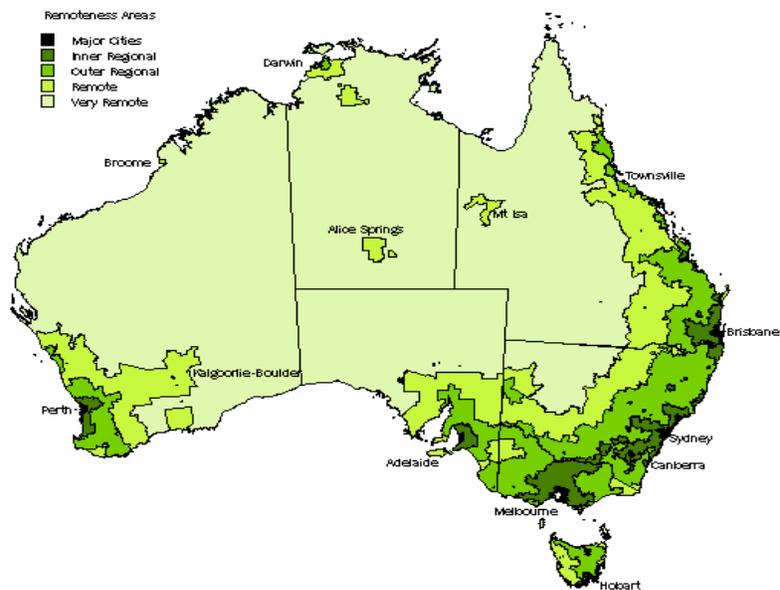


## WIRELESS BROADBAND IN AUSTRALIA – A SNAP SHOT

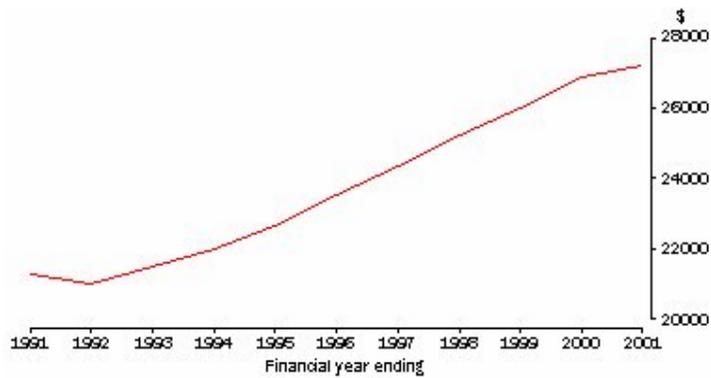
- Australia has a large land mass – slightly smaller than the United States' contiguous 48 states - but a small population relative to its size.



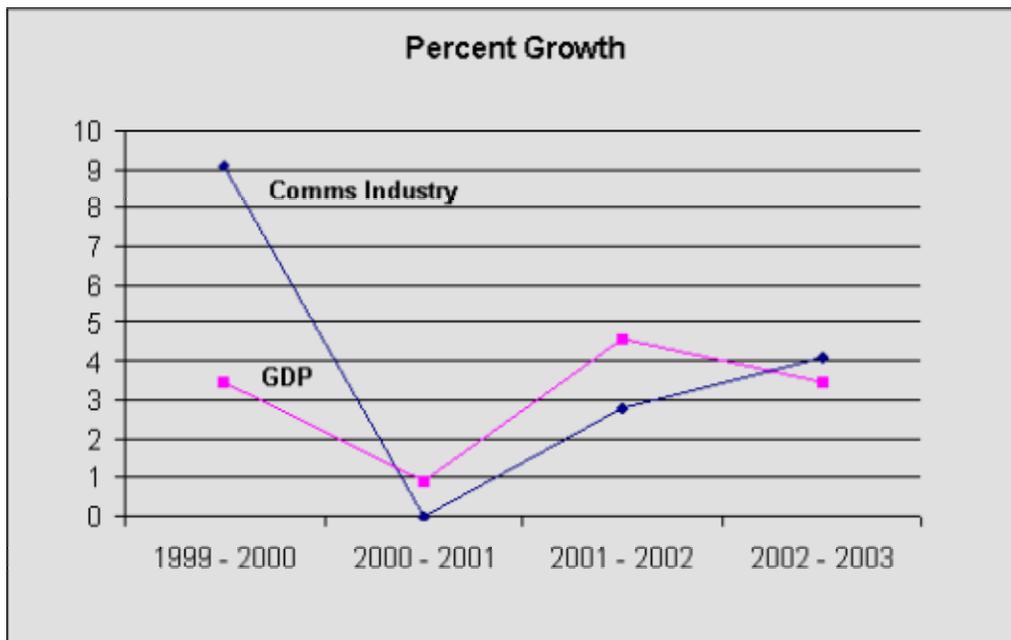
- Australia has a population of 20,090,691 of which 85% occupy 1% of the Australian continent.
- Two-thirds of this population is located in major cities (Sydney, Melbourne, Brisbane), 31% in regional areas and only 3% located in either remote or very remote areas.



