



VICTORIAN GOVERNMENT ICT STRATEGY

2013 to 2014

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1. MESSAGE FROM THE PREMIER AND MINISTER

Government relies on information to do its job. It is the basis for sound decision-making and service delivery. Information and Communication Technology (ICT) enables government to manage its digital information, engage and transact with the Victorian public and businesses, and streamline its internal processes.

This strategy responds to community expectations and industry advice. It takes advantage of technology changes and a strong local ICT industry, and addresses the investment failures of the past. It aims to rebuild the strong ICT leadership position previously enjoyed by Victoria during the 1990s, so that we can again benefit from successful, innovative ICT initiatives. We want to use information and technology to create better services for Victorians.

The world continues to change rapidly. The exponential expansion of mobile computing, the emergence of cloud computing, the rise of social media, the availability of high-speed broadband, the opening up of government data – all present huge opportunities for Victoria.

Online services have changed the way we shop, bank and live. Government must take advantage of these capabilities – to remain in touch with Victorians' expectations, to connect our communities and to drive down the cost of government services.

Like other jurisdictions and the private sector, Victoria has suffered some high profile and expensive ICT project failures. But there are also a large number of government systems that are delivering value and services to Victoria. This strategy outlines how we are going to improve the procurement of ICT systems and services, and manage ICT projects.

The Victorian Government would like to make better use of the expertise within Victoria's vibrant ICT industry and in our major suppliers. We will focus on working with our suppliers to define and deliver business outcomes, rather than just narrowly defining technology requirements.

We will know we have been successful in implementing this strategy when:

- ▶ it is easier for Victorians and business to consume government services online;
- ▶ we are engaging effectively with the ICT industry to deliver innovative and cost-effective ICT solutions;
- ▶ our ICT-enabled projects meet business requirements and are delivered on time and on budget; and
- ▶ our people have the right skill mix to deliver efficient and effective ICT solutions.

This strategy demonstrates our commitment to the people of Victoria and to making wise and methodical investments in our future capability.



Ted Baillieu MLA
Premier of Victoria



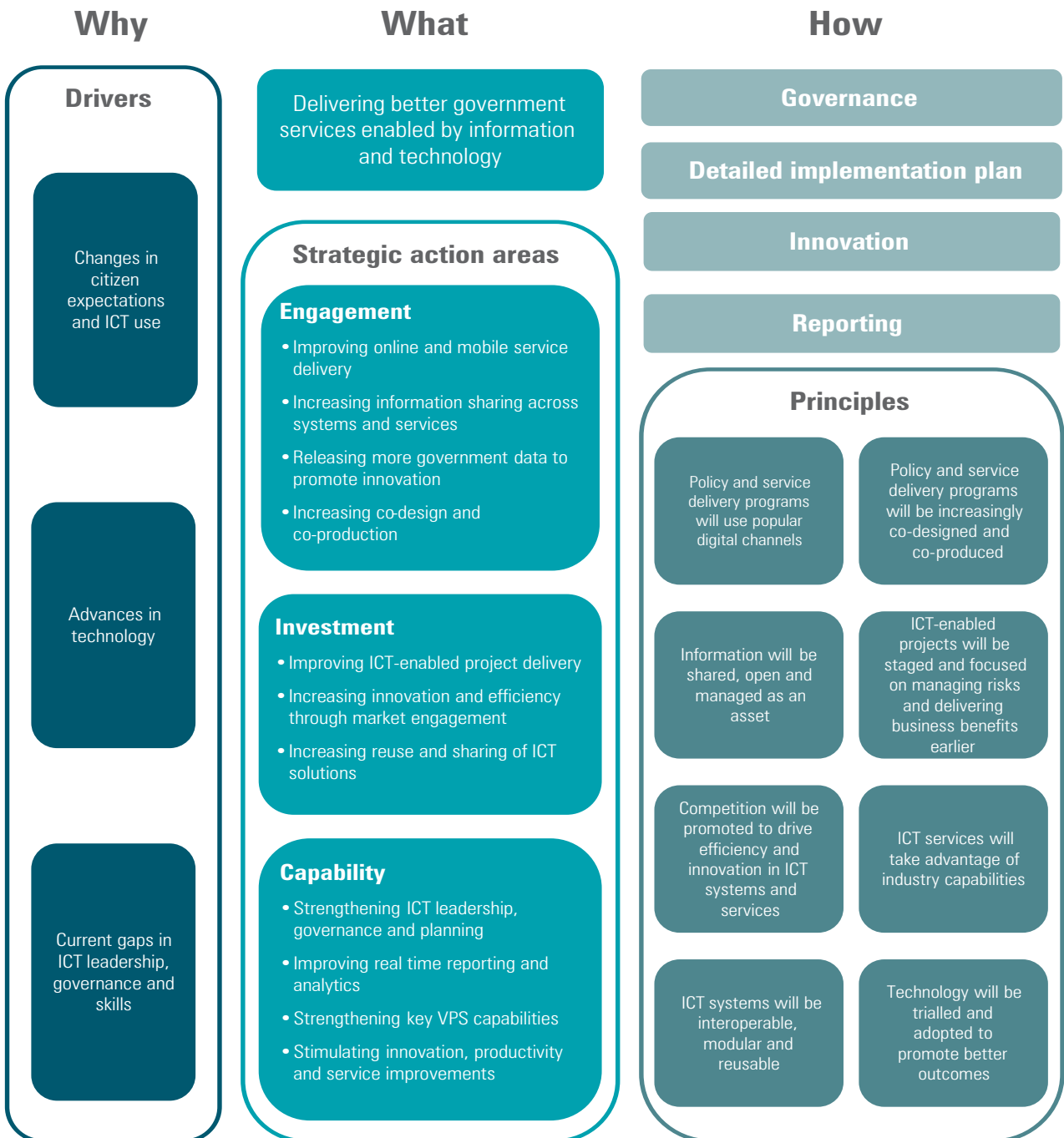
Gordon Rich-Phillips MLC
Assistant Treasurer and Minister
for Technology

2. OVERVIEW

This strategy provides high-level direction on the design and use of information and technology to deliver better government services.

