

Huawei Australia

Submission to Regional Telecommunications Independent Review Committee

2011–12 Regional Telecommunications Review

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Executive Summary

Huawei Australia is grateful for the opportunity to present this submission to the Regional Telecommunications Independent Review Committee. Huawei appeared before the Committee on October 26, 2011, represented by Dr Tim Williams (author of *Connecting Communities: the impact of broadband in the UK and the implications for Australia*, an independent report commissioned by Huawei), along with Gary Ballantyne (NBN Account Director) and Luke Coleman (Media Relations Manager). Following the appearance, Huawei Australia believes that Dr Williams' *Connecting Communities* White Paper directly addresses many of the Committee's key areas of interest, and the report has been attached as an appendix to this submission. In summary:

1) The digital economy: The report notes a program in the UK dedicated to accelerating economic growth through the use of broadband, helping some 10,000 small businesses by increasing productivity, increasing employee motivation and retention, and improving work/life balance. (p34)

2) Regional health and education outcomes: *Connecting Communities* found that NHS Choices (a broadband-enabled National Health Service program) has saved the NHS £44 million, with up to 300,000 citizens logging on to the service in one day last December (p3). Pilots of tele-healthcare in remote areas of Scotland have shown how high speed broadband is saving lives now. Broadband-enabled telecare services are now provided to 1.7 million homes in the UK, allowing older and more vulnerable people to stay and live independently in their communities with their families – with the all the health and cost-benefits to the Treasury and to family budgets that result.

Similarly, *Connecting Communities* found that broadband allowed teachers to deliver greater flexibility and tailor teaching techniques to suit individuals – with case-studies showing a significant boost to student grades as a result. (p46). It also notes broadband-enabled applications suited to improving educational outcomes in more remote areas.

3) Communications needs of Indigenous people and communities: Broadband is pivotal to bringing “re-population, not de-population” to rural and regional areas, the report finds. A prioritised high speed broadband rollout in Cornwall at the edge of the UK has played a key role in marketing the area to entrepreneurial in-migrants and the area has seen an increase in population of 6.5% since 2001 – faster than the UK average. (p33)

4) Developments in the terrestrial and satellite mobile phone sector: Huawei is one of the world's leading telecommunications equipment suppliers, and as such is vastly experienced in the latest mobile communications technology. Huawei is currently working with Australian operators including Vodafone, Optus, and vividwireless to deploy mobile networks across the country, with a significant amount of our work performed in regional and rural areas.

5) Consumer issues: Rural and regional communities often experience a different set of consumer issues to metropolitan users, and Huawei will attempt to explain how a combination of community activism and new technologies can help solve some of these issues.

Addressing the Committee’s Key Areas of Interest

1) The digital economy

As noted in the Committee’s Issues Paper, the digital economy refers to the impact of ICT (information and communications technology) on business, government agencies, not-for-profits, and every individual Australian. *Connecting Communities* delves into each of these areas, and describes how high speed broadband is reshaping the way people and organisations go about their day to day business.

High speed broadband is allowing businesses in regional areas, both large and small, to capitalise on a raft of new opportunities to improve staff retention, reduce operating costs, and even increase employee motivation. *Connecting Communities* (p34) uses the UK example of Cornwall (a regional community some five hours from London), which is bringing businesses back by the deployment of high speed broadband. Cornwall’s *actnow* program is said to be one of the most successful EU-backed regeneration initiatives ever undertaken. Helping over 10,000 businesses, farms and voluntary organisations between April 2002 and December 2008, *actnow* was commissioned with accelerating economic growth and social inclusion through the use of broadband – essentially, ‘selling’ the benefits of broadband to businesses in an effort to bring them back to the regional area.

“Increased productivity is partly due to increased employee motivation and improved work/life balance, which helps in attracting and retaining staff. There are also significant productivity benefits as a result of employees being able to work flexibly from home avoiding the stress and wasted time of unnecessary travel to the office.” (p34)



As well as playing a role in helping small regional businesses flourish, broadband also has a pivotal role to play in ensuring employees can work effectively and flexibly regardless of their physical location. The White Paper notes the trend of ‘homeshoring’ (as opposed to offshoring), where call centres can be extended to an employee’s home as part of a ‘virtual switchboard’ using Voice over internet protocol (VoIP) and broadband.