- Australia has experienced significant real income growth during the past decade. Between 1990-91 and 2000-01, real net national disposable income per capita grew by around 2.5% a year - appreciably faster than during the preceding twenty-year period,

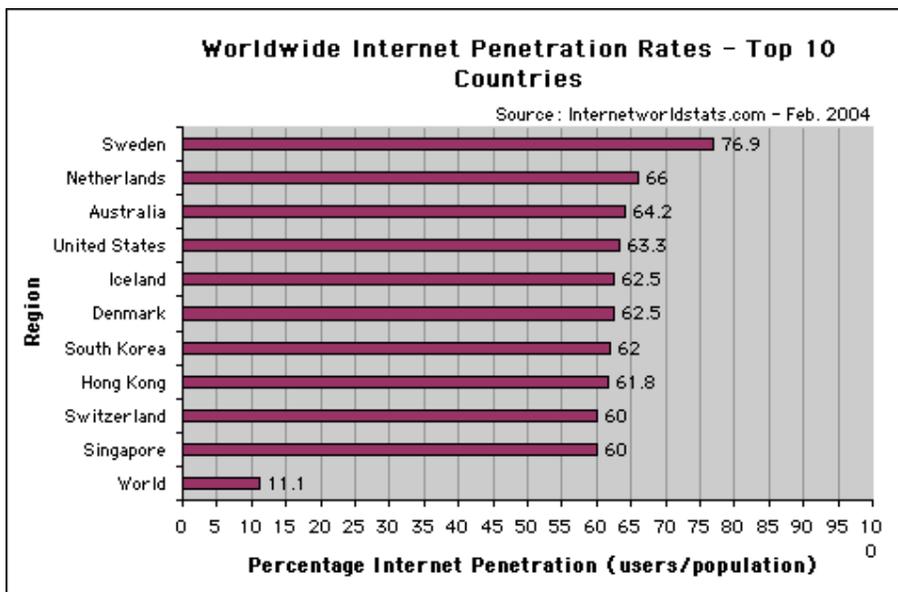


- In recent years the communications sector has grown faster than the economy as a whole.



- After the horrors of 2001, all the indicators are that the sector is once again growing strongly. The main driver we believe is wireless.

- Australians have tended to be early adopters of new technologies. We have been quick to adopt earlier generations of communications technology such as faxes, mobile phones and the internet.
- Mobile phone growth has been strong. At the end of 2003 there were 15,438,000 mobile phone users across Australia's 5 mobile networks representing 77% of the total population.
- During 2003 Australian mobile carriers added more than 2 million new customers, representing growth of around 16% - there is still scope for further growth.
- About 65% of Australians access the Internet.