It has been developed in response to three drivers: changes in citizen expectations of government services and ICT use; advances in technology; and current gaps in ICT leadership, governance and skills.

The strategy sets out objectives and actions focused in three key areas and proposes eight principles to guide ICT decision-making.

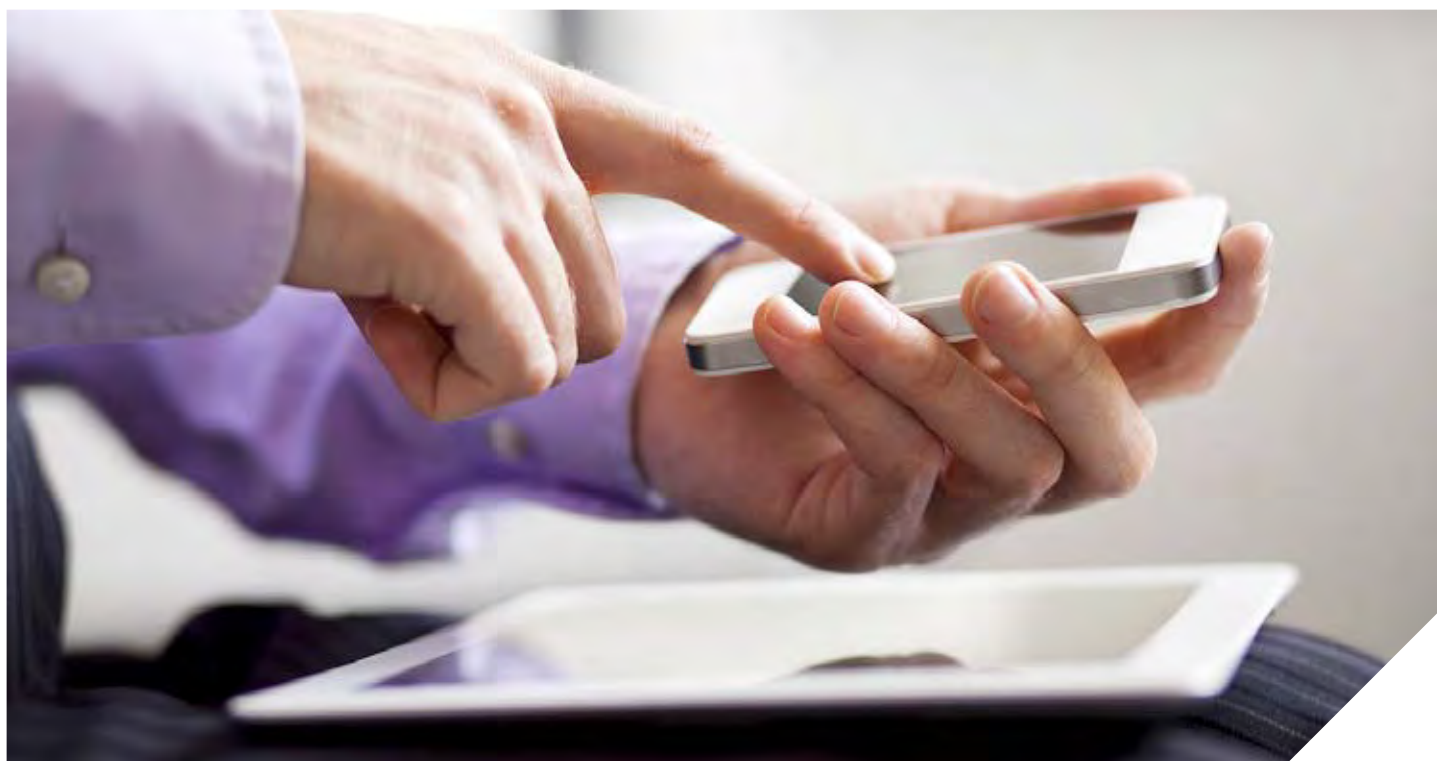
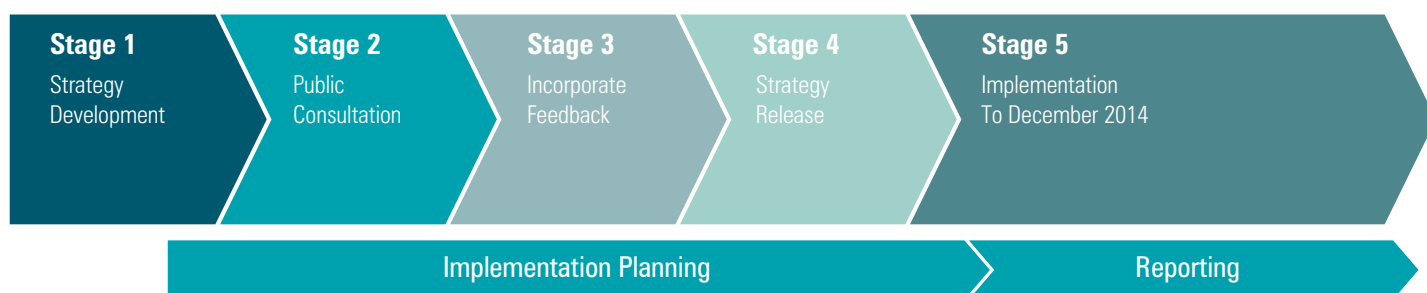


2.1 NEXT STEPS

The release of this strategy is the first in a series of steps to improve ICT management and use.

An implementation phase will follow and be supported by a more detailed implementation plan (which will confirm the action timing), more detailed subsidiary strategy documents, necessary governance and organisational structures, funding and ongoing measurement and reporting information.

The strategy will be reviewed annually in a cycle of continuous improvement. The ongoing review will include public consultation.



