




Victorian Government ICT Industry Plan 2005–2010



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Minister's Message



You can't stop progress – nowhere is this more apparent than in the ICT industry, where the pace of change is outweighed only by the scope of technological advancement. With ICT holding the key to solving some of the biggest challenges facing the world today, there should be no doubt that locally, the ICT industry remains one of the Victorian Government's key priorities.

In the two years since the Victorian Government's ICT Industry Plan 2005 – 2010 was first released there have been far-reaching technological developments, including the emergence of web 2.0 platforms for networking, collaboration and syndication. Coupled with advances in broadband capabilities, these developments will underpin future changes to business operations, personal communications, entertainment and household technology use.

I believe that we are on the verge of another wave of social and economic change that will herald valuable opportunities, and I call on the local ICT industry to be ready to respond. While individual businesses must take responsibility for their own success, the Government remains committed to a raft of support measures that can help to reduce barriers.

Victorian Government support for the local ICT industry has been significant. In the last two years, we have assisted in establishing new industry clusters focused on security (SECIA), mobile applications (Mobility Mesh) and spatial applications (Spatial Victoria). In an Australian-first, the Government has implemented ICT procurement policies that give vendors ownership of intellectual property created in

contracts with government. In partnership with the Australian Industry Group and the Australian Information Industries Association, we launched an ICT Skills awareness campaign – *ICT: Start Here. Go Anywhere* - which has been adopted as a national brand. We helped establish the world-class motion capture facilities at Deakin University, which are being used for research, teaching and commercial development. In addition to this assistance, since December 2005, we have awarded nearly 500 grants to local ICT companies as encouragement to attend overseas trade fairs, resulting in projected exports worth \$571 million.

The best endorsement of the ICT sector in Victoria and its continuing world-class performance comes from the market itself, and the strong rate of ICT investment here. As further demonstration that we are operating in a global market, we have had recent new investments not only from multinationals such as Hewlett Packard, Computershare and AXA, but also through the expansion of local companies such as games developer IR Gurus.

I am proud of what the Government and industry have achieved collaboratively over the last few years, but there is much more hard work required to maintain growth and meet future market challenges. One such challenge is the potential skills shortage, indicated by rising jobs demand, and a general decline in enrolments for ICT courses and graduate numbers. The Government's ICT skills programs have assisted students to gain practical industry experience as part of their ICT courses, enhancing employment opportunities, and providing industry with job-ready graduates. It is one of my highest

priorities to continue working with the industry and education sectors to ensure that industry demand for ICT skills can be met with high quality Victorian graduates.

Having a strong supply of ICT workers in the State also has a flow-on effect for innovation and productivity and in supporting other growing areas like advanced manufacturing, biotechnology, nanotechnology and all service industries. With Victoria facing an increasing need to foster economic growth through innovation, the ICT workforce will have a central role in our future growth and success.

Already technologies such as sensors and RFID are playing a role in improving environment and resource management, and I am keen to see Victorian ICT products and services at the centre of initiatives to reduce greenhouse gases, improve our use and conservation of water and combat terrorism. I know we have the drive and the talent to lead the world on these issues and I look forward to playing a supporting role in achieving this vision.

A handwritten signature in black ink, appearing to read 'Theo Theophanous', written in a cursive style.

The Hon Theo Theophanous
Minister for Information and
Communication Technology





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•• Growing Tomorrow's Industries Today

In 2001, the Victorian Government released *Growing Tomorrow's Industries Today*, a 10-year plan for the information and communication technology (ICT) industry.

Growing Tomorrow's Industries Today

Growing Tomorrow's Industries Today was the most comprehensive ICT industry policy ever released by a Victorian Government.

It recognised the opportunities for economic development in the State from the production and consumption of ICT. It also identified the Victorian Government's strong commitment to work with the local industry to help it become a significant player in the international ICT sector.

Growing Tomorrow's Industries Today outlined a long-term vision for the ICT industry and areas critical to its growth. It identified the Government's objectives for the industry and set targets by which success would be measured over time. Finally, *Growing Tomorrow's Industries Today* identified a broad range of current and future initiatives to help the local industry grow and reach its potential.

Growing Tomorrow's Industries Today

Vision

By 2010, Victoria is a globally recognised ICT industry hotspot.

Objectives

- The Victorian ICT industry generates substantial exports, jobs and wealth for the State.
- Victoria is home to internationally recognised and globally competitive ICT companies that are integrated into global industry supply chains.
- Victoria is an internationally recognised centre for ICT research, development and commercialisation.
- Victorian industry fully leverages the advantages provided by ICT.

Short-term targets

Each year, the Government directly facilitates:

- More than 800 new ICT jobs
- ICT investment in the State worth more than \$150 million
- ICT exports valued at \$150 million.

Medium-term targets

- The Victorian Government is successfully targeting emerging clusters of excellence.
- The Victorian ICT industry is recognised as a supplier of goods and services to key global industries.
- Victorian investment and export performance reflect the increased integration of ICT product into global supply chains.

Long-term international targets

- The value of Victorian ICT exports is more than \$1.5 billion each year.
- Significant increases in the number and success of Victorian start-up companies and Victoria recognised as a global centre of ICT innovation.
- The importance of the ICT industry trade and employment to the Victorian economy surpassing global benchmarks.



Achievements

Growing Tomorrow's Industries Today was released before the full impact of the global downturn in ICT was felt. In these circumstances, it has provided a strong foundation for government and ICT industry activity over a turbulent period.

Critically, the commitment of the Victorian Government to the local ICT industry outlined in 2001 has proved to be at a time when that support was most needed. Having a comprehensive plan in place for the sector enabled government and industry to remain focused on outcomes and to ensure the industry would be well prepared for recovery.

The level of investment in the local ICT industry has been a major achievement of *Growing Tomorrow's Industries Today*. Since 2001, there have been substantial investments made in the State by local and international businesses. These include the establishment of the Global Headquarters and Operations Centre of Computershare — a leading provider of registry services and solutions — in Abbotsford in 2003, which brought more than 1,250 new jobs to the State. Significant other investments have included Hewlett-Packard, IBM, SingTel Optus, Satyam, NEC, Infosys, Foxtel, TCS, Birlasoft, Pacific Internet, Bosch, Hitachi and Fujitsu (Atos).

The Victorian Government has been successful in attracting strategic investment from companies in emerging markets such as India. Today, eight out of the top 15 Indian ICT companies have a presence in Victoria.

Programs and activities under *Growing Tomorrow's Industries Today* have been well received by industry and have led to a broad range of successes.

Growing Tomorrow's Industries Today: highlights

Short-term targets

Since 2001, the Government has directly facilitated:

- Creation of more than 5,000 jobs
- \$700 million of new ICT investment
- More than \$900 million in exports.

Highlights

- Establishment of Computershare Global Headquarters and Operations Centre with more than 1,250 jobs.
- Major investments by Hewlett-Packard, SingTel Optus, NEC, IBM, Hitachi, Satyam, Infosys, Bosch, Birlasoft, Foxtel, TCS and Fujitsu (Atos).
- Eight of the top 15 Indian ICT companies now located in Victoria.
- More than 300 companies involved in trade fairs and missions with expected export sales of more than \$260 million.
- 1,700 Victorian ICT companies listed on VicIT, a database allowing local companies to market their capabilities to an international audience.
- ICT use encouraged and supported through a suite of programs under *Victoria's eCommerce Advantage*, including funding for eCommerce Roadshows providing training to more than 2,000 businesses across the State.
- \$3.7 million announced for projects under the Digital Media Fund, including digital animation, game

prototype development and digital audience development.

- *Game Plan: Game On*, building on previous Victorian Government initiatives to assist local electronic games developers.
- 10 industry networks and clusters established, including in emerging areas of:
 - RFID – radio frequency identification
 - ITS – Intelligent Transport Systems
 - eLearning.
- More than 40,000 students informed about ICT careers in 370 secondary schools.
- National ICT Australia Victoria Research Laboratory established with \$8 million in funding provided by the State Government.
- NEC Next Generation Broadband Research and Development Centre established.
- eServices Panel – more than \$30 million transacted; 70 per cent of projects won by Victorian companies.
- More than 500 companies attended government and industry ICT symposiums.
- More than 200 companies exposed to collaborative ICT projects under the eCommerce Exhibition Projects Program.

Aconex

Established in Melbourne in 2000, Aconex has quickly become a leading global ICT provider, offering online information management solutions to the construction, resources and property management industries.

The Aconex web collaboration system enables companies to share, track, filter and archive all project documentation and correspondence via a secure internet login, saving time and money on projects through increased control and productivity.

Aconex has been recognised as one of Australia's fastest growing companies, ranking in the top 15 in the BRW Fast 100 and Deloitte Technology Fast 50 Awards for two years running.

Currently, more than 20,000 companies are using Aconex on projects valued at over \$45 billion worldwide.

Major projects managed on Aconex include the Dubai International Airport, City University of Hong Kong, White City in London, and Eureka Towers, the tallest residential building in the world, in Melbourne.

Aconex has its head office and research and development facilities in Melbourne, with offices in London, Dubai, Kuala Lumpur, Hong Kong, Shanghai, Vietnam, India, Singapore, South Africa, Auckland, and throughout Australia.

The Government has helped more companies achieve export success through initiatives such as its Trade Fairs and Missions and Spotlight on Victoria programs, which together highlight the capabilities of Victorian ICT small to medium enterprises (SMEs) to a global audience.

There have been concerted industry and government efforts to drive industry growth through supporting and promoting key existing Victorian ICT strengths and capabilities. The Government has worked closely with the electronic games sector on the development of a series of dedicated strategies, the latest being Game Plan: Game On. The State is now host to more than 10 industry clusters, focused on new and emerging areas of ICT.

Victoria retained its position as the leading state for ICT graduates during the period. The Government helped the industry attract and retain the skills it needs through initiatives such as the New Realities awareness campaign and its PositionMentor online careers and course information resource.

ICT research and development (R&D) in the State was provided with a significant boost with the establishment of the National ICT Australia Victoria Research Laboratory. NEC Australia also made a major commitment to continue to grow its globally orientated ICT R&D effort by establishing its Next Generation Broadband R&D centre in Victoria.

Making it easier for local industry to do business with government has also been a focus of activities. For example, the Government has refined and updated its eServices Panel and held regular ICT-government symposiums to give industry the opportunity to liaise directly with government departments and agencies about their future procurement needs.

The Government has also supported innovative and collaborative use of ICT by other industry sectors such as through the eCommerce Exhibition Projects Program.

In recognition of the critical role that communications infrastructure plays for the ICT and all other industries, the Government announced its *Broadband Framework* in 2005.

'AEEMA commends the Victorian Government for its initiative in recognising the importance of a strategic approach to the development of its ICT industry.'