Source: [Internetworldstats.com](http://Internetworldstats.com)

- Australia has been relatively slow to adopt broadband. At the end of 2003, Australia had residential broadband penetration of 7% (Canada enjoys a 35% penetration), but momentum is growing (source IDC).

## **Australian Government Policy on Broadband Development**

Encouraging broadband development is a priority, especially in regional areas. The Federal Government has committed \$142.8 million over four years for a number of programs to address the bandwidth needs of regional, rural and remote areas. Australia's National Broadband Strategy Programs include:

- **The Coordinated Communications Infrastructure Fund** to which the government has committed \$21.988 million. This program builds on the Government's \$50 million National Communications Fund (NCF) which supports significant communications projects in the education and health sectors in regional Australia.
- **Demand Aggregation Broker Program** (\$8.4 million) which is aimed at coordinating demand at a regional level to ensure a viable business case for rolling out infrastructure to areas that would not otherwise receive broadband services.
- **Higher Bandwidth Incentive Scheme** (\$107.8 million initiative aimed at promoting equitable and affordable access to higher bandwidth and broadband services in regional Australia by providing financial incentives to registered service providers in regional, rural and remote areas at prices comparable to those available in metropolitan areas.

Sustained economic growth through enhanced connectivity not only requires the extension of physical networks, but also the development of a regulatory and policy environment that is flexible and responsive to changing market conditions.

The ACA's objective is to create an environment in which new technologies and services can flourish. Our policies are directed at facilitating access to spectrum and encouraging deployment.

### **Key features of our licensing approach**

- Consultative;
- Responsive to demand;
- Flexible – mix of licensed and unlicensed;
- Technology neutral (ideally);
- No roll-out requirements.

## **Some Examples of Broadband Wireless Access deployment in Australia**

### **Telstra**

The former monopolist is still the major supplier of wireline services, and hence ADSL, throughout Australia. Telstra is also responsible for delivering the Universal Service Obligation in low population density areas. It has announced a number of initiatives including upgrading its CDMA service to 1XRTT to service 98% of the population.

### **Unwired**

Unwired Australia Pty Ltd holds national licences in the 3.4GHz band covering approximately 95% of the Australian population. Unwired is using its spectrum to deploy nomadic FWA and to deliver bundled voice and broadband access services to carriers and ISPs for residential and business customers using equipment supplied by Navini Networks. Unwired aims to have 70 operational sites in Sydney by the end of 2004. It then intends to go national, with plans to install networks in Brisbane, Melbourne, Adelaide, Perth and other regional centres. Navini claims that the network will be the first non-line-of-sight wireless WAN system in Australia.

### **Arraycom/Personal Broadband Australia**

Arraycom purchased 5 MHz of unpaired spectrum in the 2 GHz spectrum auctions. Arraycom has since formed a consortium with OzEmail (one of the largest Internet service providers in Australia, Crown Castle (which owns and maintains mobile infrastructure on behalf of mobile carriers), Vodafone, UTStarcom (manufacturer and supplier of IP switching solutions) and TCI (specialist project management group providing turnkey solutions to communications industries) to offer mobile broadband access using the ArrayComm I-Burst technology.

The iBurst network covers more than 100 square km and one million people, with six base stations. ArrayComm claim that data rates of 1Mbps can be achieved in urban ranges of up to 5km, with speeds of up to 600Kbps at 12km. In trials, Arraycom claim that iBurst demonstrated maintenance of 1Mbps user data rates at up to 80kph.

### **Next Steps**

ACA has is considering whether additional spectrum should be made available for broadband wireless access systems in the 2010 – 2025 MHz and the 1785-1805 MHz bands. We are currently undertaking consultation to assess extent of industry demand and appropriate means of licensing.

Following the last WRC, the ACA is considering the licensing options for the 5GHz band which has been earmarked for WLANS and RLANS.

We are also considering relaxing the power restrictions on some unlicensed services as a way of encouraging the provision of BWA in rural areas.