3. WHY THE VICTORIAN GOVERNMENT NEEDS AN ICT STRATEGY

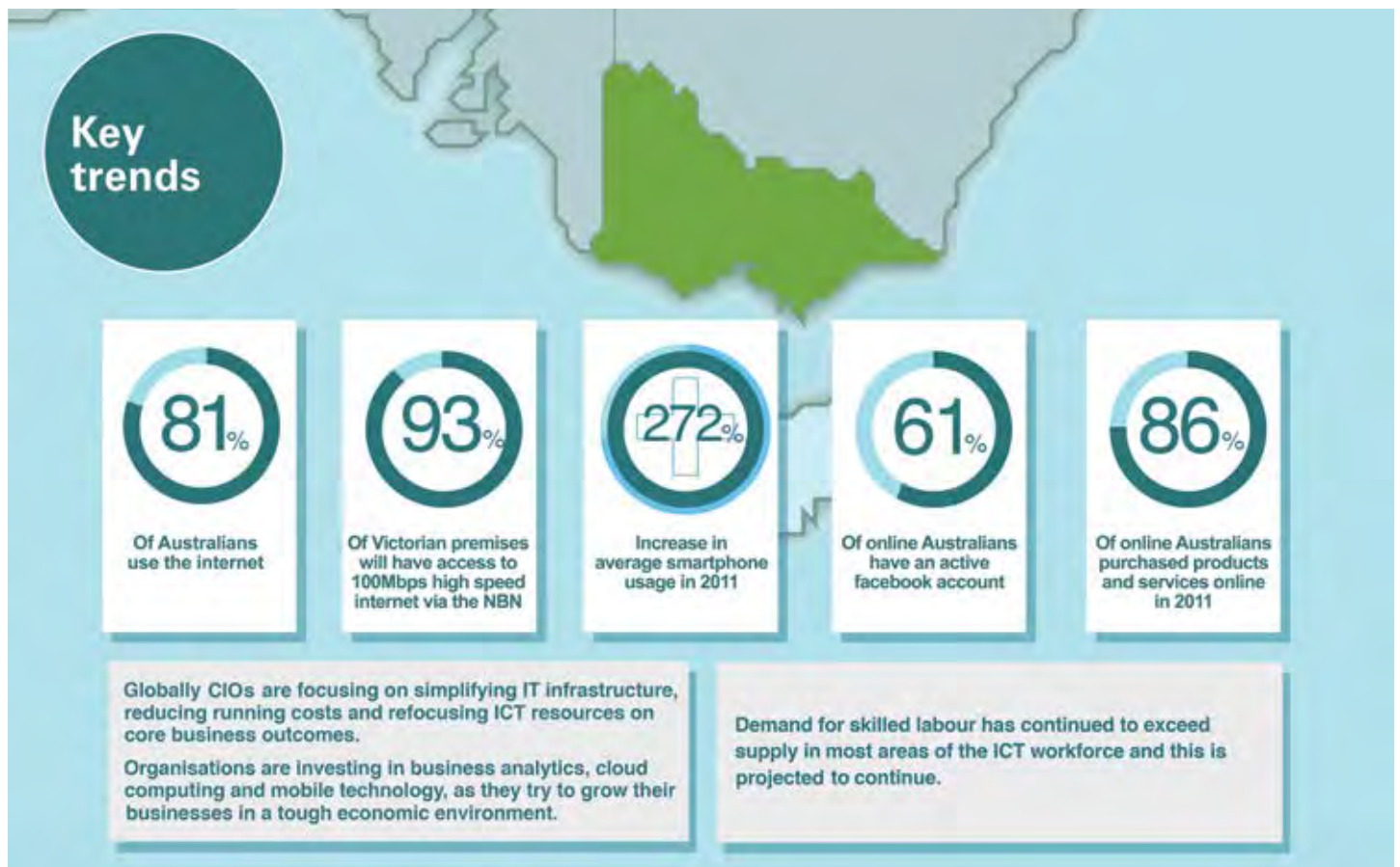
In a modern public service, ICT underpins and shapes service delivery. Reinvigorating the way we use information and technology should result in major benefits. ICT provides the channels for government to connect with businesses and the community, it automates processes and it makes transactions more convenient. In a time when global and national economic factors have resulted in significant pressure on the Victorian budget, improving the management and use of ICT provides an opportunity to raise productivity across the public sector.

However, ICT management in the Victorian Government is not without its challenges. Government is a complex, multi-organisation enterprise. Accountability and services are traditionally focussed and optimised within each organisation. Cross-agency initiatives can be difficult to implement. The rate of change in ICT makes the Chief Information Officer (CIO) role in private and public enterprises challenging.

This ICT strategy has been developed in response to three key drivers:

- ▶ changes in citizen expectations and ICT use;
- ▶ advances in technology; and
- ▶ current gaps in ICT leadership, governance and skills.


Key trends in these areas are depicted below:



3.1 CHANGES IN CITIZEN EXPECTATIONS AND ICT USE

ICT has changed the way people shop, bank and communicate. Consumers expect online services to be easy to use, and available when and where they need them. For the first time in 2011, accessing government services or information was among the ten most popular online activities for Australians¹. Seventy-eight per cent of Australian internet users accessed government services/information online². However, in 2011, 19 per cent of Victorians were only somewhat satisfied with their last online engagement with government and a further 12 per cent were not very satisfied or not satisfied at all³.

The increased use of mobile devices like smart phones has created demand for location-based services and content optimised for smaller devices. Government services, transport, timetable and traffic information were among the most requested categories for apps development last year⁴. Mobile devices comprised 10.5 per cent of Victorian Government website traffic in May 2012, up 256 per cent from May 2011⁵. It is predicted that by 2016, global mobile data traffic will outgrow global fixed data traffic by three times⁶.



It is clear that Victorians want government services that are online, easy to use, and delivered through their mobile devices. However, the rate of adoption of consumer technologies by government is traditionally slow, and there are barriers to delivery of equivalent online services into regional, rural and remote areas.

New technologies are also reshaping the consumer-service provider relationship. Social media facilitates peer-to-peer advice and support, wikis are used to co-author information and crowd funding sites bring together suppliers and investors in new ways.