“Research has shown by providing call centre staff with the option of working from home you improve staff retention and are able to attract a higher skilled workforce. It is also enables those who are less able to travel or have other responsibilities to access employment.” (p52)

In one case study, Co-Op Travel Group subsidiary ‘Future Travel’ operates the largest virtual contact centre in the UK – leading to reduced operating costs, reduced energy requirements, and minimal travel requirements for staff. A second case study noted how a group of organisations in Nottingham allowed employees to work flexibly at home, allowing groups such as over-50s, women returning to work, disabled people, and rural employees to actively participate in the workforce despite their isolation from a ‘regular’ office environment.

Similarly, new technologies enabled by broadband (such as teleconferencing) are not only helping businesses to reduce their running costs, but are also helping reduce carbon emissions.

“The National Farmers Union in Wales has introduced a video conferencing system across its offices in mid Wales and its regional HQ. The reduced commuting time for 4 staff over a year has been measured as a total of 880 hours of productive time. This equates to an extra staffing resource of £8,800. They also reduced their CO2 emission by 41.6 tonnes per annum.” (p51)

Regarding Government service delivery in the Digital Economy, *Connecting Communities* notes that the UK is shifting its government services and programs to become ‘digital by default’, with 90% of government services now delivered online. The report gives numerous examples of how broadband has not only made government services easier to access, but has also led to dramatic savings in operating costs, and widespread gains in productivity for program staff.

“The shared public services agenda is the most important one in UK public administration. It matters to save money, to increase the bang from the public buck, and to improve both services to the public and the user or customer experience of the public. Broadband is at the heart of this agenda and increasingly so as bandwidth, speed and interactivity increase.” (p49)

Chapters 5 and 6 of *Connecting Communities* are dedicated to e-democracy and the digitisation of public services.

In health: The NHS’s Image Exchange Portal has – in just one year – been used to transfer over 100,000 patient studies and over 19 million X-ray and other images between NHS hospitals and also independent health care providers. (p44) The advantages for regional and remote Australia are clear: critical patient information can be quickly shared with metro-based specialists if no such specialist is available in a regional or remote area.

In education: Schools have seen student grades go up as teachers are given increased flexibility and greater access to resources via broadband (this is detailed in section 3).

In emergency services: Kent Connects is a program which has used broadband to create a single ICT infrastructure for 1.5 million people, 16 Local authorities, Kent Police, Kent Fire and Rescue. (p50). Wales has its own version: Public Services Broadband Aggregation, also cited in the report, building ‘One network for one nation’ – for 3 million citizens and almost 300,000 public servants including the emergency services.

“One small organisation, the Countryside Council for Wales with a dozen small offices in remote areas, saved, in the first 12 months of being connected to PSBA (Public Sector Broadband Aggregation), over £100,000 and significantly reduced its carbon footprint.” (p50)

In social services, local government, councils and libraries: Kent Public Services network serves 1,100 sites and 250,000 users, extending broadband connectivity to 595 schools, 103 libraries, 276 council sites, 17 social services offices and 100 children’s centres. The next phase will encompass the health and voluntary sectors. (p50)

2) Regional health and education outcomes

Chapter 6 of *Connecting Communities*, 'A healthy public interest?' details how the UK's National Health Service is seeing cost savings and improved patient care thanks to high-speed broadband. NHS Choices, described as the "Facebook for health advice", brings a long list of benefits to online users:

- Allows people to book and change appointments with hospitals
- Provides accessible educational videos on key health issues e.g. heart by-passes, toilet training, winter health, prostate cancer, breast feeding, and even Bollywood exercise videos!
- Provides interactive tools to help manage stop smoking programs, access your fitness and weight. There is even a program to get from the couch to running 5km
www.nhs.uk/livewell/Pages/Livewellhub.aspx

- Enables online communities including blogs and forums where people come to talk about how they manage their medical condition or help someone else to cope

"The increasing scale of the digital interface between UK public services and UK people is best grasped by logging on to NHS Choices. 300,000 citizens did so on one day in December 2010 so you won't be on your own. In the winter of 2010 it received 20 million visits (www.nhs.gov.uk)." (p43)



Telehealth and telecare services are critical to reducing the load on hospitals and are even saving people's lives in rural and remote areas (p31). One telehealth pilot program in Scotland showed audited savings of 70,000 bed-days in the winter of 2010 (p15), while in tele-care, the UK leads Europe. 1.7 million now lead independent lives, whilst enjoying high-quality social and professional care in their remotely monitored homes, and saving massively on residential care costs.