Australian Electrical and Electronic Manufacturers' Association
Submission, August 2004



Computershare

Since establishing in Melbourne in 1978, Computershare has become a leading technology provider for the global securities industry, providing registry services and solutions to listed companies, investors, employees, exchanges and financial institutions. In 2005, it had a market capitalisation of \$4 billion and offices in 21 countries.

Computershare announced in 2003 that it would locate its Global Headquarters and Operations Centre in Melbourne, creating 1,250 new jobs. The Centre is expected to deliver an \$800-million boost to the Victorian economy by 2009.

Computershare cited access to relevant skills, the safety of the Australian environment and the lifestyle in Victoria as critical factors in its decision to invest in the State.

Time for review

As a long-term plan for a dynamic sector, the Government is committed to regular reviews of its ICT policy to ensure it continues to respond to changing needs.

As part of this commitment, the Government began a formal review process in July 2004. An issues paper released at this time drew submissions from a broad range of

stakeholders in industry and the education sector. A series of round tables in late 2004 was attended by more than 60 practitioners.

The views of the industry have been central to the Government's deliberations on new initiatives and directions to further assist the industry's growth in pursuit of the long-term targets identified in *Growing Tomorrow's Industries Today*.

'AIIA would like to commend the Government for the energy it puts into promoting Victoria as a location of choice for ICT companies.'

Australian Information Industry Association
Submission, August 2004

The ICT Landscape

ICT remains a key enabling tool for the development of an innovation economy.

Current environment

The importance of ICT has not been diminished by the market instabilities of the early years of this century.

Global growth in ICT usage presents significant opportunities for a local industry that is globally focused and internationally competitive.

Global investment in ICT products and services was recently estimated to be \$3 trillion and expected to continue growing at 8 per cent a year to at least 2007.¹ This reflects the enduring importance of ICT to consumers, businesses and governments across the world. It also provides significant opportunities for the Victorian ICT industry.

The industry instability of the early 2000s inevitably shook market confidence in the ICT sector. The leading markets in the USA and Europe suffered the largest losses, but the impact was also felt acutely in Australia and Victoria.

Against this, the use of ICT has continued to rise in Australia. Business ownership of a computer rose from 76 per cent to 85 per cent between 2000 and 2004.² Businesses with an internet connection rose from

56 per cent to 74 per cent.³ Victorian communities also increased their use of ICT, with household internet access rising from 32 per cent in 2000 to 53 per cent in 2003.⁴

ICT remains one of the key enabling technologies for business. As the OECD has argued, investment in ICT capital by business provides a continuing means of innovation that is not delivered by any other form of capital.⁵

Deep usage of ICT across the whole economy continues to contribute to productivity growth. ICT was responsible for an estimated contribution of 0.1 to 0.2 per cent to the acceleration in the high multifactor productivity growth experienced in Australia through the 1990s and is expected to continue this role.⁶ In some industries, the role of ICT has been particularly significant, with recent research indicating that between 60 and 80 per cent of

productivity growth in the services sector over the past 20 years is attributable to ICT.⁷

ICT is also increasingly converging with other industries and other scientific disciplines to create completely new streams of opportunity such as bioinformatics and nanotechnology.

Victorian ICT capability

Local ICT capabilities remain vital. A local industry that is responsive to market demand for new products and services has the potential to make a significant contribution to the economy in its own right. The experience of the industry over the past few years shows that a focus on innovation and business fundamentals is necessary to ensure these opportunities are not taken for granted.

‘Computershare is committed to Victoria and the future of the local ICT industry. As a local ICT company that has achieved scale and global reach, we can make a strong contribution to an innovative and internationally competitive local ICT industry.’

Chris Morris, CEO Computershare

¹ World Information Technology and Services Alliance, *Digital Planet 2004* (figures for 2003).

² Australian Bureau of Statistics (ABS) *Business Use of Information Technology*, Catalogue No. 8129.0, 2003–04.

³ Ibid.

⁴ ABS *Household Use of Information Technology*, Catalogue No. 8146.0, Sept. 2004.

⁵ OECD, *The Economic Impact of ICT, Measurement, Evidence and Implications*, p.146, 2004.

⁶ Productivity Commission, *ICT Use and Productivity: A Synthesis from Studies of Australian Firms*, 2004.

⁷ Department of Communications, Information Technology and the Arts, *Productivity Growth in Service Industries, Occasional Economic Paper*, April 2005.

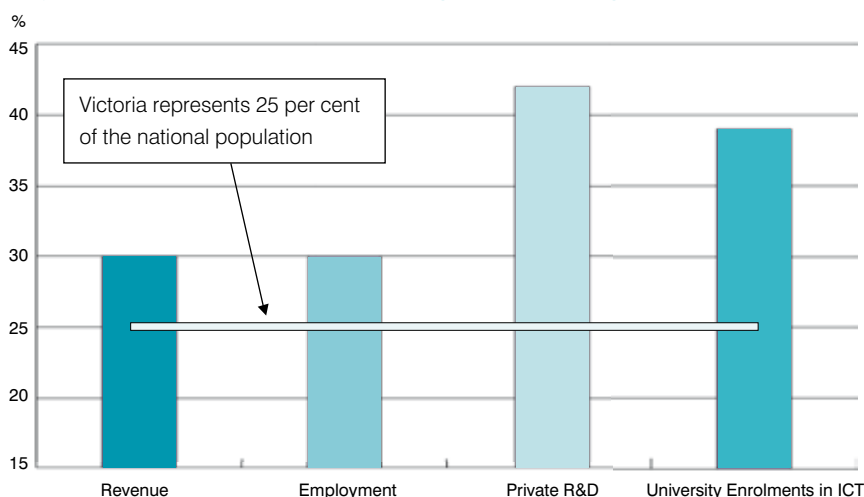


The Victorian ICT industry has shown strong resilience in this period. Key industry-wide statistics are showing a return to levels of prosperity comparable to those before 2001. Industry revenue, employment and exports are all climbing, and industry sentiment suggests a period of growth for the medium term.

In broad terms, Victoria accounts for one-third of the Australian ICT industry which in turn represents 1 to 1.5 per cent of the global market. With revenue in excess of \$20 billion, annual exports worth around \$1 billion, and strong levels of R&D, the Victorian ICT industry continues to be an important contributor to the economic performance and wealth of the State.

Growing Tomorrow's Industries Today reported employment in the ICT industry in 2001 at 65,000 people. The most recent statistics show Victorian ICT industry employment at around 71,000.⁸ These statistics and Commonwealth Government research suggest that ICT industry employment has now settled into a more sustained pattern after marked falls through 2001.⁹ Victoria's share of national employment in ICT has remained steady at 30 per cent — a strong result for the local industry over a period of sustained downturn.

Key Victorian ICT statistics, 2005 (% of national)



As ICT becomes a core part of the business of other sectors in the economy, the ICT industry continues to blur at its edges. ICT capabilities and production are now evident in many industry sectors with:

- around 55 per cent of Australia's approximately 355,600 ICT professionals and ICT tradespeople employed by firms outside the traditionally defined ICT industry; and

- ICT professionals and ICT tradespeople representing around 3.6 per cent of the Australian workforce¹⁰ which is higher than Europe (about 2.5 per cent) and the USA (about 2.8 per cent).

Victoria has retained its position as the leading producer of ICT skills over the period, with the highest proportion of university enrolments ranging from 35 per cent of the national figure in 2001 to 39 per cent in 2004. Overseas students consistently make up about one-third of all enrolments in Victoria.

⁸ Whitehorse Strategic Group, July 2005. Whitehorse employs ABS statistical categorisations to model ICT industry employment. The ABS adjusted its statistical categorisation for ICT employment in 2003; it is not directly comparable with the 2001 figure.

⁹ Commonwealth Department of Education and Workplace Relations, *ICT Vacancy Index*, January 2002–August 2005; *DEWR Vacancy Report*, August 2005.

¹⁰ ABS, Quarterly Labour Force Survey, November 2004 and A Willi Petersen, Peter Revill, Tony Ward & Carsten Wehmeyer, *Towards a comprehensive European e-skills reference framework: ICT and e-business skills and training in Europe, Final synthesis report*, Cedefop 2004.

IR Gurus Interactive

IR Gurus Interactive is an electronic game developer excelling in the fastest growing segment of the worldwide entertainment industry – entertainment software. Founded in 1996, it has gained a foothold in a US\$40 billion industry dominated by major US publishers and Hollywood licensed product.

IR Gurus is one of Australia's most successful game studios – responsible for the development of Australia's top-selling AFL football games and the world's first computer game based on Gaelic football – both for Sony Computer Entertainment.

The company has also broken into the international mainstream with *Heroes of the Pacific*, a World War II aerial fighter simulation game.

A key to IR Gurus' success has been its ability to retain intellectual property rights in its titles, allowing it to build on previous successes and create franchises rather than one-off games, thereby supporting its growth from 30 to more than 60 staff since early 2004.

The strength of the local higher education sector and the graduates that it produces remain key reasons for international companies to locate in Victoria, as well as high levels of experienced local and migrant ICT workers.

Victoria remains home to a significant number of large companies – including many foreign-owned multinationals – either headquartered or with offices here. However, like most industry sectors, the ICT industry overwhelmingly comprises small companies with fewer than 20 employees.

Future environment

With signs of ICT industry recovery and growth in recent years, and an overall business environment that has experienced five years of strong economic and employment growth, local companies can feel optimistic about the future. While these conditions are favourable for the local industry, there will continue to be significant challenges ahead to meet the needs of local and export markets.

The Victorian ICT industry will continue to face strong competition from companies of

all sizes around the world. The emergence of software standards and accreditation will place further pressure on local ICT companies to measure up. The limited size of the domestic market will make it critical for enterprising and innovative Victorian ICT suppliers to compete internationally.

The recent emergence of Asia as an influential ICT region will present new partnering opportunities and new pathways into overseas markets. Spending on ICT in Asia is projected to grow at an average of more than 9 per cent over the next few years.¹¹ Victoria is well-placed to take advantage of regional growth with the presence of eight of the top 15 Indian ICT companies in the State. This may well prove to be one of the future strategic advantages for the local ICT industry. Asian-based companies operating in Victoria will provide a valuable link for local companies into global supply chains as well as skills and employment opportunities for local ICT workers.

Exploiting the strategy of many technology users to 'globally source' ICT, Indian companies in particular have been successful

'We wouldn't have been able to sell "Heroes of the Pacific" internationally without the assistance of the Victorian Government's Game Development Kit Program.'