Governments are realising that not everything has to be developed internally. They can tap into crowd resources and create partnerships resulting in richer outcomes. Citizens and businesses are helping to create policy, and design and deliver services. Victoria has the added advantage of a strong local ICT industry ready to contribute to co-design and co-production processes.

The Victorian Government is already moving to open data access which will allow industry and the public to build new products and services based on data we all own. This is a key step but more can be done to encourage participation in government service delivery.

3.2 ADVANCES IN TECHNOLOGY

Across Australia, underlying ICT infrastructure is being enhanced. Access to high-speed broadband will open up opportunities for quality multi-party video conferencing and remote services. Victoria needs to look at how it can exploit these channels, particularly to improve services for Victorians living and working in regional, rural and remote areas where online services can sometimes have greater relative benefit for individuals and businesses.

Access to data and the ability to process it are improving. Smart networks, remote sensors and GPS-enabled devices are gathering information on power usage, air and water quality, temperature and traffic flow. Social media interactions can be analysed, revealing new connections and insights. Government is an information-based enterprise and improving the way we manage and analyse data is central to improving service delivery and policy outcomes.

The uptake of managed ICT services is increasing. The speed, flexibility and economies of scale offered by cloud computing are prompting organisations to rethink what needs to be delivered in-house. It is financially responsible for the Victorian Government to consider these alternative delivery models.

3.3 CURRENT GAPS IN ICT LEADERSHIP, GOVERNANCE AND SKILLS

Victoria has experienced some expensive failures in ICT-enabled business change projects. It has also experienced some successes. These projects are really large scale business change projects enabled by technology. The connection between technology and the underlying business change priorities is often the key challenge. Business reform projects are always going to be necessary and the role of ICT is crucial to enable the productivity and service delivery improvements being sought. The answer is not to avoid them but to address the past failures through a more rigorous and considered approach.

Leadership of ICT-enabled initiatives can become too technically focussed. This plus insufficient project management oversight including a failure of governance and lack of understanding of risk has led to a string of project failures as outlined by the Ombudsman. To ensure success, stronger executive business-level sponsorship is needed. Cross-agency governance and coordination has been difficult to achieve. Government's structure tends to lead to optimisation within and not across agencies. Clarity is needed on the areas where coordination and sharing should be pursued. The barriers to development of ICT-enabled initiatives in regional, rural and remote areas can often be overcome with effective collaboration between parts of government.

Demand for skilled labour has continued to exceed supply in most areas of the ICT workforce and this is projected to continue, especially as the skills required become more sophisticated⁷. The problem of attracting and retaining a skilled ICT workforce is compounded for government because often it cannot match industry rates in specialist areas.



4. PRINCIPLES

ICT decision making in the Victorian Government will be guided by the following principles:

1. Policy and service delivery programs will use popular digital channels

Government will make its information and services easier to access and use through digital channels. Services will make use of popular consumer technologies like smart phones and social media.

2. Policy and service delivery programs will be increasingly co-designed and co-produced

Government will consult and involve citizens and businesses in the design and production of policy and service delivery programs where appropriate.

3. Information will be shared, open and managed as an asset

Information and data will be shared across government and with Victorians to support integrated service delivery, better decision making and innovation. Information sharing will be subject to privacy, security and other statutory obligations. Data will be made available in open, machine-readable formats. Information and data will be managed as an asset of the State with clear accountabilities.

4. ICT-enabled projects will be staged and focused on managing risks and delivering business benefits earlier

Projects with significant ICT requirements will be designed, delivered and measured based on clearly articulated business benefits with accountability clearly defined and allocated at appropriate management levels. Large projects will be broken into smaller, more manageable stages to improve delivery timelines and reduce the risk of project failure.

5. Competition will be promoted to drive efficiency and innovation in ICT systems and services

Government will use market mechanisms to drive efficiency and innovation in ICT systems and services. Government will favour shorter contract terms and open standards to increase competition and guard against technology lock in or single vendors securing a disproportionately high share of government business.

6. ICT services will take advantage of industry capabilities

Government will analyse the market's capability to deliver value for money and innovative solutions that improve the delivery of government services. Commercial off-the-shelf software or outsourced services will be adopted in most cases. Government will engage early with stakeholders and industry, focusing on business outcomes and adapting processes to avoid customisation.

7. ICT systems will be interoperable, modular and reusable

ICT systems will be designed and upgraded to encourage reuse and interoperability. Agencies will reuse and share solutions, and engage in joint procurement where requirements are closely aligned.

8. Technology will be trialled and adopted to promote better outcomes

Technology will be trialled so that government can explore options and take advantage of new technologies at lower risk. Agencies will be given greater flexibility and incentives to be innovative in service design and delivery.

5. ENGAGEMENT

USING ICT TO CREATE EASIER AND MORE PERSONALISED SERVICES AT LOWER COST

The Victorian Government will ensure that systems and policies are in place to allow Victorians to interact more easily with government. Reduced customer effort is the emerging key service benchmark, replacing customer satisfaction. The community already has high expectations of service quality and availability. It expects services to be available anywhere, at any time, and on any device. This is particularly important for regional communities where online service delivery contributes significantly to convenience.

Government does not always keep pace with community expectations. Victorians are accustomed to efficient and personalised services online. We are using ICT more and more in our daily lives – online banking, shopping from mobile phones, keeping in touch with family on Facebook and following news on Twitter.

Government will make greater use of consumer channels such as mobile apps, social media and tablets. We will not do this alone. Where appropriate, we will make data and systems available to the ICT community to create services and apps.

Moving service delivery online, both through mobile apps and online access, will reduce the cost of some government services.

ENGAGEMENT – VICTORIA'S DIRECTION

From	To
Limited or inconvenient choices on how citizens and businesses interact with the Victorian Government.	Easy access to government services and information based on citizen and business preferences, more services available online and more personalised services.
Government developing systems and services on behalf of citizens and businesses.	Unlocking government data and working with citizens and businesses to innovate and build new solutions where appropriate.
Citizens and businesses having to repeat information because government systems do not work together.	Systems able to interoperate, allowing citizens and businesses to interact more easily with the Victorian Government.

