

## **AUSTRALIA'S Sophisticated ICT Market**

Australia has a sophisticated, world leading ICT market characterised by rapid growth and a high adoption of ICT by both business and consumers. The Australian industry is highly regarded for its ability to develop integrated business solutions through applied ICT technology.

### ***Productivity Growth***

The ICT industry is a driving force behind the Australian economy's productivity growth. In 2002-03, 25,000 information and communication technology (ICT) specialist firms generated incomes of \$79.9 billion.<sup>2</sup> To put this contribution in perspective in relation to the Australian economy, in 2002-03 this ICT industry's contribution to GDP of 4.6% which dominates other sectors in Australia such as agriculture (3.1%) industries and is approximately equal to the mining sector (5.0%).

### ***Market Size***

*World ranking:* Australia's ICT market is the 13th largest ICT market in the world and the fourth largest in the Asia Pacific region after Japan, China and Korea.

### ***Revenue and rate of growth***

Total income for the ICT industry in 2002-03 was \$90,000 million with ICT specialist businesses recording a total income of \$79,893.7 million (89% of total).

### ***Research & Development (R&D)***

During 2002-03, expenditure on R&D by the ICT industry was \$1,497 million, 25% of total business sector R&D expenditure (\$5,979 million). In current price terms, R&D expenditure by the ICT industry was 12% lower than the level recorded in 2001-02. ICT industry R&D expenditure was predominantly directed towards ICT research fields (90% of total ICT industry R&D expenditure).

The Computer services industry was the highest R&D performer in the ICT industry, with \$719m (48% of the total), followed by the Telecommunication services industry (\$318m or 21%). R&D expenditure in ICT research fields by businesses not in the ICT industry was significant, being \$515 million in 2002-03.

### ***Employment***

Australia has an ICT industry total employment of approximately 240,000 persons.

### ***Export***

In 2003-04 Australia export A\$4.6B in selected ICT goods and services with re-exports equal to A\$1.4B. Australia's top export trading partner was New Zealand, followed by the United States.

Australian ICT companies exported:

- ❑ A\$2.3B in IT and telecom hardware;
- ❑ A\$1,1B Corporate services,
- ❑ A\$1,1B Telecom services, and;
- ❑ A\$163 Packaged software.

***Key ingredients for the success of the Australian ICT market:***

- A modern economic base;
- Political stability with cultural and legal compatibility with key economies, especially the United States;
- Sound infrastructure;
- Technically skilled workforce and competitive labour rates when compared with other developed nations;
- Geographic proximity to Asia Pacific markets; and
- A strong tertiary education system and skills base with a solid foundation in science and research.

**ICT Uptake**

ICT has been increasingly adopted and relied upon by all sectors in recent years. This adoption and reliance has increased rapidly as industries realise the productivity and efficiencies which can be gained through the use and application of ICT. This combined with significant cost savings has resulted in all major industries being significant users of ICT.

***Adoption by Business***

The number of Australian businesses using ICT continues to grow. Computer use has shown steady growth, rising from 49% of Australian businesses at the end of June 1994 to 83% by June 2003. In contrast, the proportion of businesses with a web presence has grown rapidly, rising from 6% in June 1998 to 23% in June 2003. The proportion of businesses with Internet access has also risen fairly quickly, from 29% in June 1998 to 71% in June 2003. Use of PC's in metropolitan areas was relatively the same as business in rural or other areas (81% and 84% respectively).

***Government use of ICT***

Total government capital expenditure for computer software, computers and computer peripherals and communications equipment was \$2,333 million. Of this amount, capital expenditure by government at the state/territory level for these selected ICT items was approximately 46% (or \$1,063 million). The highest proportion of capital expenditure at the state/territory level for these selected ICT items was in Queensland (34% or \$358 million).

Capital expenditure by all government for communications equipment during 2002-03 was \$347 million. Of this amount, the federal government level represented over 54% (\$188 million).

### ***Broadband & Internet Users***

The proportion of Australian households with access to the Internet has increased significantly over the past seven years. According to ABS figures in 2004-05 the number of Australians with access to the internet was 13.9 million. This represents over two thirds of the population (a penetration rate of 69%) and a 109% growth rate. The Australian penetration rate for internet usage is higher on average to Asia (8.9%) and the global penetration average (14.6%).

Growth in internet access in 2004-05 compares with 56% of households (4.4 million households) connected in 2004-05, up from 16% in 1998.

Broadband Internet access for households was more common in metropolitan areas (33%) than in ex-metropolitan areas (18%). The Australian Capital Territory had the highest proportion (33%) of households with broadband Internet connection among the states and territories.

### ***Smart device users***

The converged device shipments in Australia reached an all time high in the third quarter of 2004, making up 66.3% of the total smart handheld device market. This significant growth was mainly attributed to data-centric devices, which grew 58% from the previous quarter, while the voice-centric space posted 48% quarter-on-quarter growth. The pen-based or traditional PDA market had a dismal quarter, declining 13% from Q2 2004.