Ben Palmer, Executive Producer
IR Gurus Interactive

¹¹ World Information Technology and Services Alliance, *Digital Planet 2004* (figures for 2003)



in attracting outsourced work from Australia and other markets. While there have been concerns about the difficulty for local companies in competing with the mix of capability, capacity and low wages offered in Asia, it is too early to conclude whether Australia will be a net beneficiary or loser from this trend. Most commentators agree that an effective way to offset the movement of jobs offshore is to ensure that workers have access to the means to continually upgrade their skills so as to stay ahead of the overseas talent. The ICT industry will need to work hard to ensure that it continues to develop, attract and retain the high-end technical and business skills that it needs in such a fluid employment environment.

At the same time, users will continue to develop an increasingly sophisticated understanding of the role of ICT in business, and be more strategic and demanding of vendors when making ICT investment. There will be increasing emphasis on solutions addressing security, privacy and reliability issues. The investment market will also be more exacting of ICT companies and require more rigour and discipline in the industry's efforts to raise capital and fund new ventures.

ICT will continue to evolve rapidly, with a constant stream of new technologies and applications emerging in shorter time frames. The time from development to commoditisation of technology will tighten so that the local industry must move quickly to bring products to market before its competitors.

Hitwise

Melbourne-founded ICT/Online Competitive Intelligence company
Hitwise is the world's leading provider in its field.

Founded in 1997 in Melbourne, Hitwise founders targeted a niche market for the measurement of website visitors.

Hitwise came up with the idea of tracking marketing data at the ISP level, and developed software that rests with the ISP and monitors a volume of sites that could not be achieved by a traditionally small review panel.

The company's proprietary data capture, analysis, processing, aggregation and categorisation technologies took years to develop and are constantly updated to keep pace with a rapidly evolving industry.

The company now has more than 1,000 clients worldwide, and has expanded internationally from its Melbourne base into New Zealand, Hong Kong, Singapore, the United Kingdom and the USA. Hitwise claimed the Information and Communications Technology Award in the 2005 Governor of Victoria Export Awards.

Playing to current and emerging strengths

To compete effectively, Victorian companies must continue to distinguish themselves from overseas providers by exploiting current areas of competitive strength and by using innovation to establish new ones. This means the industry must not only capitalise on current strengths but ensure it is aware of competition and market developments that shape the major opportunities for the future.

Independent research commissioned by the Victorian Government in 2004 suggests Victoria's ICT strengths have evolved since 2001 and that there continue to be areas where the Victorian ICT industry can be globally-competitive (see Table 1).

Table 1. Victorian ICT industry strengths

Products/Services	Research Findings
Communications services	This is a key strength for Victoria, taking in the provision of telephony and data services. It encompasses the operations of Telstra, Optus, Primus and other carriers and represents a large proportion of the ICT employment and revenue for the State. Demand for communications services, particularly broadband services, is likely to experience continued growth.
Business systems solutions	This subsector includes the provision of ICT consultancy services and the installation, integration and maintenance of business ICT systems. Developing on the back of trends to outsource functions, local providers are well-placed to develop combined technology and service solutions that allow businesses to carve out whole business functions at reduced overall cost. Companies currently operating in Victoria include IBM, EDS, Infosys and Oakton Ltd.
Vertical applications solutions	There is broad scope in software development for local suppliers to continue to develop markets in specialised industry sectors, such as financial services, health or transport. Solutions are often highly specialised or customised to meet particular sector needs and rely on a deep understanding of the target market. The level of specialisation required has led to a large number of Victorian companies such as Retail Directions Pty Ltd, Ocean Software Pty Ltd and Aconex Pty Ltd successfully developing vertical applications.
Microtechnology	Microtechnology refers to technology with features near one micrometre in size. It underpins the main capabilities for a diverse range of applications and sensor technologies, including consumer electronics, automotive, health and defence. Victoria has strong microtechnology research capabilities and manufacturers in significant vertical sectors such as automotive (Robert Bosch, Siemens, GM Holden), communications (NEC, Agilent, CEOS) and biomedical (Compumedics).



Products/Services	Research Findings
<p>Web applications software</p>	<p>Exponential growth in web applications is expected over the coming years as demand rises for seamless connectivity within and between businesses. Victoria's strength in web applications is enhanced through expertise in two of the major development platforms – the Java-based J2EE and Microsoft's .NET as well as more general capabilities in open source software. Victoria has a substantial base of development capability in these platforms, including three industry clusters with a combined membership of around 300.</p>
<p>Electronic games</p>	<p>The global electronics games industry has been growing rapidly for the past two decades with global revenue now surpassing cinema box office sales. Victoria is home to most of the Australian games industry with production companies such as IR Gurus Interactive, Torus Games and Tantalus Interactive, the national headquarters of the Game Developers' Association of Australia and the annual Game Developers' Conference.</p>
<p>Photonics</p>	<p>Photonics refers to the technology of generating and harnessing light and other radiant energy. It is the basis for developments in fibre-optic communications. Victoria's main strengths are at the R&D end of the market where there is a focus on high-end technical skills and the development of intellectual property. The presence of facilities such as NICTA, REDlab and COLT underpin world-class activity in the State.</p>
<p>Horizontal applications solutions</p>	<p>Horizontal applications solutions also require specialisation but, unlike vertical applications solutions, they are relevant to users across sectors. Examples include eSecurity solutions, human resources solutions and eLearning solutions. The most prominent example of Victorian capability in horizontal applications solutions is Computershare, which provides share registry and related solutions across industry sectors.</p>

Victorian Government ICT Industry Plan

The Victorian Government believes the ICT industry will continue to play a critical role in the economic development of the State.

ICT Industry Plan

The local industry is ultimately responsible for its own future. However, the Government can play a valuable role in ensuring an environment that supports the growth of the ICT industry and the application and use of advanced ICT across the economy.

The Victorian Government's *ICT Industry Plan 2005-2010* reflects industry changes since 2001 and re-commits the Government to its vision and objectives set out in its 10-year industry plan — *Growing Tomorrow's Industries Today*.

The plan is consistent with the strategic issues identified in *Growing Victoria Together* – the Government's vision for Victoria to 2010 and beyond:

- more quality jobs and thriving, innovative industries across Victoria
- high-quality education and training for lifelong learning.

It also reflects the identification of ICT as a key strategic priority in the Government's Innovation Statement, *Victorians. Bright Ideas. Brilliant Future*, and will contribute to the implementation of the Government's broader industry development policies as set out in *Victoria: Leading the Way* and *Opening Doors to Export*.

Framework

To achieve the Government's vision and objectives for the ICT industry, *Growing Tomorrow's Industry Today* included a Framework for Growth to guide government activity. This analytical framework has been refined to take account of changes in the market environment over the period.

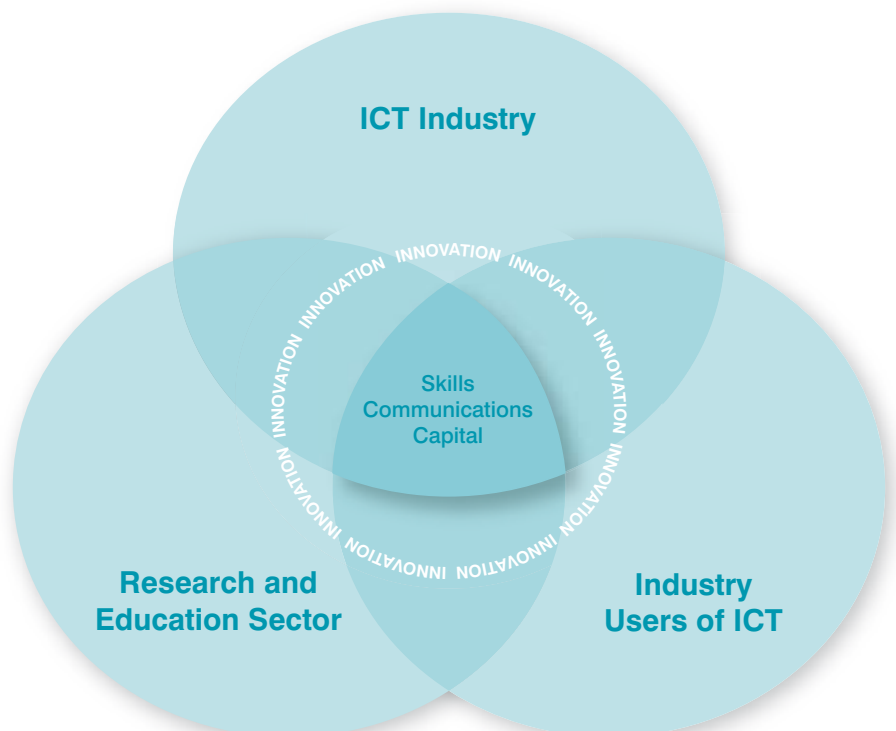
The new framework does not distinguish between local and international markets but operates in a global context. It recognises the increasing complexity of the ICT industry as it becomes more integrated with other sectors of the economy. It illustrates the growing linkages between the ICT industry and other industry sectors. It highlights the key importance of Victoria's research and education sector to the industry's future growth. It also recognises that, to a large degree, all sectors rely on common infrastructure such as skills, communications and capital.

Importantly, the Government considers that where these elements intersect is where innovation and competitive advantage are

most likely to occur. This could be through new R&D activities between the research sector and ICT companies. It could also be in new collaborative activities between the ICT industry and other economic sectors with global reach – such as financial services.

The Government recognises that it can play a role in expanding innovation through facilitating relationships, encouraging more collaboration, influencing skills development, supporting the establishment and access to key infrastructure and promoting R&D.

The new framework will guide the Government's strategies and activities in continuing to support the development of the ICT industry.





Strategies

Under the ICT Industry Plan, the Government will pursue the following strategies:

Focus	Strategy
Playing on a global stage	<ul style="list-style-type: none"> Promote Victorian ICT industry capabilities in key international markets. Pursue strategic ICT investment in Victoria. Encourage local companies to be more innovative and globally focused.
Encouraging strategic collaboration	<ul style="list-style-type: none"> Encourage the Victorian ICT industry to be more collaborative.
Linking with the domestic market	<ul style="list-style-type: none"> Ensure that government ICT procurement practices encourage competition and innovation while pursuing value for money. Facilitate greater understanding by the ICT industry of opportunities in strategic industry sectors.
Investing in innovation	<ul style="list-style-type: none"> Support the establishment of future infrastructure for advanced ICT research and application. Maximise opportunities for industry engagement with local research institutions.
Building the skills to succeed	<ul style="list-style-type: none"> Help education and training providers to align their courses with industry needs.
Delivering infrastructure capability	<ul style="list-style-type: none"> Ensure the Victorian ICT industry has access to world-class infrastructure and services.

Action and initiatives under these strategies are identified in the following sections.