5.1 ONLINE AND MOBILE SERVICE DELIVERY

The Victorian Government will make information and online services easier to find and use. The goal is to reduce customer effort – the degree of effort that citizens have to exert to get an issue resolved, a request fulfilled, or a question answered. Citizens will be given more control over how their personal information is used. Giving appropriate permission is key to more personalised and integrated services. Information will be managed securely and appropriate access will be streamlined.

Access to more services online will make interacting with government easier particularly for Victorians living and working in regional locations. The benefits to regional Victorians from improved Government online services are profound, where traditional forms of service delivery are often costly, time consuming and more difficult to access.

Making greater use of online and mobile channels provides more options to Victorians and helps minimise costs. To reduce costs and ensure we are using the right channels, we will take a more integrated approach to channel management.

A key foundation for online service delivery is trust between government and users. Government must manage sensitive and personal information appropriately and users must be able to confirm their identity online when required. For this reason, a continued focus on information security and a new framework and approach to citizen identity and access management are needed.

Actions	By
1. Update Victoria's web portal to provide search-driven access to government information, services, directory information and mobile apps	March 2013
2. Agencies to register their mobile apps in a central, searchable published list	March 2013, and ongoing
3. Develop an identity management framework that enables Victorians to gain access to government services simply and securely	December 2013
4. Develop a channel strategy: <ul style="list-style-type: none"> ▶ provide guidance on channel selection ▶ identify high volume transactions which should be offered online 	September 2013
5. Complete review, and continue rationalisation of, the Victorian Government's website portfolio to avoid complexity and waste	December 2013
6. Provide guidance to agencies on adoption of mobile technologies	December 2013
7. Commence implementation of an identity management capability for citizens wanting to use online channels to engage with government	March 2014
8. Agencies commence transition of key services online	April 2014
9. Agencies complete transition of frequent transaction services online	December 2014
10. Continue to implement website management standards	Ongoing
11. Continue to implement information security standards to ensure citizen and government data is protected	Ongoing

Measures

- ▶ Major service delivery agencies transition three key transactions online by 31 December 2014
- ▶ Fifteen per cent reduction in customer effort from baseline by December 2014

CASE STUDY:

BETTER HEALTH CHANNEL MOBILE APP

In September 2011 the Department of Health launched a free iPhone and iPad app to help Victorians take control of their health and wellbeing anytime, anywhere.

The app responds to citizen preferences to get their health information online and on the go. In 2011, 74 per cent of Australians who used the internet looked for health and medical information online and medical apps were also among the most popularly requested apps for development.

The mobile app builds on the quality information Victorians have come to expect from the Better Health Channel. It delivers comprehensive, reliable and easy to understand information – all of which has been quality-assured by medical experts.

The app provides:

- ▶ easy access to information about health conditions by category, body part, or through the A-Z index;
- ▶ treatment and first aid information for a range of common conditions and injuries;
- ▶ a 'find a health service' function, allowing users to locate doctors, dentists, pharmacists, physiotherapists and other health service providers based on their current location; and
- ▶ a quick list of key health contacts including Nurse on Call, Kids Helpline, poisons information and Lifeline.

Since its launch, the app has been downloaded by over 83 000 people and received widespread consumer and sector acclaim – including being featured by Apple in the best apps of 2011 App Store Rewind Program. The app has a 4.5 star rating (out of 5) and was a winner in the 2012 Australian Mobile Awards.

A new version of the Better Health Channel App is being developed featuring personalised health alerts and notifications for heat wave, UV, pollen and smog, and hundreds of healthy recipes.



5.2 SHARING INFORMATION ACROSS SYSTEMS AND SERVICES

The Victorian Government will improve information sharing across government systems and services taking into account privacy, security and other statutory obligations. Interoperability is needed so systems can work together to deliver more integrated services to businesses and the community.

However, interoperability can also add costs to system development, is not needed across all systems and services, and can be achieved in different ways. For these reasons the development of an interoperability framework needs to be coupled with an understanding of government's enterprise architecture.

Together, an interoperability framework and architecture will identify the common systems needed across multiple agencies and the communities or clusters of interoperability. An example of a community which needs to interoperate is the State's emergency services organisations. Often these communities will cross levels of government and include non-government organisations (NGOs) and industry partners.

In order to enable information sharing, a whole-of-government approach for informed consent to share personal data between agencies will be developed.

A clearly articulated approach to interoperability and documented standards also supports engagement with ICT industry suppliers. Interoperability should allow for vendor change and avoid lock-in.

Actions	By
12. Develop an enterprise architecture and interoperability framework to support information sharing across systems and services	September 2013
13. Develop a whole-of-government approach to privacy and informed consent by citizens to share personal data between government agencies	September 2013
14. Identify opportunities for service integration across service clusters, for example emergency services	December 2013
15. Commence service interoperability projects	July 2014
16. Continue to provide information management standards and advice	Ongoing
17. Continue to promote greater government and community use of location-related information	Ongoing
Measures	
<ul style="list-style-type: none"> ▶ Commence five service interoperability projects by July 2014 	

CASE STUDY:

PRIMARY CARE PARTNERSHIPS

Increasing rates of chronic disease, an ageing population and high-cost treatments all place strains on the health system. The Victorian Government Department of Health is tackling these challenges through Primary Care Partnerships (PCPs). PCPs have made it easier for the community to navigate the health system, brought agencies in neighbouring areas together to tackle local priority health issues and promoted integrated chronic disease management based on data. PCPs have over 800 member agencies including hospitals, community health services, local government and social services.

These achievements are underpinned by effective information sharing. The *Victorian Service Coordination Practice Manual* provides the agreed minimum standard for how agencies work together and includes a consistent approach to obtaining client consent to share information. Standard information definitions and forms mean agencies can collect and share client and program information efficiently through their information systems. Technical standards based on these agreed practices and definitions have also been developed for software vendors. Industry has responded with multiple vendors offering standards-compliant health software at no additional cost to Government.

