crisis, this changed. An economy which relied largely on the automobile industry implemented a major diversification strategy. Geelong had a similar reliance upon manufacturing and continues a strategy to diversify its economic base. Essex has been successful in developing an aerospace and defence industry and manufacturing of tooling and dies has increased. This was achieved by combining the knowledge and intellectual resources of their people and sharing information. In essence it created a culture where, according to Gregg, "businesses learned how to go out and chase work".

Each of the models of the Top 7 would appear to have been successful in gaining a high level of collaboration across their communities. This was apparent through the consultation strategies and the broad cross section of participants. The Chattanooga and Riverside experience (see consultation) were representative of the collaborative efforts undertaken.

Application of Broadband Technology

The use of high speed fibre networks will infiltrate every aspect of life and business and will become critically important in a community's development. We have seen in this country the explosion of internet use, for example within the banking (on-line and ATMs) and communications industries. With the rollout of the NBN these possibilities will increase exponentially. When considering the relatively short time that we have been developing the Information and Communications Technology (ICT) industry, I believe we could be considered to be in the "T-Model Ford" stage of advancement. An exciting future awaits.

The Top 7 cities have demonstrated their ability to harness the possibilities of the technology and have begun to roll out applications which can only exist with this high speed technology. Speeds over 100 megabits per second and in the case of Chattanooga, a 1 gigabit synchronous network have forever changed the ICT landscape.

Some examples:

Health

Medical records maintained on line,
remote diagnosis of patients,
i-Triage conducted away from hospitals via smart phones,
on-line hospital management - from pharmacy authorisation of prescriptions through to patient management,
remote monitoring of rehabilitation and recovery sessions,
medical image transfer between facilities and practitioners.

Within the City of Greater Geelong there are half a dozen or more different home care and allied health services delivered by council and in conjunction with other health providers. Through their development of high speed broadband, the Top 7 communities have demonstrated that there are many applications which can become part of the way councils can deliver these services. Services such as post-acute care and personal home services (for frail aged and people with a disability) could adapt and benefit from similar broadband

applications; in particular monitoring and diagnosis services. With a growing shortage of health professionals and an increasing demand for allied health workers, the ability to maximise the capacity of the system is essential. Technology, in particular high speed broadband, has a great potential to improve communication and increase the volume of services delivered by health practitioners.

Labour shortages were identified in Eindhoven's Brainport program, where the increasing demand for qualified people was a concern, hence the need to increase productivity. However, through this innovation, many thousands of jobs will be created in new businesses that support the delivery of health services. It would be reasonable to expect that export sales of high-tech health products would be significant. This is an advantage of being first and utilising technology to drive change. Companies such as Motorola and Cisco are at the forefront of these developments.

Emergency services

video monitoring of emergency scenes,
data collection and emergency response records,
real time remote control of traffic lights across a city grid,
3D modelling and crime scene mapping,
real time video transmission of emergency scenes to headquarters (via in-vehicle and personal cameras).

This is one area where a number of the cities have achieved considerable benefit. Riverside uses video cameras to monitor rail crossings and strategic sets of traffic lights and adjusts lights operation to better manage traffic flow. Riverside has a population of approximately 300,000 people and significant savings in travel time, especially during peak times, were reported. Chattanooga is also employing the capacity of the "MESH" (a 100 megabit wireless network) to manage traffic and assist with the movement of emergency vehicles by manual control of traffic light sequencing.

Education and Social

cloud computing and outsourced software management
on-line, real time transmission of community events to housebound or invalid people

Peoples Voice Media (UK) is an internet-based local news service. It is sponsored by the BBC and is also used to assist in recruiting employees. The product is available for the local neighbourhoods. People are trained in digital recording, media, video production, on-line editing, and reporting. This has been a positive, motivating influence on people in numerous communities. It has also assisted community engagement activities and contribute to residents' pride in their neighbourhood. It is based in Manchester and has now spread across the UK. ⁽⁶⁾

The "SKOOL" program in Eindhoven resulted in a model for the remote management of school computers and lap tops. New laptops are given to students and when they log on the system automatically detects the school they are from, configures the laptop and downloads the software bought and authorised by the school. It is also used to manage the schools' servers and files remotely and with high levels of security. In essence it's a cloud computing application with significant cost and resource savings to the schools.

6. <http://peoplesvoicemedia.co.uk/>

It was reported at the conference that since the introduction of SKOOL, 800 Dutch primary schools have adopted the system. SKOOL was developed by Paradigit, a systems integrator, from an idea emanating from the Brainport program.

Government and Commerce

high speed data transfer,
on-line e-services (ever expanding),
increased video content of web sites,
large scale video management systems - large screen games/public sites etc,
automated fault finding and reporting systems - eg. power failures, street light outages,
high definition video conferencing,
traffic monitoring via road sensors.

Commonly, local government played a vital role in building the local networks. By committing to be a customer, it underpinned the rollout of fibre within their municipalities and regions. One major obstacle most cities experienced was raising the capital for the infrastructure. The Australian NBN rollout was viewed as a major advantage for our country.

The take up of services however, will provide many benefits to councils; particularly applications involving high volume data transfer which is limited with the capacity of current infrastructure. Within Geelong over 120 services are delivered, many of which can potentially benefit from new technology options such as rates and payroll processing, in addition to those discussed earlier.

Processing of credit cards at parking machines can be controlled through a wireless network. Riverside (California) currently uses this technology.