Working with industry

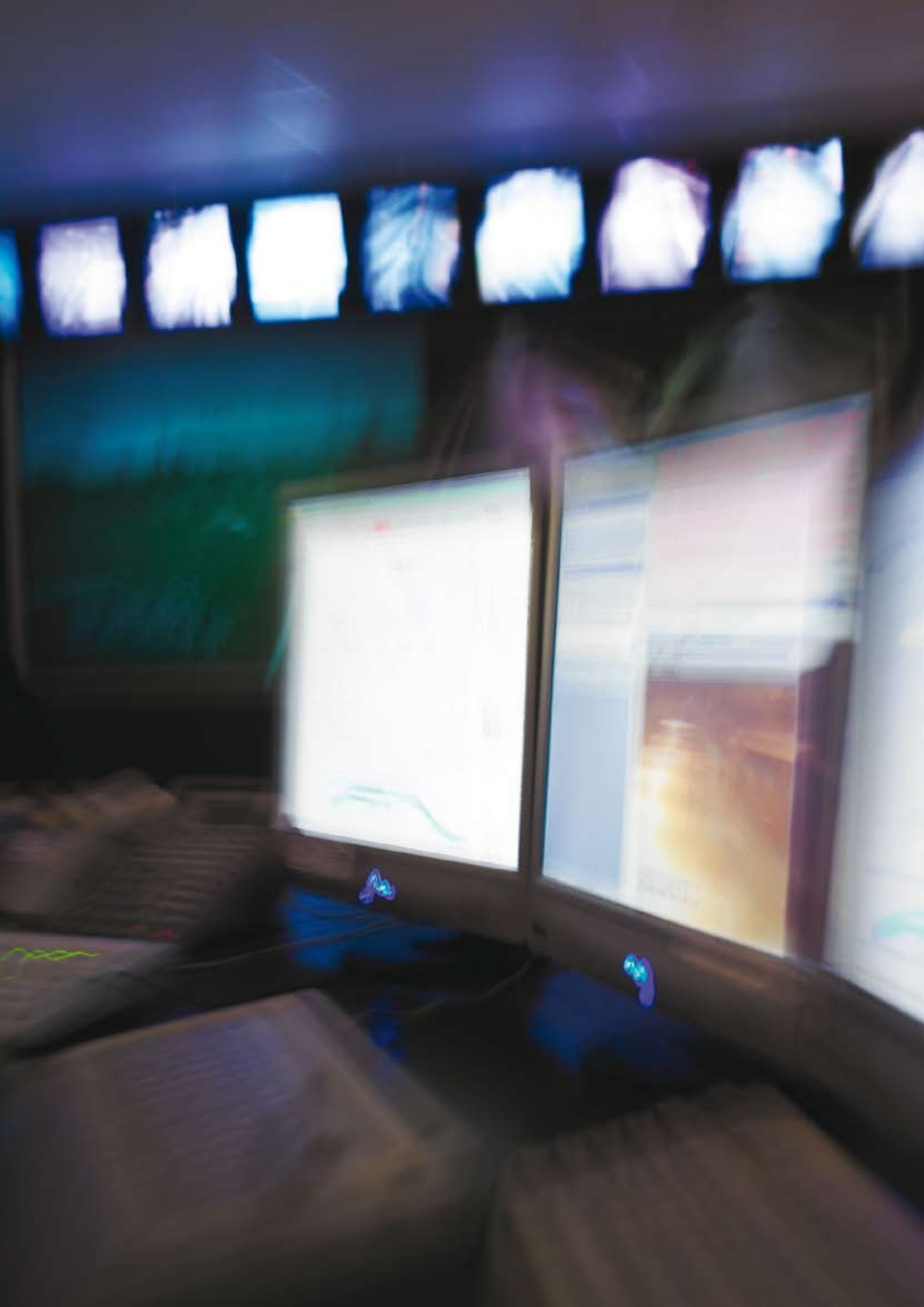
Delivering on these strategies will require a partnership between industry, government and the research and education sectors. The Government is committed to working with the key industry associations in areas where there are common objectives and broad-based benefits to industry.

Since 2001, the Victorian Government has provided substantial support for the work of industry associations. Under the ICT Industry Plan the Government will look to these associations to form more strategic alliances with the Government and between themselves to achieve mutually desired outcomes.

Measuring success

The Victorian Government will continue to measure the success of its policy approaches to ICT industry development by the measures originally set out in *Growing Tomorrow's Industries Today*. In a rapidly changing environment, such measurement remains vital to ensure government activity is well focused and achieving results.

The Government will also work with the Commonwealth and other State and Territory Governments to improve the availability and timeliness of ICT-related data to track the ICT sector's performance.



Playing on a Global Stage

Victorian ICT companies will need to be globally focused to grow and prosper.

Current situation

In international terms, the Australian market is relatively small, with Victorian investment in ICT accounting for less than 1 per cent of global demand. The market for ICT products and services is global and open, and high levels of ICT uptake make Australia an attractive market for foreign ICT suppliers. What few barriers foreign companies face to selling here are continually being reduced through free trade agreements or by advances in technology. In this environment, local companies need to understand and benchmark themselves against international competition from the outset.

As ICT use spreads internationally, new markets continually emerge. These can be country markets – such as the growth of China as a market of interest to Australian ICT – or global markets for particular technologies – such as environmental technologies. To make the most of these markets, the local ICT industry needs to know them deeply, be able to access them, and be aggressive in pursuing opportunities.

The local industry will also need to match or better the skills of their international competitors in accessing new and traditional markets. Company leaders, particularly in small organisations, will need strong entrepreneurial and business skills as well as the technical skills to produce innovative products and services.

Companies around the world are looking to increase their productivity through outsourcing arrangements in areas such as ICT services. India has been particularly

successful in attracting outsourced work through a combination of scale, competitive wage rates and strong credentials in software development. Victorian companies will increasingly face this type of competition from emerging markets in Asia and elsewhere, but can reap benefits from global sourcing strategies in other countries. It is significantly cheaper to operate a business in Australia compared to the USA or Western Europe. Victoria has people with advanced ICT and business skills as well as cultural similarities with major overseas markets. These strengths must be fully exploited by the local industry and effectively promoted overseas.

International companies in Victoria, whether part of the ICT industry or not, can provide entry into global supply chains. ICT multinationals can help to build the skill base of local suppliers, drive cutting-edge R&D, provide opportunities for collaboration and stimulate innovation and productivity. The experience of Indian companies locating in Victoria has already shown some of these benefits. The Government has worked hard to embed such investments by helping establish

links with universities, research institutes and innovative local companies. Over time, these links will help local companies make inroads into Asian and other markets.

Victorian companies can be more competitive in a global market through standards and accreditation. Capability Maturity Model Integration and the ISO group of standards provide ways to demonstrate capabilities in software engineering that can be important credentials for some markets. Underpinning these types of standards is the discipline of software metrics which provides the tools for organisations to measure, benchmark and improve software engineering process and projects over time. Victoria has world-leading expertise in software metrics and is the birthplace and home of the International Software Benchmarking Standards Group (www.isbsg.org). Where markets require, software process improvement and accreditation have the potential to deliver substantial economic benefits through improved project management and better products.

‘Trade missions provide SME companies such as Morpheum with opportunities not only to establish better Victorian networks but also grow our business with an eye to international trends.’

Nicole Dixon
General Manager, Morpheum

Infosys Technologies Australia

In late 2002, Indian consulting and ICT services firm Infosys announced the establishment of a 100-employee Global Development Centre in Melbourne.

About a year later, Infosys increased its commitment to the local market by merging with Melbourne-based Expert Information Systems (Expert). Expert brought its strong knowledge of the Australian market and its Australian staff to the new entity, Infosys Technologies (Australia) Pty Ltd. According to Expert's founder and Infosys Australia CEO, Gary Ebeyan, the merger was a natural fit combining Expert's local knowledge and high-end skills with Infosys' best practice models, global experience and reach.

Infosys Australia hired the best local talent, partnering with local companies and contributing to the growth of Australia's ICT industry. It is committed to maximising its use of local skills and blending this high-end local expertise with the scale and technical skills of its global parent.

In late 2004, Infosys selected software supplied by Melbourne ICT company 80-20 Software to supplement its own project management and delivery systems into its global network.

Today Infosys Australia employs about 650 staff from its Melbourne head office.

Role of Victorian Government

The Victorian Government can play a critical role in helping local companies – particularly smaller companies – access international markets.

The Government will urge the industry and other governments to more aggressively promote Victoria and Australia's capabilities to strategically important markets. A more coordinated approach to promotion will support other efforts by the Government to identify and attract strategic ICT investment to the State from around the world.

The Government will continue to provide support for companies planning and executing export strategies. It will also expand its in-market support for local companies to enable better access to information from the market and assistance for companies to achieve results from overseas visits.

The Government will also work with industry, ICT users and the higher education sector to ensure local companies can meet emerging standards required by the market and have access to the skills they need – in particular entrepreneurial skills – to compete effectively.

Strategies

- Promote Victorian ICT industry capabilities in key international markets.
- Pursue strategic ICT investment in Victoria.
- Encourage local companies to be more innovative and globally focused.

Current initiatives

The Government has provided the ICT industry with a range of assistance and support in developing export markets:

- announced its *Opening Doors to Export Plan* in 2004 – a whole-of-government policy and suite of programs and services to help Victoria's export performance
- provided grants to more than 300 local ICT companies to attend international trade fairs under the Trade Fairs and Missions program. Recipients reported projected export sales, due to their attendance, of more than \$260 million
- ran a series of overseas missions to strategic markets including the USA, India, Japan, China, Germany and France. An ICT mission to India in 2004 resulted in \$6.5 million worth of deals alone
- provided on-ground support and use of fully equipped transit desks for companies seeking to enter the USA (San Francisco) or China (Shanghai, Hong Kong) markets under the Access America and Access China programs. These offices provide support for establishing contacts, convening meetings, gathering market intelligence and assessing business opportunities
- established the US\$6 million Victoria-Israel Science and Technology R&D Fund, which was announced in an Agreement signed between the Israeli and Victorian Governments in February 2005. This builds on the Memorandum of Understanding on Biotechnology Collaboration signed by the two governments in June 2004. The VISTECH R&D Fund aims to provide support for joint commercially focused science and technology R&D projects between Victorian and Israeli companies, in areas including biotechnology, life sciences and ICT



- demonstrated the capabilities and skills of leading Victorian ICT companies to international markets as part of Spotlight on Victoria
- utilised expatriate skills and knowledge through the Victorian Expatriate Network, an international network of science, technology and ICT professionals
- offered a range of services and support to assist Victorian firms to become internationally competitive, including development of export and marketing plans through the Grow Your Business program.