The improved processes for information exchange, put in place by PCPs, also positions Victoria at the forefront in this area of national E-Health.

INFORMATION INTEROPERABILITY ACROSS EMERGENCY SERVICES

The 2009 bushfires and 2010-11 floods in Victoria highlighted the need to substantially improve the flow of information across all emergency services agencies.

Traditionally, capabilities to support emergency management have been developed within individual agencies and optimised for agency-specific objectives and outcomes. However, these individual strengths present a collective challenge – how can the emergency services agencies work together more effectively?

The Victorian Government has adopted an all hazards, all agencies approach to emergency management which requires comprehensive multi-agency interoperability and coordination in addition to retaining the capability for each agency to operate autonomously.

Furthermore, information technology has changed dramatically in the last few years, resulting in a gap between what we have in place today and what is possible, especially in terms of providing reliable, up-to-date information to the community.

In response to this challenge, the Victorian Fire Services Commissioner has proposed the development of the Victorian Information Network for Emergencies (VINE). VINE will provide a single, federated, timely and coherent information base that all parties – emergency services, government agencies, NGOs, private infrastructure operators and the community – can contribute to and work from. It will be used for emergency planning, preparation, response and recovery. It will be supported by a platform of computers, systems and standards and will take advantage of modern technologies – including cloud computing and social media. Information will be made available to users in real time on any smart phone, tablet or computer that can access the internet. VINE will also take full advantage of existing systems and investments such as fire, flood and other prediction tools.

While not all government agencies have an emergency response role, most have a support role in response or recovery activities. This underlines the need for a single strategic framework for effective integration of not only emergency services agencies but all government departments and agencies.

5.3 RELEASING GOVERNMENT DATA TO PROMOTE INNOVATION

In August 2012, the Victorian Government launched the DataVic Access Policy to promote open access to government data to drive innovation, create new business opportunities and enable new services. The Victorian Government holds, creates and collects a vast amount of data, including demographic, economic and spatial information, which will be released for reuse by developers and the broader Victorian community.

Access to data is part of a broader movement to co-production of public services. Governments have realised that not all services have to be developed internally. Rather than engaging directly in smart phone, web or other software developments, governments are releasing raw data and allowing the market to develop new and innovative products and services.

In other jurisdictions, the private sector has delivered these products and services quickly and at no cost to government. The United States government's *data.gov* website hosts over 450 000 datasets from 180 agencies. Around 236 citizen-developed apps have been created using the data. At least 30 other countries have established similar data websites.

Actions	By
18. Development of mandatory standards and guidelines to support the DataVic Access Policy	April 2013
19. Commence implementation of the DataVic Access Policy and supporting standards and guidelines	April 2013
20. Make spatial data discoverable and accessible through the DataVic website	June 2013
21. Update the DataVic website to better support data release	September 2013
22. Agencies complete implementation of the DataVic Access Policy and supporting guidelines	September 2013
23. Agencies progressive release of datasets on data.vic.gov.au	Ongoing
Measures	
<ul style="list-style-type: none"> ▶ One thousand datasets available by September 2013 ▶ Ten apps developed externally by March 2014 	

DATAVIC ACCESS POLICY

The DataVic Access Policy is designed to provide greater public access to Victorian Government generated or owned data. It promotes use and reuse by the community and businesses to support research, innovation and evidence-based decision making. Moreover, it will improve the efficiency and effectiveness of government by encouraging better data management practices and sharing.

Data will be released in accessible formats, free or at minimal cost. Data will be easy to find and released consistently across government. Naturally, some data will still need to be protected for reasons of privacy, security, commercial confidentiality and legal privilege.

Data is available at data.vic.gov.au



5.4 CO-DESIGN AND CO-PRODUCTION OF PUBLIC SERVICES

Government will work with Victorians in the design and delivery of public services. We will use interactive or social technologies to engage with citizens and businesses and be a fast follower in the use of these technologies to meet community expectations.

The concept of co-design is an emerging trend for business and government. Organisations are evolving from simply informing or transacting with their customers to involving them in product and service design.

Customers typically contribute business product ideas, vote on the best ones and may even be involved in reviewing prototypes. In 2009, Fiat crowd-sourced the design of its concept car, the Fiat Mio. Potential customers and car enthusiasts were asked for ideas about features and design, with submissions reviewed by a team of Fiat staff.

There are good reasons for governments to involve users in the design and improvement of services. It is a way to access a range of perspectives and skills in the community, and it creates a partnership that is likely to result in a higher level of adoption and satisfaction. There are lots of opportunities for Victorian Government agencies to make use of the insights available from the communities they serve.

Actions	By
24. Agencies identify co-design and co-production opportunities	September 2013
25. Agencies commence implementation of co-design and co-production projects	March 2014
Measures	
▶ Five policies, services or solutions developed using co-design and/or co-production by December 2014	



6. INVESTMENT

IMPROVING HOW GOVERNMENT INVESTS AND WORKS WITH THE ICT INDUSTRY

Government will improve the way it invests in ICT. We will:

- ▶ improve the clarity of scope and outcomes of ICT-enabled project business cases;
- ▶ engage with the ICT industry to establish the feasibility, risk and most cost effective technology solution options;
- ▶ look first to ICT options government already owns or has access to, to provide the required benefits;
- ▶ improve project delivery by adopting sound project management methodologies, improving the skills and capabilities of project management staff; and
- ▶ continue to refine the delivery of common ICT services across government.

Shortcomings in Victoria’s ICT-enabled project performance have been well documented by Victoria’s Auditor-General and Ombudsman. To address these, projects will be staged and project assurance is being strengthened. Governance and capability initiatives will also support a significant strengthening of project definition, procurement and delivery.

We need to identify the things we will resource internally and the things that should be done by commercial providers. We want to take full advantage of the expertise on our doorstep, as well as the economies of scale of our major suppliers.