"In one year in Scotland, tele-care services saved:

- 5,668 hospital bed days through speedier discharges
- 13,870 by reduced number of unplanned hospital admissions
- 61,990 care-home bed days
- overall 81,000 bed days
- and 95% users said they felt safer, 66% more independent and 87% reassured because appropriate help was not far away." (p28)

Education

Chapter 6.2 of *Connecting Communities* – ‘Broadband and education: mind-expanding, mind blowing: and that’s just the kids’ (p44) includes numerous real-world examples of how broadband is not only playing a pivotal role in improving student grades, but is also helping to improve teacher access to timely, relevant material in the classroom. These findings are of particular relevance to the RTIRC, as many facts are directly linked to remote education – what one once the ‘school of the air’ using radio communications is quickly evolving into a broadband-enabled classroom no matter where you live.

“If every student leaving school was able to picture their lives with seamlessly integrated technology –end user devices, integrated services from the private and public sector, life-long personalised learning applications and so on – and understand how their choices around behaviour, purchasing and usage of technology would directly affect their wellbeing and productivity, then that’s the real opportunity. That some may leave able to hack the Pentagon is neither here nor there.”



- Chris Stark, Navigant Consulting

Some Examples:

- A rural local authority in the north of England has used the government-funded high speed internet connection to allow community access to fast broadband. The rural schools involved are now learning hubs for the whole community, and everyone benefits (p45)
- A ‘virtual school’ where 80% of the curriculum is delivered online with pupils, parents and teachers all working together 24/7 whether physically based at home, at school or waiting for a bus (p45)
- One school saw low-attaining pupils become high-attaining pupils because it replaced pen and paper with Web 2.0 infrastructure (p45)
- 55% of teachers in the UK say that children without internet access at home were at a serious educational disadvantage (p47)
- Developments such as Teachers’ TV (now only available through the internet) and the many professional chatrooms have allowed the sharing of material and resources on a massive scale. This is helpful to all teachers, but especially those working in small schools or isolated communities (p45)

“Staff in a comprehensive school have improved their A – C science results from 30% to 98% by sharing assessment data with students. The feedback enables students to address their learning needs and therefore a greater awareness of how they can improve.” (p47)*

3) Communications needs of Indigenous people and remote communities

While *Connecting Communities* is based on the UK experience of broadband rollout and as such does not investigate communications issues for Indigenous people, many of the report's findings on rural communications needs remain relevant to this point.

"What we've found in the UK is that those areas that have high-speed broadband are beginning to attract people back to regional economies. It's not de-population, it's re-population. Because you can do a modern job, you can have modern services, you can have the highest quality of life in those areas now that you've got connectivity, we're seeing a recovery of those areas – it's particularly important for the sustainability of regional economies." Dr Tim Williams, at the Connecting Communities Launch



A key finding of the *Connecting Communities* White Paper was that high-speed broadband would assist in bringing about re-population, not de-population in Australia's rural and regional areas. Referencing numerous case studies of online community activism in the UK's most remote areas, the report found that people and businesses were relocating back to regional areas to enjoy a better quality of life – all because they could stay connected through the power of high-speed broadband.

"The fastest-growing online communities in the UK live in some of the more remote areas, typically receiving lower than average public and private services at higher than average cost. Fast broadband has real traction in such communities." (p31)

This submission has already noted how the regional centre of Cornwall used broadband to overcome its own tyranny of distance. A region with a dispersed population of around 500,000, the broadband rollout in Cornwall will use £78.5 million from BT and £53.5 million from the European Regional Development Fund to ensure up to 90% of homes and businesses have access to high speed next-generation broadband by 2014.

"Its population has increased by 6.5% since 2001, faster than the UK average. At the same time, the socio-economic mix in Cornish communities is becoming more diverse, sustainable and balanced as not just retirees but wealth creators return to the county seeking a sea-change and an outstanding quality of life for themselves and their families – and to make a buck." (p33)

A concerted effort from political, community and business leaders in Cornwall has put broadband at the centre of this process of economic and social recovery. It is a shining example of the potential for Australia's own regional communities – broadband can bring a boom to the bush.