New initiatives

Under this Plan, the Government has already announced that it will:

- double the support for international networking, exhibiting and exporting by the local ICT industry through a re-vitalised **ICT Trade Events and Export Assistance Program**. New categories introduced under the program support first-time sole exhibitors or group exhibitors
- deliver crucial training, mentoring and business relationship development skills to Victorian ICT companies so they can develop a three to five-year export focused business action plan. The **Developing Business Skills for ICT Entrepreneurs** program is a joint initiative with the AIIA.

Building on this support, the Government will:

- build on the substantial Indian investment already in the State and assist Victorian companies to access

opportunities in this important market by appointing a dedicated **ICT investment and business development officer** at the new Victorian Government Business Office in Bangalore

- urge the establishment of a collaborative approach to promoting our ICT capability internationally with other Australian governments
- open up access for local companies to gain internationally recognised skills needed to compete overseas by establishing strategic partnerships with leading international business and entrepreneurship schools
- help local ICT companies to gather market intelligence and identify strategic opportunities in high-potential overseas markets through a series of **Emerging Markets Strategies**
- provide international and domestic companies with up-to-date access to local ICT capabilities through **VicIT**
- boost existing industry and R&D strengths by identifying and attracting high-end ICT investments to the State
- monitor market requirements for software quality accreditation and develop appropriate responses in consultation with industry and other Australian governments
- investigate the potential for Victoria to capitalise on its leadership in software metrics.

Pacific Internet

Pacific Internet operates in seven countries across the Asia Pacific and is listed on NASDAQ. We specialise in assisting SMEs expand their markets beyond their own country through delivering secure internet products and services.

We chose Melbourne as our Australian head office because of the genuine desire and enthusiasm by the Victorian Government and the business community generally to engage in Asia.

This mind-set was so important in attracting the best people and forming the partnerships needed to grow our business quickly and profitably.

Dennis Muscat
 Managing Director
 Pacific Internet (Australia) Pty Limited



Encouraging Strategic Collaboration

There are significant opportunities for Victorian ICT companies to increase their scale, skills and success through strategic collaboration.

Current situation

The Victorian ICT industry is embedded in a strong innovation culture with world-class public and private research institutions and leading universities that produce the largest number of IT graduates in Australia. The industry is surrounded by many strategic, high-performing industries, such as transport, agriculture, biotechnology and financial services. These are increasingly seeking innovative ICT solutions to enhance and improve their core business functions and to pursue new business opportunities.

For many ICT companies, collaboration with other organisations through partnerships, alliances and networks is the best way to access the necessary skills, experience and resources required to build scale, innovate and go global.

Collaboration takes many forms and has the potential to generate significant benefits for individual organisations and the industry as a whole.

By partnering each other, smaller companies can explore shared opportunities and address common challenges. Partnering larger companies and multinationals gives these companies opportunities to gain international exposure and access to global supply chains. At the same time, collaboration gives larger companies access to local market knowledge, innovation and research.

Collaboration with the education and research sectors can ensure the right people with the right skills are available to industry. Collaboration can also provide access to innovative research that can underpin the development and commercialisation of new products and services.

The Government's *Combined Advantage* study – released in 2004 – confirmed the existence and effectiveness of collaborative partnerships. While these partnerships have a positive impact on the development of industry-specific skills, the study also found that higher levels of collaboration are needed to overcome market barriers and maximise R&D outcomes.

The establishment and ongoing development of more formal types of collaboration, such as clusters, can also generate benefits including driving innovation, boosting exports, attracting investment and generating high-quality jobs and new business opportunities.

Australia does not have a particularly strong collaborative culture. However, in Victoria, there are many examples of companies pursuing opportunities to work with other organisations. While this is encouraging, it is clear there is potential to increase collaboration within the ICT industry. This requires long-term commitment and investment from industry to generate ongoing benefits for the Victorian economy.

RFID Association of Australia

RFID Action Australia, a cluster of Victorian businesses, was established in 2004 with Victorian Government assistance. Within a year, it became the RFID Association of Australia (RFIDAA), based in Melbourne.

This national peak body is a successful example of collaboration among a broad range of users, solutions providers, researchers, industry associations, educators, and large Australian organisations including Australia Post, Alien Future Technology, Australian Food and Grocery Council, CSIRO, GS1 Australia, Savi Technology, and VeriSign Australia.

Research indicates that US manufacturers will spend more than \$US5 billion on RFID tags and infrastructure over the next three years. The RFIDAA is uniquely placed to access this global opportunity and play a key role in Victoria's economic growth.

A critical mass of RFID vendors and potential users is based in Melbourne and RFIDAA is able to drive collaboration between these innovative ICT professionals and key Victorian user industries, such as retail, automotive, manufacturing, and transport and logistics.

Senko Advanced Components (Australia)

Senko is a global leader in design, manufacture and original equipment manufacturer (OEM) of fibre optic product components. From its Melbourne base, it services clients including leading Victorian universities, American multinationals, Japanese industrial conglomerates, telecom operators, prominent international universities and Government research laboratories.

In 2005, Senko successfully bid for the Thai COLT (Thailand Collaborative Optical Leading Tested) project to develop a world-class broadband communications network in Thailand. Senko is also pursuing other opportunities to deploy fibre to the home technologies with a particular focus on India, Italy and Bangladesh.

Senko has played a critical role in the development of the local photonics sector, particularly through its participation in the Victorian Photonics Network (VPN). It is also a platinum member of the Board of the Fiber to the Home Council Asia Pacific.

Building on relationships established with the education sector through the VPN, Senko has developed a number of interactive photonics education kits tailored to the Victorian education curriculum. These kits are being used by many Victorian schools to support the study of photonics from the middle years through to more advanced learning at VCE level.

Role of Victorian Government

The Victorian Government recognises the important role that collaborative activities can play in overcoming barriers to growth for small companies and growing the ICT industry into an innovative, globally-focused sector.

The Government considers that the level of collaboration already occurring in Victoria is encouraging, but believes greater activity can and should occur.

Collaborative activities must be largely driven by industry, not government, if they are to be sustainable in the long term. However, specific targeted action by government can stimulate collaboration and help existing collaborative activities move to the next stage of development in order to generate benefits for the ICT industry and the Victorian economy.

NEC Australia

The support the Government has shown has not only helped NEC continue strengthening its presence as a sector leader in the ICT industry, but it has seen, through the strong leadership of the Government, rapid economic development of the State, significant consistent growth in employment in the ICT sector and the ongoing investment by business – as the major beneficiaries of a focused committed Victorian State Government.

Toshiharu Iwasa,
Managing Director,
NEC Australia

The Government is well-placed to facilitate collaboration by using its industry networks and resources to foster linkages between organisations and to support the establishment of these activities. It can also encourage greater collaboration between industry and the education sector.

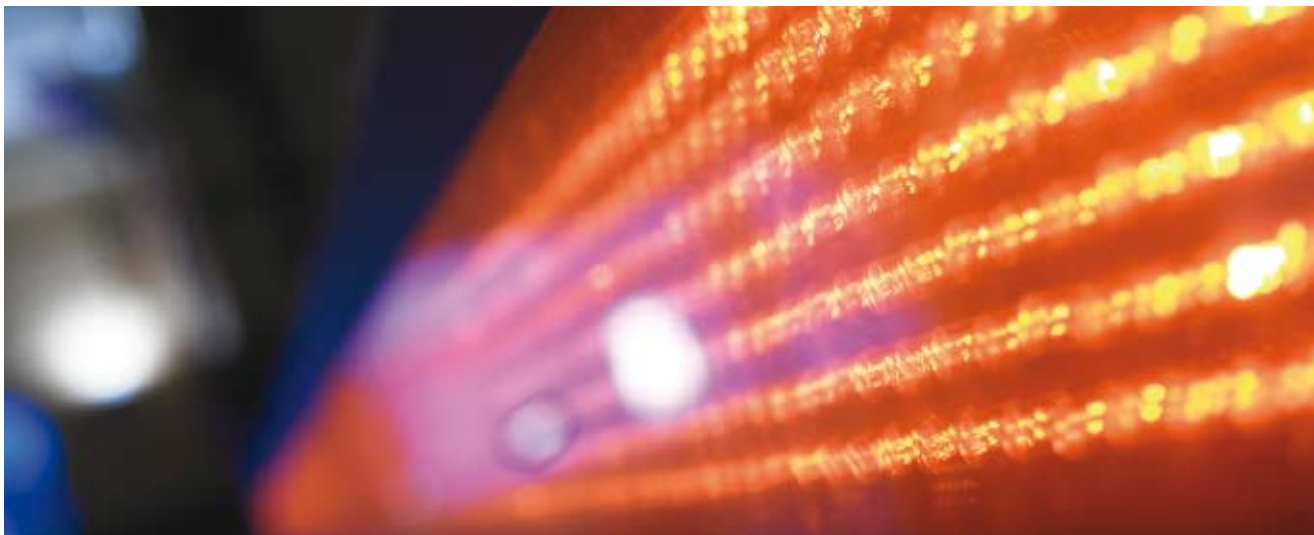
Strategies

- Encourage the Victorian ICT industry to be more collaborative.

Current initiatives

The Government has undertaken a number of initiatives to encourage greater collaboration:

- provided more than \$600,000 to support the establishment of seven industry clusters in key subsectors including web services, open source software and spatial business applications
- supported the establishment of the Victorian Microelectronics Designers Network, the Victorian Photonics Network and the eLearning Network
- worked with the corporate and education sectors to establish the Victorian Women in ICT Network to develop practical programs designed to attract and retain women in the ICT Industry
- encouraged engagement between users and producers to develop projects as part of the Government's eCommerce policy, *Victoria's eCommerce Advantage*
- released the *Victorian eLearning Strategy* in 2004 to provide support to local eLearning companies. The Strategy emphasised the need to build scale through collaboration, stimulate local



demand through awareness-raising and improving infrastructure and improve global competitiveness through standards and facilitating access to overseas markets.

New initiatives

Under this Plan, the Government has already announced that it will:

- improve graduates' job readiness, enhance the attractiveness of ICT degrees and increase the number and quality of linkages between industry and the education sector by undertaking a pilot of the **Industry and Universities Collaboration Program**, with support of up to \$450,000.

Building on this support, the Government will:

- stimulate collaboration between organisations in the Victorian ICT sector to build industry strength with support of up to \$1 million over three years for
 - the establishment of **new and emerging clusters** and networks in strategic areas; and
 - the development and growth of **existing collaborative organisations**
- drive increased collaboration between the industry and the education and research sectors by developing tools to help them identify and exploit partnership opportunities.

QSR International

Founded in Victoria in 1995, QSR International is the world's leading supplier of qualitative data analysis software.

QSR software helps researchers or anyone working with information, rather than numerical data. From in-depth interview and focus group transcripts, through to survey results and field notes, QSR software helps users to systematically manage their information.