Marketing and Advocacy

All Top 7 initiatives were driven by individual cities and regions, and all had to battle for support. The motivation and will to succeed emerged from a recognition that they needed to change, diversify and modernise their economies and society.

Marketing and advocacy is part of the award criteria. In order to maintain momentum it is considered important to celebrate and publicise achievements for people to understand where they started and how far they have come along a journey. It is especially beneficial in 'spreading the word' more widely. This is particularly relevant if new business is to be attracted to a city or region. Chattanooga has been successful in having considerable investment committed to their city in recent times. The rollout of fibre was only completed in October last year, but already the rewards are beginning to flow. Volkswagen are about to open a \$1 billion greenfield site for production of vehicles for the North American market. Amazon and Homeservices USA have recently invested (largely due to the technology available) over \$US92 million between them, resulting in the creation of 1300 jobs. (7)

A key to other regions accepting and understanding the capabilities of Chattanooga was the engagement of outside News organisations. The New York Times and Bloomberg Television were among the media utilised to "tell the Chattanooga story" and to spread the word.

7. Hamilton County Mayor Jim Coppinger, Top 7 press conference, Feb 2011. <http://www.youtube.com/watch?v=WaYJexroYdk>

Even within the USA the anecdotal comments initially were - why Chattanooga?, what have they got? This changed as the message was reinforced by their story.

Successful marketing will also assist other communities to understand what broadband can bring to a community.

The Way Forward - Benefits For Geelong

It is clear from the conference that the availability of Broadband technology has endless potential to improve services and lower costs. Importantly, Intelligent Communities' have demonstrated the technology's ability to contribute to a significant expansion of business investment, new products and the creation of many new enterprises and jobs in the economies that have embraced it.

These achievements only occurred through the hard work and dedication of each local community. No state or federal government implemented plans or created ideas. The provision of new infrastructure and financial support for local projects is only provided after local councils, businesses, institutions and peak bodies and the community in general have put a plan in place and actively lobbied for a positive result. The potential that a high speed fibre optic broadband network can offer will only be realised if a similar level of planning is initiated and supported at the local level.

The Geelong region has long been promoting a transition to new smart technologies (and the knowledge economy) and the City of Greater Geelong has played a key role in this. It has provided financial support for industry cluster groups and projects such as the Geelong Ring Road Employment precinct. Planning and strategic support for the development of the Armstrong Creek Business Park, the development of Avalon airport and attracting new businesses to our city are also integral to the strategy.

The promotion of broadband within our region, with the imminent arrival of the NBN rollout, is another opportunity for our region to move along this transition path. It will also allow us the opportunity to modernise and strengthen existing industry.

Post-Conference Actions

Collaboration

The City of Greater Geelong has already begun work on this new opportunity. An NBN project has previously been adopted by G21. A strategy to involve all key stakeholders and develop a digital strategy is also funded.

Additional discussions with G21, the ICT Cluster and Enterprise Connect have been held in preparation for further planning activities. Each party plays a major role within our region and has the capacity to make a valuable contribution in the process.

More recently, discussions have been held with the Australian Industry Group (AIG), with a view to participating in a regional pilot program to advocate the benefits of broadband to small to medium enterprises within our region. This will be promoted during the Geelong Small Business Festival in August, with a presentation to business on 1 September.

The City of Greater Geelong has also established contact with Broadband Today Alliance,

an association of Australian local governments, formed to share information, ideas and maintain a strong link with NBN CO during progressive rollout of the broadband network. The collaborative effort is supported via a website and secretariat provided by the Ipswich and Sunshine Coast Councils.

NBN Co meeting

On 20 June, the Mayor, John Mitchell, CEO Steve Griffin and I presented a proposal to NBN Co for the early rollout of the NBN within the G21 region. It was well received and was an important first step in our goal to be connected to the fibre network. Local Federal MPs, Richard Marles and Darren Cheeseman were also present at the meeting.

SEGRA 2011

In October this year, SEGRA (Sustainable Economic Growth for Regional Australia), one of Australia's most highly regarded regional economic development conferences, will be held in Geelong. This presents an opportunity for Geelong to showcase our achievements to regional Australia. The NBN project will be featured at this year's conference. Planning is underway for a Top 7 country to speak at SEGRA.

Research

The City has also agreed to participate with a Doctoral Studies researcher, Luc Lagrandeur, Assistant Professor - Marketing, at Laurentian University in Ontario, Canada. The research project is the development of on-line services in municipalities. The study will involve research from across the globe and participation in the project has the potential to assist our city in the planning and development of on-line services. It will focus on identifying factors that lead to improvements in services and improve understanding of the technology. Participation resulted from discussions I held with Professor Lagrandeur at the Intelligent Community Conference.

Recommendations

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2. Continue with planning for a Regional Digital Strategy through the G21 Network (including Economic Development Pillar, where the NBN advocacy project sits)
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4. Utilise the National Digital Economy Strategy as a reference document.
5. Maintain link with Prof Lagrandeur in his research project - The development of on-line services in municipalities.

References

The Top 7 Intelligent Communities of 2011, Handbook. Intelligent Community Forum, June 2011

<http://www.broadbandtoday.com.au>

<https://www.intelligentcommunity.org>

<http://www.msnbc.msn.com>

<https://www.nbn.gov.au>

<http://www.osce.org>

<http://peoplesvoicemedia.co.uk/>

<http://www.youtube.com/watch?v=WaYJexroYdk>