"It may still take over five hours to get from London to Cornwall by car but broadband reduces the communications gap effectively to zero. The 'edge' just got closer to the centre." (p33)

4) Developments in the terrestrial and satellite mobile phone sector

Huawei is aware, following our appearance before the Committee that many regional and rural mobile phone users continue to express dissatisfaction with mobile coverage in their areas. While Huawei continues to work with Australian operators to improve regional and rural mobile coverage, there are also some proactive steps communities can take to promote network deployment, as well as a number of new technologies which will hopefully improve services in coming years.

Proactive Community Engagement:

Huawei, having deployed hundreds of mobile networks around the world, has seen a number of communities proactively engage with network operators to cooperatively ensure improved mobile services. Often this engagement comes from rural and regional councils and local government bodies, supported by business groups, Chambers of Commerce and other interested parties.

Cost remains a significant issue for operators who wish to deploy mobile base stations in regional and rural areas. Along with the considerable cost of deploying base station towers, there can be additional issues around power supply, access to sites, and low numbers of potential users – all of which impact the business case for setting up base stations in these areas. In some cases, councils are asked to contribute financially to network deployments – but costs are often too high for small communities.

To help solve these problems, there are numerous examples of councils who have directly approached operators and offered non-financial commitments which have helped make mobile network deployment a reality. For example, councils have offered access to rooftops or land for a nominal fee (rent for \$1 per year, or even free), encouraging operators to build infrastructure. Councils have also offered free use of access roads and other facilities for network setup and maintenance. There are many more potential incentives for councils to offer which could help boost network deployments – commercial agreements with councils or business groups to use an operators services if they expand coverage, for example.

Technological Advances:

Huawei has worked with many operators around the world which have deployed networks in remote areas, often in challenging geographical conditions which lack reliable power supply. As such, Huawei has developed a number of technologies which operate at very low power requirements and utilise renewable power sources such as solar or wind power (using diesel generators as a backup source). Such technologies have great potential to expand coverage in regional and rural Australia.



Huawei Solar Power Base Station

Similarly, new spectrum bands have great potential to offer expanded mobile coverage in Australia. In particular, the 'digital dividend' 700MHz frequency is being used worldwide to deliver LTE (Long-Term Evolution, frequently described as '4G') services. 700MHz has exceptional signal propagation, meaning that operators can get greater reach – and allowing users in distant areas to get coverage at much greater distances from base stations. Huawei is currently working with Optus to test 700MHz LTE in Bendigo, Victoria.

Appropriate technologies for regional and rural use: During Huawei's appearance before the Committee, Gary Ballantyne raised the point that not all mobile phones are equipped with antennae of equal strength. As a result, in some cases users may believe they are experiencing coverage issues or are unable to make/receive calls, even when their handset is displaying several 'bars' of coverage. This may be due to the handset receiving sufficient signal power for a call, but the uplink to the base station is insufficient to actually send and receive calls or data.



The best solution to this is end-user education on appropriate technologies for regional and rural areas. A good example of this is the 'Blue Tick' campaign, run by Telstra after the launch of its 'Next G' network. Telstra retail stores and websites displayed a 'Blue Tick' sign next to mobile phones which had sufficiently strong aerials to stay connected even at great distances from base stations, ensuring users did not buy devices which had been designed for coverage-rich metropolitan areas.

Similarly, vividwireless (which operates a Huawei-built WiMAX network) offers a 'signal booster' device, which improves reception and is advertised to users who may be experiencing coverage issues

If the Committee is presented with sufficient evidence that users continue to experience handset issues, there may be the opportunity for similar end-user education campaigns on appropriate technologies in regional and rural areas.

Members of the committee also suggested that an audible indication on a handset when leaving or entering mobile coverage would be very useful, especially on remote highways with intermittent mobile coverage. Huawei has identified some apps for Android phones (the operating system used in Huawei handsets) which provide this function. Similar apps appear to be available for other handset operating systems also. Huawei has not evaluated these apps but would be happy to assist the committee further if requested.

5) Consumer Issues

“The real challenge of broadband in Britain and Australia is not just to enable access. It is to ensure use by people and communities of all kinds. It is to see the objective as not just the building of a technical network but the creation of a ‘networked society’ with all the benefits of online participation for all which flow from it.” (p18)

While the Committee has raised consumer issues such as complaints, bill shock, and advertising in its Issues Paper, Huawei wishes to submit that digital literacy remains a critical issue for many consumers, particularly in regional and rural areas. *Connecting Communities* author Dr Tim Williams notes that access alone is not enough to get people online, calling the effort to promote digital literacy ‘digital inclusion’.