QSR provides researchers around the world with support, resources and training and is the only developer in its field to have an international conference series on its software. The company has an estimated 300,000 software users worldwide. It exports to more than 90 countries and accounts for around three percent of Australia's total IT software export earnings.

In recognition of this, the company has won three Australian Export Awards in 2001, 2002 and 2004.

The company's success rests on a commitment to deliver software that evolves in line with researchers' and users' needs. QSR's developers and business analysts have worked closely over many years with a range of individuals and organisations to understand their research goals and the ways they work with information. This knowledge of user requirements is augmented with feedback gathered by QSR's expert help desk and consulting team.

In June 2005 QSR was awarded a \$1.1 million Commercial Ready grant from the Commonwealth Government to help take the latest in the series of research software products, NVivo 7, to a global market.

'AIIA notes with interest the effort (the Government) is making to promote the development of industry clusters and we acknowledge the key impact successful clusters can have on the development of the Victorian ICT industry. We believe that these have excellent potential to facilitate the growth of the local ICT sector'

Australian Information Industry Association
Submission, August 2004



Collins St
Town Hall

Line	Destination	Next Stop
31	Thames St	1 min
100	Port Melbourne	10 min
102	St Albans	15 min

5:28:30 PM

●● Linking with the Domestic Market

Carefully targeted local user markets provide a springboard for Victorian ICT companies to grow their businesses here and overseas.

Current situation

ICT now plays a critical role in the success of most industry sectors and is relied on to improve performance and deliver a competitive edge. As a result, investment in ICT by business has increased over the past 10 years and is expected to continue. The value of the domestic market may be a fraction of the global total, but high levels of ICT uptake combined with a strong base of sophisticated use can give local ICT suppliers a strategic foundation for growth and export.

In the past few years, users have become more strategic in their application of ICT. They are more able to recognise the possibilities of technology for their own businesses and less tolerant of ICT solutions that do not precisely fit business needs. Many businesses are also actively looking for cheaper, more efficient or better ways to manage their ICT investment, such as through outsourcing arrangements.

Highly sophisticated ICT users in global industries – such as the financial services, automotive and transport sectors in Victoria – provide fertile ground for testing local ICT capabilities as well as opportunities to develop and hone them for a broader market. This can lead to the creation of innovative and unique new products with significant global markets.

Similarly, the importance of ICT in new fields of endeavour – such as in bioinformatics and nanotechnology – brings new challenges and opportunities. In these cases, ICT users are seeing the potential of new technologies and wanting dedicated ICT responses that underpin new capabilities and drive further R&D.

Having a specialist understanding of an industry, research or government sector is becoming an essential part of developing highly-valued, marketable ICT products and services. However, achieving this demands a significant investment of time and resources in understanding a sector and the ability to respond innovatively to needs.

ICT providers that have succeeded in this strategy have often combined substantial past experience in an industry sector with more recent ICT expertise. Others have taken the time to network or form strategic alliances with particular businesses in a target sector to build up their knowledge for the longer term. Because opportunities will generally be focused on emerging business needs, they will call for a variable mix of specialisation, R&D, innovation, intellectual property development and collaboration. They are also more likely to result in longer-term business relationships and export opportunities.

Ocean Software

Established in 1993 in Melbourne, Ocean Software provides operations and training information management software for use in defence and paramilitary environments. Its niche focus is reflected in its workforce of 50 specialist staff, combining experienced industry leaders and former defence personnel.

Ocean Software has harnessed this expertise to develop innovative and practical ICT products geared to the specialist needs of the international defence industry.

Ocean Software's flagship product, FlightPRO™, was developed for military squadron operations and training management and is used by the Australian Defence Force and defence customers in the UK and Canada, helping Ocean win the 'emerging exporter' award at the Governor of Victoria Export Awards 2004. Ocean plans to build on its success by expanding into the USA and South-East Asian markets.

The company has offices in Melbourne, Manchester and Montreal, and a representative office in Dubai.

nSynergy

Melbourne-based software vendor and service provider nSynergy specialises in developing collaboration platforms for the legal industry.

Since launching LegalNet, a software platform for collaboration between law firms and in-house legal teams in early 2004, nSynergy has achieved significant success in the Australasian market with 30 of the top 100 Australasian companies choosing LegalNet as their preferred legal management solution.

Five months after opening its London office in mid-2004, nSynergy secured contracts with some of the top 50 UK companies, including private practice law firms.

LegalNet helped nSynergy win the 2005 Microsoft Global Export Potential Award at the Consensus Software Awards, the only independently-judged awards for Australian software.

The company has benefited enormously from research partnerships with Telstra and Microsoft. nSynergy is a Microsoft Certified Partner using the .Net platform and LegalNet was developed from an in-house CRM system implemented by Telstra.

Role of Victorian Government

The Victorian Government is one of the largest purchasers of ICT products and services in the State. There are many areas of government in which new and innovative applications and services are needed and these can be valuable opportunities for local companies developing tailored solutions. The Victorian Government is committed to reducing the costs to business of winning ICT work. It also recognises the scope to support ICT industry development through improved procurement practices.

The eServices Panel has addressed some procurement barriers over the last three years and provides more flexibility in adapting to different project and contractual circumstances.

Understanding user needs, developing market strategy and responding to emerging opportunities are the responsibility of ICT companies. However, government can help reduce some of the barriers for companies taking these steps.

The Government can facilitate greater interaction between users and local suppliers of ICT. It can help promote local industry strengths and provide better information on the ICT needs of global advanced-use sectors. These include financial services, health, retail, construction, energy, and transport and logistics.

Strategies

- Ensure government ICT procurement practices encourage competition and innovation while pursuing value for money.

- Facilitate greater understanding by the ICT industry of opportunities in strategic industry sectors.

Current initiatives

The Government has undertaken a number of initiatives to link Victorian ICT companies with local business:

- established the eServices Panel as a whole-of-Victorian Government panel covering specific areas of ICT expertise designed to help Victorian SME ICT companies do business with government. By November 2005, more than \$30 million of business had been placed with panel members with 70 per cent of projects performed by Victorian companies
- co-funded and participated in the AIIA – Government Symposium – an annual symposium to brief industry on the ICT strategies and technical needs of key Victorian government agencies and outline key government ICT priorities
- supported, in partnership with the AIIA, further industry symposiums on the retail, transport, water utilities and education sectors as well as Commonwealth Games 2006, as a way to highlight business development and ICT issues affecting specific industry sectors. More than 500 ICT companies have attended these symposiums since 2002
- established VicIT as a way for Victorian ICT companies to market their capabilities to an international audience.



New initiatives

Building on this support, the Government will:

- encourage greater innovation and reduce costs to business of working with government by amending its **whole-of-government ICT policies** to:
 - establish a default position by which ownership of intellectual property in ICT developed under contract vests in the contractor rather than in the Government
 - ensure that apportionment of liability in ICT contracting reflects actual project risk and minimises the need for ICT contractors to bear unlimited liability
 - ensure that types and levels of insurance required in ICT contracts are appropriate having regard to actual project risks
 - ensure that tender documentation specifies the expected contract provisions for dealing with these issues (following appropriate risk analysis), or flags that these will be negotiated with shortlisted suppliers.
- Strengthen arrangements for the highly successful **eServices Panel**, in anticipation of its renewal in the first half of 2006. In addition to potential new service categories, the new panel contract will incorporate changes to the intellectual property, liability and insurance provisions discussed above.
- Explore ways to help the ICT industry make strategic decisions about interaction and collaboration with locally-based industries that hold the greatest potential for industry growth.

In the months ahead, the Government will start implementing these policies. It will also ensure that government ICT procurement officers are given appropriate guidelines, education and training to understand and act on changes.

Acumentum

Acumentum is a user-centred design company based in Melbourne that builds powerful, intuitive online applications. In 2003, the Victorian Government licensed one of our most successful products, ScenarioBuilder™ including some customised features for use by agencies in the Department of Justice.

The State's approach to intellectual property negotiated in this case allowed us to retain control over improvements to the product that we made in the course of this contract while meeting the current and future business needs of each agency. ScenarioBuilder™ has now been taken up by Victorian Business Master Key and Local Government Compliance Project EasyBiz. This flexible approach to intellectual property has allowed us to continue to develop the product and enhance the services we have provided to government and major corporations both here and overseas.

Russell Yardley
Managing Director
Acumentum Pty Ltd



Investing in Innovation

Innovation through research and development will help ICT companies build future success.

Current situation

A quality base of R&D available to the local ICT industry is an essential part of its capacity to be innovative, develop local intellectual property and grow. Firms are also recognising that R&D needs to be used as part of a wider system of innovation, rather than simply relying on R&D to uncover new opportunities.

Victoria performs strongly on investment in ICT R&D by Australian standards.

Recent research suggests Victorian private sector ICT R&D accounts for as much as 42 per cent of the national total.¹²

However, neither Victoria nor Australia ranks highly for R&D expenditure by international standards. OECD figures on specific company expenditures suggest Victorian companies spend substantially less on R&D activities compared to their international counterparts.¹³ Improving this ranking is a key challenge for the local ICT industry as well as other industries.

At a time when many global companies have rationalised their R&D operations, Victoria has been able to maintain its position as the premier Australian state for R&D. During this period, Victoria has also been successful in attracting and retaining major ICT R&D centres. A number of major R&D centres have continued to operate here (Agilent, VPI photonics, Telstra and Bosch), while some have consolidated their presence with additional investment such as NEC and Computer Associates. New R&D investments have also been made by Satyam, Infosys, Daintree Networks and DEK.

This success is attributable to a broad range of factors. Government policies have been very supportive in the establishment of leading-edge ICT R&D activities and infrastructure such as research laboratories, centres of excellence and other facilities. Victoria also leads Australia in R&D skills and tertiary training. Alongside a strong graduate pool, Victoria has an ICT workforce capable of leading world-class R&D in traditional and emerging technologies. These outstanding research resources and infrastructure are an excellent platform for industry collaboration, commercialisation and growth.

Victorian ICT companies continue to conduct R&D in established areas of telecommunications, software development, microelectronics and photonics. However, the convergence of ICT into other sectors has created a need for more diverse ICT R&D expertise, such as in automotive, life sciences, financial services, transport and education, as well as into newer fields like optoelectronics and bioinformatics.

Technology is also leading to new, more collaborative ways for research to be undertaken. These practices are described as e-research, and the term 'grid' is used to describe the underlying enabling ICT infrastructure.

Through e-research, collaboration extends within an organisation, across many organisations, across academic disciplines and across geographic boundaries. The grid will enable accessing of data from

Daintree Networks

Founded in 2003, Daintree Networks is a leading global provider of tools and services to assist in the development, deployment and management of wireless sensor networks.