### **Australian Industry: ICT as an Enabler**

The following are the key industries which utilise ICT in Australia:

#### ***Health sector***

Australia's health industry is enormous. It was worth over \$70 billion in 2003, more than 10 per cent of Australia's GDP. As a whole, it represents the biggest slice of economic activity in the country, touching the lives of all Australians.

IT spending in the Australian health market was estimated to be \$2.2 billion in 2002, or approximately 4% of total health expenditure and growing at an average rate of 15% annually.

Australia is amongst the most progressive countries in the eHealth sector, this has facilitated significant advancements through the development and application of products and services in areas such as management software, telemedicine and online data services.

The Australian health industry is faces significant challenges which include a geographically dispersed population; continuing pressure on health and aged care funding; efficient use of resources; increased focus on quality and safety; and growing consumer demands for 24/7 services. ICT has been and will continue to be used to overcome these challenges.

### ***Finance sector***

The Australian financial sector is one of the largest users of ICT in Australia. The use of ICT and the Internet in particular, has had a substantial influence on the finance sector and reshaped the competitive scenario. Product and process innovation, and redefinition of strategy are among the main issues with which credit institutions have been dealing in recent years. Strategic alliances and co-operative agreements between banks on production and on distribution sides have taken place.

Financial institutions tend to adopt the most advanced technological solutions and use it to improve the quality of service for their customers: hence customer relationships management (CRM) is the most prominent solution in terms of future uptake by the banks.

### ***Education***

The size of the Australian e-Learning market was estimated to be about \$150 million in 2001, with projected growth rates exceeding 20%<sup>3</sup>.

E-learning providers consist primarily of large corporates and universities. Australian governments are the major funders of the education sector and their policies and provision of infrastructure, particularly broadband, are influential in the development of e-education applications. Schools are well advanced with the integration of ICT and e-learning into their curriculums. The Commonwealth has also committed \$34.1 million over five years to the development of a body of online curriculum content as part of Backing Australia's Ability. Online courses are being provided more widely in the tertiary sector. Some Vocational Education and Training (VET) courses are delivered completely online, though limitations in the bandwidth, particularly in regional areas limits the quality and type of courses delivered.

In the universities, ICT is central to research as well as online teaching of domestic and international students. International education is a major export industry for Australia, with economic benefits estimated at more than \$4.0 billion per year including fees paid to institutions and expenditure on goods. This sector in particular represents a significant growth opportunity.

### ***Defence***

Defence is both a leading purchaser of ICT and, through its Defence Science and Technology Organisation (DSTO), is one of the leading innovators in Australian ICT. The capital budget for the Australian Defence Force (ADF) for 2002-03 was estimated at \$3.6 billion, with forecasts for 2003-04 to 2005-06 running between \$3.7 and \$4.1 billion.

Electronics/ICT technology is used increasingly in defence equipment and the control of operations. ICT is progressively becoming the backbone of a modern defence and security force. The Defence White Paper (2000) nominated the following capabilities as essential for Australian industry in support of the Australian Defence Force:

- Combat and systems software and support;
- Data management and signal processing;
- Command, control and communication systems;
- Systems integration;
- Repair, maintenance and upgrades of weapons systems; and,
- Provision of services to support the peacetime and operational requirements of the Australian Defence Forces.

### ***Transport and logistics***

Recent advances in transport and logistics include:

- Compliance and Accreditation Systems - Electronic-based vehicle checking solutions, designed to ensure compliance with statutory and other requirements, will replace paper-based systems.
- Fleet and Load Management Systems - Fleet management packages are being used overseas to monitor vehicle and driver behaviour and provide communication between driver and base. Driver performance issues are of interest both to governments and private industry.
- The use of e-business applications has enhanced customer expectations of reliable delivery, and there is now greater emphasis on tracing and tracking loads.
- Information Leveraging Systems - These are systems that apply operational information to predict demand. Logistics service operators, for example, can use the trace and track, as well as other features, to forecast demand for suppliers and customers.
- Transport and Traffic Management Systems – The need for traffic management has only recently become a recognised issue worldwide. Australia has realised the need to manage traffic and make better use of existing road infrastructure and is now an exporter of traffic management (TM) systems.

### ***Mining and Resources sector***

Sales of computer services to the mining industry were estimated to be \$150 million in 2000-01, with a projected annual growth rate of 18% to 2005-06. Software developed for the mining industry is a particular strength, with over 60 percent of the world's mining operations utilising software developed by Australian companies.

The mining industry is making large profits and becoming increasingly more efficient by using developments in technology.

Australia's mining technology services sector is a world leader in providing innovative and highly technical products and services to both the domestic minerals industry and, increasingly, to the global minerals industry.

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