Following the success of the *Connecting Communities* report, Huawei and Dr Tim Williams hosted the *National Digital Inclusion Summit* in Parliament House, Canberra. The Summit was hosted to give a voice to communities and organisations often left out of the broadband debate – including people from regional and rural areas. Dr Williams produced a new report after the Summit: *A fair go for all in the digital era*, which listed a number of recommendations for government, not-for-profits (NFPs), and public service providers on how to best ensure consumers could actively participate in the digital economy.

Recommendations relevant to regional and rural Australia include:

- The establishment of a national digital action plan with targets to get all Australians online by 2020
- A national digital inclusion and information campaign targeting key target groups – such as the elderly, disabled, young people, indigenous communities and rural communities.
- That consideration be given by NFPs, local government, federal and state government and the private sector to a shared simple, big, inexpensive community and neighbourhood campaign for organisations or individuals to give one hour to enabling a neighbour, colleague, friend or client to ‘get online’. Under the slogan ‘Go On Get Online’, such a campaign has enabled hundreds of thousands of people in the UK to become digitally literate. It could be even more successful here.
- That NFPs or community groups collaborate on implementing the digital agenda and on potentially creating ‘demand aggregation’ procurement clubs or social enterprises to enable their organisations and client groups to access lower cost internet services from ISPs or NBN Co.
- The need for local government to take a leadership role in promoting both digitisation of services/engagement with their citizens and work with local NFPs on developing shared approaches to the challenge of digital inclusion.
- The need for libraries and perhaps other community hubs to be a greater focus of the NBN roll-out.

About the Author: Dr Tim Williams



Dr Tim Williams, Director of consultancy company Publicani, is currently working on projects in both the UK and Australia.

Prior to this, Tim was Managing Director for Navigant Consulting Public Services in London where he built a team of 25 working on housing, regeneration, local government and education projects. He is acknowledged as one of the UK's leading urban regeneration, community development and housing specialists. In 2003 Tim was named as the UK's Regeneration Personality of the year.

Tim was special advisor to the Rt Hon David Miliband when he was a Cabinet Minister for the Department for Communities and Local Government. Uniquely, he then advised all subsequent housing and regeneration ministers until June 2010. Having also been an advisor on regeneration in Wales, Tim remains the only person ever to have been a special advisor for ministers in both England and Wales. He is currently advising the Welsh education minister on the reform of the education system in the Principality. Tim has also advised the current London Mayor on the new design guide for London, the Chief Executive of the Homes and Communities Agency on the start-up process for the organisation with its £5billion budget and the CEO of Lend Lease Europe on the Olympic legacy.

Tim was a founding associate member of the UK Prime Minister's Delivery Unit headed up by Sir Michael Barber. He has also been involved in ministerial review of public services in Wales.

In 2007 Tim chaired an inquiry for the UK's Housing Corporation into the design of affordable housing in Thames Gateway which was published as 'The Williams Report'. In 2008 he chaired a Ministerial Task and Finish group which led to the creation of the Centre for Regeneration Excellence Wales. Tim is soon to be appointed a visiting professor at the University of Cardiff in recognition of his contribution to urban regeneration.

Tim was Chief Executive of the Thames Gateway London Partnership between 1998 and 2003, when the Gateway, Europe's biggest urban regeneration programme, become a national priority.

Tim has had a weekly column in Regeneration and Renewal for ten years and is now a regular blogger. <http://regenwilliams.wordpress.com/>. He is a regular public speaker in the UK and has been a key note speaker for the Australasian Housing Institute. For three years to 2001 he had a weekly column in The Scotsman and has been a regular broadcaster in English and Welsh.

Tim was born in South Wales and was educated at Peterhouse Cambridge, University of Cardiff, Merton Oxford and the Inns of Court School of Law. He has a doctorate in history, a teaching certificate in English and has been called to the Bar from the Inner Temple. Coming from a mining village in 'old' South Wales and worked in regeneration in Cornwall and east London, Tim is passionate about ensuring public policy ensures a level playing field for all.