The company has established a leading position internationally as a provider of design verification tools for products employing wireless sensor and control networking technology.

Daintree began exporting in mid-2004 and has achieved significant sales to companies, universities and research laboratories in the USA, Japan and Korea.

Daintree Networks is an active member of the ZigBee™ Alliance, an international association developing cost-effective, low-power, wireless monitoring and control products based on an open global standard. It also collaborates with NICTA, a partnership which combines Daintree's expertise in network analysis with NICTA's skills in communications networking and computer-based visualisation.

Daintree Networks is based in Melbourne, where it maintains its R&D and manufacturing facilities, and has a sales and marketing office in San Francisco.

¹² Whitehorse Strategic Group, July 2005.

¹³ See ABS, *Research and Experimental Development, Businesses*, 8104.0, 2005.

NICTA – Victoria Research Laboratory

The Victoria Research Laboratory (VRL) was established by National ICT Australia (NICTA), the Victorian Government and the University of Melbourne, on 11 June 2004. NICTA is Australia's ICT Centre of Excellence focused on ICT research, commercialisation, education and industry collaboration. It has Commonwealth Government funding of \$251 million.

VRL began operation in July 2004 at the University of Melbourne Parkville campus. It is guided by a single research vision to 'create the technologies to build, manage and exploit the networks of the future'. Three research programs have been established at the laboratory:

- Sensor Networks – to promote the establishment of a sensor networks industry in Australia through the development of world-leading technology.
- Network Technologies – to transform the internet through intelligent measurement and design.
- Network Information Processing – to effectively utilise massive information networks.

The VRL R&D program is supported by the Terabit Networking Laboratory (TNL), a world-class research infrastructure facility that will also form the basis for engagement with industry.

VRL is Victoria's pre-eminent ICT research organisation undertaking world-class research into fibre and wireless broadband and sensor networks. A notable example is its NICTOR solution built around sensor networks technologies and smart water management systems to increase economic water efficiency in the dairy, horticulture and viticulture industries.

The progress to date by VRL has been impressive, both in terms of VRL's achievement against its original research commitment and the outcomes against R&D and commercialisation objectives for the NICTA organisation.

Some highlights of VRL achievements in its first year include:

- 14 invention disclosures/patents lodged
- three research projects showing strong commercial opportunities
- strong industry linkages and collaboration, including the Defence Science and Technology Organisation, Commonwealth Scientific and Industrial Research Organisation, Daintree Networks and Rubicon Systems
- strong collaboration with international research institutions
- linkages with many universities, including Berkeley, Princeton and Texas
- 30 research staff employed
- 43 PhD students supported by NICTA scholarships.

new sources and the sharing of ideas and research in real time. It will reduce the time it takes for research to find solutions, assisting earlier discovery and ultimate application.

Role of Victorian Government

The Government recognises the critical importance of innovation to economic performance. In knowledge-based economies, innovation plays a crucial role in wealth creation and is a key to global competitiveness. It is the new products, processes and services generated through R&D that give industries and economies a competitive edge.

The Commonwealth Government has the greatest capacity to influence Australia's R&D performance, through taxation arrangements, funding programs and support to the higher education sector.

However, the Victorian Government will continue to play an important role in supporting the establishment of strategic R&D infrastructure in the State. Investments in the Victoria Research Laboratory of National ICT Australia and the Australian Synchrotron in particular, aim to keep Victoria at the forefront of Australian ICT R&D. The Victorian Government will also ensure that our research community is both enabled with, and adopts, leading edge e-research tools and methodologies.

Through the Science Technology and Innovation (STI) Infrastructure Grants Program, the Government will continue to build on the State's physical and 'intellectual' R&D infrastructure through investments in collaborative industry and research projects that lead to the commercialisation of local ideas and technologies.



Strategies

- Support the establishment of future infrastructure for advanced ICT research and application.
- Maximise opportunities for industry engagement with local research institutions.

Current initiatives

The Government has undertaken a number of initiatives to support innovation through R&D:

- contributed \$8 million towards the establishment of the NICTA Victoria Research Laboratory at the University of Melbourne
- established the Science Technology and Innovation Initiative involving a commitment of \$620 million to develop world-class science and technology capabilities through investment in research infrastructure, with ICT being one of five high-priority areas targeted to drive innovation across the Victorian economy. The STI Initiative recently provided \$1.5 million towards ICT R&D to trial water-management systems supported by advanced wireless sensor technologies and \$3.3 million to Quantum Communications Victoria, which aims to develop new technology for secure data transfer over long distances
- provided support under VicStart for the development and commercialisation of technologies, products and services to grow the number of export-oriented technology businesses

- provided \$1 million to the Victorian Partnership for Advanced Computing, a key R&D tool and member of the national peak supercomputing facility, the Australian Partnership for Advanced Computing
- supported the establishment of the National Networked Teletest Facility at Victoria University.

New initiatives

Under this Plan, the Government has already announced that it will:

- make it easier for SMEs to locate important information related to sources of government and non-government R&D support by establishing an **R&D Resource Centre** website.

Building on this support, the Government will:

- help to link researchers with key sources of scientific data in real time by investigating and establishing, where needed, **advanced grid infrastructure**, services and applications
- better equip ICT businesses undertaking or thinking about undertaking R&D by offering information seminars on grants and other government assistance.

'CA believes Victoria offers a unique environment for high-end development centres – universities that produce world-class skills, a stable workforce that is loyal to the businesses it works for and a legal environment that protects the IP we are developing. Our costs are also lower than in many other developed countries.'

Dr Eugene Dozortsev
Vice-President – Research & Development eTrust Security Solutions
Computer Associates International Inc



Building the Skills to Succeed

Maximising skills across the whole ICT workforce will be a key competitive advantage for the Victorian ICT industry.

Current situation

Skills are the foundation of a high-performing ICT industry. With increasing convergence of technology and business, ICT skills are becoming crucial to the performance of other industries and the economy as a whole. Employers are increasingly requiring ICT staff to have a mix of business and technical skills to respond to new market demands.

The Victorian ICT industry is underpinned by a world-class education sector and a strong R&D base. Despite Victoria's strong standing compared to other States, the declining number of ICT graduates from Victorian universities over recent years – consistent with the national trend – will affect the workforce over the next three to four years. In contrast to enrolments at universities, enrolment levels for TAFE ICT courses appear to have steadied. With strong investment in ICT continuing, there is again talk of the possibility of future ICT skills shortages.

In this environment, the industry will need access to skilled workers from across its entire workforce, not just relying on the graduate pool to meet future demand.

Improving skills in business development, project management, team building and marketing across the workforce is particularly important to support the industry's high-end capacities.

Many graduates are responding to new demands with increased numbers undertaking double degrees such as Business/IT. In contrast, contractors – who make up almost one-third of all ICT jobs advertised in Victoria – are not responding as well to this new environment. Research commissioned by the Victorian Government suggests that while contractors accept responsibility for their own training, more than half have not undertaken any professional development in the past 12 months. Those who do undertake development tend to focus on their technical skills primarily at the high-end of technical expertise.

Companies will need to develop the skills of their staff through their own training initiatives. Business leaders will also need to develop their own capabilities and entrepreneurial skills to compete on an international stage.

'Our competitive advantage relies heavily on highly skilled and motivated people, including our contract workforce. We encourage employees to take every learning opportunity that comes along so they can reach their potential and we can all benefit at the same time.'

Rhonda O'Donnell
President, Novell Asia Pacific

Computer Associates (CA)

CA is one of the world's largest enterprise management software companies, with offices in more than 45 countries and employing more than 15,000 people.

In 2002, it opened the largest security software R&D lab outside the USA in Richmond, Melbourne. The Richmond facility focuses on key security issues such as anti-virus and identity and access management, and is recognised by CA as a Corporate Centre of Excellence for security, one of only a handful in the world.

The Richmond lab is complemented by the Mooroolbark R&D lab, which undertakes development in electronic directories and web services security for CA on a global basis.

Between them the R&D labs employ more than 150 specialised development and technical support staff.

CA points to the availability of high-quality software development talent as the primary reason for basing two R&D centres in Victoria. The development of alliances with local universities, including Deakin, Swinburne, Monash, Melbourne and RMIT, has therefore been a high priority. More than one-third of the Melbourne team were part of CA's student intake program.

IBM/Ballarat University

When IBM, the world's largest information technology services provider, arrived in Ballarat a decade ago, opportunity came knocking for the University of Ballarat's School of Information Technology and Mathematical Sciences.

Both organisations have since developed a relationship that gives up to 20 undergraduate students each year sought-after workplace experience, through the 'Earn As You Learn' Program.

The program is for students in the Bachelor of Information Technology (Professional Practice) course, who work on a range of IBM projects throughout the second, third and fourth years of the course and gain experience in software development and maintenance, database and call centre management and data communications services.

The program is a leading example of successful industry collaboration with a university to deliver concrete learning and employment outcomes to regional Victorian students.

The program helps the university to attract potential students, gives IBM an opportunity to contribute to the curriculum design and have a reliable source of ICT skills, and provides employment opportunities for students during study and after graduating.

Contributing to the low enrolment rates in ICT undergraduate courses is the continuing lack of appeal of ICT careers for many secondary school students, especially young women. Research commissioned by the Victorian Government indicates a high proportion of young people believe they lack adequate information on available tertiary courses and ICT careers. Teaching methods and the nature of school curricula were also identified as barriers to students considering ICT careers.

Role of Victorian Government

The Victorian Government has a role working with industry and the education sector in attracting, developing and retaining a highly skilled ICT workforce.

At the same time, the Government's education policies need to continue to emphasise the value of ICT skills in problem-solving, cooperative working and communicating as well as in improving efficiency and productivity.

Recognising changes to the ICT industry over the past four years, the Government is keen

to broaden its focus beyond skills shortages and the capabilities of emerging graduates. The Government believes a greater emphasis needs to be placed on the development of the whole workforce to underpin the future growth of the industry.

This requires a strategic approach to improve linkages between the education sector and the industry, which will lead to more sharing of research and greater skills exchange. It will also ensure that graduates are developing work-ready skills and encourage ongoing professional development for existing ICT workers.

The Government is well-placed to undertake research into workforce issues and to implement initiatives to address specific workforce development issues. This also requires significant commitment from industry and the education sector.

The Victorian Government will continue to work with the Commonwealth Government on addressing declining ICT enrolments in the higher education sector.

'We have a core commitment to life-long learning and actively support skill development through our partnerships with industry. These partnerships ensure that our education programs incorporate relevant workplace skills for our undergraduates and provide upgrade pathways for existing professional qualifications.'

Professor John Rosenberg
Deputy Vice Chancellor (Academic)
Deakin University



Strategies

- Help education and training providers to align their courses with industry needs.