INVESTMENT – VICTORIA’S DIRECTION

From	To
Large, complex ICT projects resulting in highly customised, expensive systems that do not always realise benefits.	A focus on clearly identified business outcomes, risk minimisation, early industry engagement, staged projects and adapting processes to make the best use of existing market offerings.
Uncoordinated investment which does not leverage or build on existing solutions.	Reusing and sharing solutions across government where possible.
Procurement activities with a limited focus that do not take into account market capabilities.	Enabling and harnessing competition and market capabilities to deliver innovation, efficiency and productivity.



6.1 ICT-ENABLED PROJECT DELIVERY

Government will become more successful at managing business change undertaken through ICT-enabled projects. Government will be proactive in promoting and adopting best practice in this key discipline. There will be a focus on clear business sponsorship and accountability and greater focus on needs identification and business process change before starting projects. Government will further strengthen the way it specifies, funds and implements projects through clearer processes and by taking advantage of industry expertise.

Successful ICT projects can deliver large benefits. However, they also have a high failure rate as acknowledged worldwide. They are complex, with multiple goals and stakeholders. Expertise is expensive, hard to find and hard to keep. In reality, most are not just ICT projects at all. They are business change projects with a critical ICT component.

Government will continue to build on the High Value High Risk (HVHR) assurance process for its major projects, incorporating Gateway Review and project approval requirements, and extensive investment lifecycle guidance to improve project management and delivery outcomes.

To minimise risk, the Victorian Government will move towards smaller, staged projects which form part of a larger program. Delivery will be incremental and focused on producing measurable business benefits.

Project success is jeopardised without a sound business case and planning phase. Projects should make better use of industry and government experience to establish budget projections, realistic schedules and an achievable scope. Funding projects in stages will allow us to progressively refine estimates and track progress. Project scope must match the actual requirements of agencies and the available funding to avoid the pitfalls of the past where project budgets were reduced without an equivalent reduction in scope.

Through their life, projects need strong oversight, accurate reporting and a willingness to close down underperforming projects rather than allow them to become money-pits. A staged approach to project delivery will provide us with more opportunities to review progress and take corrective action quickly.

Project teams must look to what is already working elsewhere. Rather than over-specifying detailed technical requirements, we will engage earlier with industry to identify less risky market-based solutions to deliver business outcomes. Where possible, projects need to move away from building new systems. To achieve this we must be willing to review and change our processes, if necessary, to better match the available solutions.

Actions	By
26. Implement a clearer project funding and management model building on the existing High Value High Risk framework	June 2013
27. Provide government-wide advice on the selection and use of project management methodologies	June 2013
28. Establish a public facing ICT-enabled project status dashboard to increase accountability and transparency	December 2014
29. Establish an education program for ICT-enabled project sponsors and business executives	December 2013
Measures	
▶ All major ICT-enabled projects have adopted High Value High Risk processes by June 2013	

CASE STUDY:

VICROADS AGILE PROJECT DELIVERY

A tight timeframe and budget led VicRoads to use an agile project delivery methodology supported by business led governance to deliver the *Road Closures and Traffic Alerts* system. The system provides information about road conditions using a simple map interface in near real-time during emergencies such as floods, fires and major traffic incidents. The public and emergency services are able to determine which roads are closed, why they are closed and whether detours are available. The system is available 24/7 and is accessible via the web or on mobile devices.

The project was characterised by a strong connection between external and internal ICT suppliers and the business owners. The external suppliers were engaged early and involved in a rapid development cycle of detailed design, prototyping and staged development. The project sponsor was actively involved throughout and able to make informed decisions and provide feedback quickly.

Since its launch in December 2011, public support for the site has been overwhelming. The website attracted more than 600 000 hits in the first six months of operation, including over 60 000 hits received in one day during a major flooding event in March 2012.

6.2 ENGAGING WITH THE ICT MARKET

The Victorian Government will be more strategic and efficient in the procurement of ICT products and services.

Our procurement practices must continue to focus on achieving value for money. In addition, we will engage with the ICT market early in the procurement lifecycle to better understand and describe business needs. This will also provide a clearer picture of opportunities to capture non-financial benefits from procurement including:

- ▶ enhanced market competition;
- ▶ more local jobs;
- ▶ infrastructure improvements; or
- ▶ greater innovation and productivity.

A full understanding of business needs will guide decisions about what can be readily sourced from the market. Smart businesses routinely and carefully consider what areas to outsource and what to keep close. Similarly, we must continually explore what can be outsourced – with the potential to wholly outsource some services.

Before entering into a procurement process, we will analyse the market's capability to deliver value for money and innovative solutions that challenge and improve government service delivery. For example, the Department of Business and Innovation adopted a cloud-based solution to deliver a new approach to managing customer relations rather than building a large, costly, purpose-built system.

We will avoid being locked into single suppliers by favouring open standards. Keeping competitive tension in our procurements is critical to ensure downward pressure on prices and upward pressure on service levels and innovation.

The Government also recognises the importance of involving qualified, locally-based small and medium enterprises, whether directly or through the supply chain. An improved supplier register to replace the existing eServices Panel will help to achieve this result. Alternative procurement models and contract mechanisms such as public private partnerships will also be explored.

Government procurement outcomes need to be considered both at an agency level and also across government. Agencies should consider more service-based ICT offerings as a real alternative to traditional build and deploy models.

New governance arrangements will facilitate reviews of major government-wide ICT contracts, including a review of data communications purchasing. Future service delivery, collaboration and operating requirements require a faster, more integrated government data network. The next generation of the telecommunications purchasing and management strategy needs to create a common, high-speed, integrated platform for government communications – but this does not mean a single provider. Unified communications represents a major opportunity, particularly in the area of emergency services. The Victorian Government committed \$2.06 million in the *2012-13 Budget* for the development of an Emergency Services Communications Long Term Strategic Plan.