Current initiatives

The Government has implemented a number of initiatives to build ICT skills in Victoria:

- developed a methodology for collection and analysis of statistics about the supply and demand of ICT skills in Victoria, brought together in a single publication called the ICT Skills Snapshot
- delivered the New Realities awareness-raising campaign to more than 40,000 Year 9 and 10 students in more than 370 Victorian secondary schools
- developed the PositionMentor careers reference website – a resource to assist people to understand the different types of ICT careers and make informed subject choices. The website encouraged young people to explore a large range of ICT jobs and corresponding tertiary ICT courses
- worked with RMIT University, Victoria University, La Trobe University and Swinburne University of Technology to establish Chipskills, the Master of Engineering (Microelectronic Engineering) degree with more than 350 enrolments to date
- commissioned research (*Attitudes to ICT careers among 17-19 year old Victorians, 2004*) to demonstrate the importance of education providers in providing careers advice and information about the ICT industry and to help the industry and education sector to better understand the views of the young people they want to encourage into ICT courses / careers

- delivered the ICT Scholarships Program, with funding of \$3.4 million to encourage local students to undertake further research in ICT at post-graduate levels.

New initiatives

Under this Plan, the Government has already announced that it will:

- continue to support Victoria's best and brightest students through a \$1.1 million extension of the highly successful **ICT Scholarships Program**. The program supports ICT postgraduate students undertaking research programs at Victorian universities
- help more students become job-ready by undertaking an industry-based project during their university course through the **ICT Industry Skills Scholarships Pilot Program** with funding of up to \$370,000.

Building on this support, the Government will:

- vigorously pursue a coordinated, national approach to the **promotion of ICT careers** to young people with industry, the higher education sector and other Australian governments
- provide a comprehensive **ICT career reference tool** on careers targeted at young people through the Government's website for young people, www.youthcentral.vic.gov.au
- work with the Victorian education sector to ensure secondary school curricula remain in line with industry needs
- analyse ICT workforce needs to better understand the existing and future needs of the industry with a particular focus on attraction, professional development and retention.

Satyam

Satyam Computer Services Ltd is a leading Indian global consulting and IT services company with offices in 46 countries and more than 20,000 IT professionals on staff.

In 2004, Satyam opened a 300-employee Global Development Centre in Melbourne, its largest outside India. The next year, it boosted its investment in the State by announcing an alliance with Victoria University that will enable up to 10 students to undertake a software development internship and up to 20 graduates to undergo training and employment with Satyam each year.

Victoria University considers the alliance an invaluable boon for its students, but also highlights Satyam's additional commitment to ICT curriculum review and teaching as well as the possibilities for joint research.



Delivering Infrastructure Capability

Victorian ICT companies require world-class infrastructure to compete on a global stage.

Current situation

Alongside a strong skills base and access to critical equipment for R&D, companies need fast, reliable and competitively priced communications infrastructure and effective access to development capital.

Communications

Access to advanced communications infrastructure is a vital ongoing requirement for business. In the past four years, broadband connections to business have increased from between 1 and 2 per cent to more than 60 per cent, easily surpassing levels of dial-up access. Businesses and consumers are also placing increasing demands on current services and ICT providers.

High-speed connectivity plays a role across the full business life cycle. It underpins the ability of companies to compete effectively and be innovative. It is a fundamental part of advanced and collaborative research, development and production in scientific and commercial fields. It enables market growth through new ICT products and services and is central to business functions such as customer relationship and supply chain management. For businesses with dispersed operations, high-speed network connections are vital to maintain effective communication, information sharing and collaboration on projects.

The reliance on increasing levels of broadband connectivity will continue as broadband use becomes more prevalent across the economy. Historically, broadband developments, such as the introduction of cable and DSL services, have not occurred in Australia as quickly as they have in the leading broadband countries. It is crucial that Victoria's broadband infrastructure does not fall behind its competitors and trading partners in the development of the next generation broadband services, including fibre to the premises and fixed and mobile wireless broadband.

Capital

Businesses need capital investment to grow. A small number of businesses are able to provide their own capital but most need to rely on external sources of investment to fund development and/or growth strategies. Having access to capital investment options for companies throughout their lifecycle is an important part of the environment for an innovative and outward-looking ICT industry.

The enthusiasm for investing in developmental ICT projects in the late 1990s and early 2000s was tempered by the dotcom crash and market downturn. As a result, in the past few years, the ICT industry has experienced a more cautious investment climate. Investors turned to more reliable and established ways to assess risk and opportunity in the ICT

sector. In this environment, investors need accurate and relevant information about prospective investments, and ICT companies need to be able to deliver it.

There are a number of avenues for ICT companies to raise capital. The listed markets are one, which in Australia are highly sophisticated and of world-class standards. Companies, particularly at start-up or at an early stage of development, can also seek investment from 'angel' or 'seed' investors or from the venture capital market which tends to look at later stage investments. The venture capital market in Australia remains relatively young but with a number of highly successful firms established.

ICT companies need to be able to access capital effectively from all these sources. Government has also been active in helping companies gain access to early stage capital. Yet there is evidence to suggest the ICT industry performs poorly compared to other industry sectors in securing capital investment from listed markets.

Government research indicates there are barriers to accessing such investment as a result of failures in the interaction between listed markets and the ICT industry. Improved understanding of this relationship may result in better access by ICT companies to this major source of capital.

Extel Communications

Extel Communications is a successful developer of innovative, cost-effective ICT products, which improve the accessibility of telecommunications services.

Since establishing in 1991, the Melbourne-based company has gained a significant installed base in Australia, North and South America and Asia, including China, and its goal is to become the global leader in delivering innovative network access solutions.

This goal has moved a step closer to realisation through a cooperative arrangement with Telstra's suppliers for Extel to provide its innovative *expands!* technology as part of a major trial by Telstra. *expands!* extends the capacity and range of existing telephone networks, allowing previously isolated consumers to be economically connected to the high-speed ADSL network.

Telstra began to trial Extel's technology in several regional Victorian centres in early 2005. The success of the trials is such that Telstra is planning to outfit further telephone exchanges with *expands!*, as part of a roll-out program expected to continue for a number of years.

Role of Victorian Government

The Commonwealth Government sets the national regulatory framework and is responsible for ensuring telecommunications services are accessible on a reasonably equal basis and that they meet community and business needs.

State Governments have a more limited but crucial role in influencing the development of broadband infrastructure and services. The Victorian Government is committed to using the levers at its disposal to facilitate growth of broadband services and improve the ICT industry's access to these services.

In 2005, the Victorian Government released its *Broadband Framework: Pathway to the Future* describing how it will strategically support the development of broadband infrastructure and services in the State.

The Government can also help the industry by creating a supportive investment environment, promoting flows of relevant information and addressing other barriers to obtaining the investment capital needed for growth.

Strategy

- Ensure the Victorian ICT industry has access to world-class infrastructure and services.

Current initiatives

The Government has implemented a number of activities that have contributed to the development of high-quality infrastructure in the State:

- implemented the Telecommunications Purchasing and Management Strategy (TPAMS) to increase government

bandwidth and expand Victoria's broadband infrastructure to improve competition. TPAMS contracts to date have lowered telecommunications costs to the Government by approximately \$200 million over five years and secured almost \$200 million in new telecommunications infrastructure investment for Victoria

- established the \$15 million Broadband Innovation Fund to support the innovative use of broadband in delivering government services
- facilitated broader access to the Government-owned Regional Fast Rail fibre optic network
- supported five regional projects to test different broadband technologies and services in regional Victoria through the \$5 million Customer Access Networks Demonstration Program
- supported the Municipal Association of Victoria and the Growth Councils Wired Development Consortium's development of a commercial planning model for the provision of advanced broadband services into new housing estates
- published a series of *Spend/Demand – Telecommunications in Regional and Rural Victoria* reports that provide much-needed information on telecommunications demand and expenditure throughout Victoria
- assisted in development of the technology finance sector through VicStart.



New initiatives

Supporting this ICT industry plan, the Government has already announced initiatives under its *Broadband Framework: Pathway to the Future*. This outlines the Government's agenda for using the most up-to-date broadband technologies and fostering development of broadband services and infrastructure, particularly in regional areas.

Building on this support the Government will:

- help to establish in Victoria world-class **motion capture facilities** for the electronic games, advertising, design and other digital industries as well as for a wide variety of educational and skill development, subject to a comprehensive business case
- drive more productive interactions between the ICT industry and the financial and capital markets through deeper understanding of the pattern and influence of investment in the sector.

Tantalus Interactive

Tantalus was the first ever Australian company to develop an online, console video game. Broadband is critical to the continued growth of online gaming, and better broadband translates inevitably to a better entertainment experience for video gamers. We look at online gaming as a key growth area for our business, and with the continued support of the Victorian Government we hope to build a worldwide reputation for excellence in this space.

Tom Crago
CEO, Tantalus Interactive

Polaris Communications

Polaris Communications is a leading developer and manufacturer of telecommunications products for the desktop, specialising in the supply and servicing of telephone headsets and handsets.

The company is headquartered in Melbourne and employs 40 people nationally. One of Polaris Communications' biggest markets is the Australian contact centre industry, which has more than 220,000 seats and is one of the largest in the Asia-Pacific region.

Polaris Communications developed 'Soundshield', a world-first device to protect contact-centre workers from the potential health-hazard of 'acoustic shock', a phenomenon caused by unexpected high-pitched tones.

In May 2005, Polaris signed a multi-million dollar contract with the Australian Tax Office to provide up 4,000 Soundshields and 8,500 new Soundpro headsets over the next few years.

Polaris Communications continues to invest in R&D, and works in close partnership with the National Acoustics Laboratory and the Cochlear Research Centre to support the ongoing development of a full suite of acoustically safe products.



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ANCA Pty Ltd	Hewlett-Packard Australia Pty Ltd	Oakton Ltd
Association of Professional Engineers, Scientists and Managers, Australia	Hitwise Pty Ltd	Ocean Software Pty Ltd
Australian Computer Society	IBM Australia Ltd	Pacific Internet (Australia) Pty Ltd
Australian Electrical and Electronic Manufacturers' Association	ICON Recruitment	Polaris Communications Pty Ltd
Australian Information Industry Association	Information City Australia Pty Ltd	QSR Ltd
Australian Software Metrics Association	Infosys Technologies Australia Pty Ltd	Radiant Systems Asia Pacific Pty Ltd
Australian Stock Exchange Ltd	Invizage Pty Ltd	RFID Association of Australia
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Coles-Myer Ltd	La Trobe University	Starfish Ventures Pty Ltd
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Computershare Ltd	Mayne Group	Tantalus Interactive Pty Ltd
CSIRO Australia	Microsoft Australia	Telstra Ltd
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