Actions	By
30. Transition to the new eServices Register arrangements	July 2013
31. Agencies identify opportunities to pursue service-based ICT offerings	July 2013
32. Agencies demonstrate use of service-based ICT procurements	December 2013
33. Develop new Victorian Government Purchasing Board Procurement Policy Framework to support more flexible procurement practices	June 2014
34. Review of major ICT contracts to ensure a holistic and strategic view is taken across major ICT services and products	Ongoing
Measures	
<ul style="list-style-type: none"> ▶ Industry engaged in the design phase of major government solution developments by July 2013 ▶ Agencies have adopted new procurement practices by December 2014 	

CASE STUDY:

DEPARTMENT OF BUSINESS AND INNOVATION AND SALESFORCE

The Department of Business and Innovation (DBI) manages business development and international investment and trade. It relies heavily on stakeholder engagement and uses a wide range of systems and processes to manage contacts, record investment opportunities and capture program information.

In 2009, DBI decided to use Salesforce, an externally hosted cloud service, as its department-wide customer relationship management (CRM) solution. By June 2011, Salesforce was being used by over 450 staff throughout the department.

DBI knew the system would be used to store sensitive information so they took a considered and proactive approach to managing risk. A formal security risk assessment was conducted. Resulting mitigation strategies included negotiating specific contract terms and conditions, local replication of data, local disaster recovery and implementing new information management processes and controls within the department.

DBI's Salesforce implementation is on track to deliver a 40 per cent cost saving over five years compared to the estimated costs of a custom-built option.



6.3 COMMON INFRASTRUCTURE, REUSE AND SHARING

Government will not develop new systems when similar systems already exist.

By adopting ICT portfolio management, we will be better able to avoid unnecessary investment and free up resources for innovation. Where practical, agencies will reuse and share ICT systems and contracts rather than developing new solutions. Government will work with its agencies to establish a single common register of its ICT business systems. This register will help agencies identify sharing opportunities as an alternative to new system development.

At the infrastructure level, Government will progressively withdraw from direct service delivery. We will determine the mix of insourced, managed and outsourced service delivery which is most cost effective, most responsive to business needs and which best leverages the expertise and opportunities available in the market.

Actions	By
35. Determine the mix of insourced, managed and outsourced service delivery which is most cost effective, most responsive to business needs and which best leverages the expertise and opportunities available in the market	June 2013
36. Agencies provide base level data on their existing services and applications	September 2013
37. Develop a cross-government register of existing services and applications	December 2013

Measures

- ▶ Fifteen per cent direct cost reduction through shared or reused ICT solutions by December 2014



7. CAPABILITY

IMPROVING ICT GOVERNANCE AND PLANNING, BUILDING INTERNAL CAPABILITY AND ENCOURAGING INNOVATION

ICT needs to be managed holistically, the government workforce needs to be appropriately skilled and we need to build on the capabilities we have in place.

ICT is fundamental to improving government processes and service delivery. Government ICT expenditure is in the vicinity of \$1.5 billion per year. We need to ensure we have the capabilities in place to understand and manage this expenditure in a strategic, holistic way.

CAPABILITY – VICTORIA'S DIRECTION

From	To
Some cross-government coordination of strategic ICT capability.	Clear cross-government ICT strategy, governance and accountabilities.
A focus on technical expertise.	Building skills in project management, commercial engagement, business engagement, architectural design, information management, customer focus and problem solving.
A risk-averse approach that stifles innovation.	An innovative culture that manages risk while delivering productivity and better services.



7.1 ICT LEADERSHIP, GOVERNANCE AND PLANNING

The Victorian Government will implement stronger ICT leadership. This will include internal agency governance, a new cross-government Chief Technology Advocate and coordination function, and strengthened reporting.

The Chief Technology Advocate, together with the Victorian Government CIO Council will provide direction and coordination in information management and technology within government.

We will continue to seek industry guidance from the Victorian ICT Advisory Committee (VICTAC). VICTAC was created with representation from industry and the Victorian Government. The committee will continue to help us focus on making better use of ICT, and to take advantage of the lessons learned in other large enterprises and the ICT industry.

The success of this strategy, and the future success of ICT investment by the Government demands engagement in, ownership of, and accountability for the efficient, effective and acceptable use of ICT at the highest levels across government. Roles will be clearly defined in business cases along with recognition that responsibility for benefits realisation from ICT-enabled projects lies with agency heads and not with project teams.

Agencies will adopt best practice governance standards such as the international standard for corporate governance of information technology (ISO 38500).

The following changes will be made to implement the strategy:

- ▶ assigning responsibility for the delivery of this strategy to the Chief Technology Advocate, within the Department of Business and Innovation (DBI);
- ▶ reviewing consolidation of key cross-government ICT functions including strategy, policy, architecture, standards and procurement into DBI;
- ▶ ensuring agency heads are accountable for their contribution to ICT strategy outcomes;
- ▶ improving the sharing of agency ICT plans to identify opportunities for collaboration and reuse;
- ▶ the existing CIO Council taking a collaborative role in delivering this strategy; and
- ▶ providing regular progress reports to Government.

Actions	By
38. Review and implement ICT governance and organisational structures	March 2013
39. Commence regular reporting on ICT strategy progress to Government	October 2013, and ongoing annually
40. Establish annual ICT planning processes	April 2013
41. Establish a review process for new investments for alignment with government requirements and to identify sharing and reuse opportunities	April 2013
42. Agencies submit their annual ICT plan for assessment by VICTAC	July 2013, and ongoing annually
43. Develop a whole of government ICT governance and guidelines framework	September 2013
Measures	
<ul style="list-style-type: none"> ▶ ICT governance and organisational structures reviewed and implemented by March 2013 	

7.2 REPORTING AND ANALYTICS

The Victorian Government will enhance real time reporting and business intelligence capabilities. Government is largely an information-based enterprise and the value of data and analytics in developing evidence-based policy and improving service delivery cannot be underestimated. Government agencies are responsible for delivering outcomes to Victorians, and are judged on their ability to meet measures of success. We can get a clearer picture of the status of government programs by analysing these measures more consistently.

Some agencies have already put in place data and analytics programs, but skills and practice can be further enhanced. The introduction of business intelligence software is only one part of the process. Agencies need to be sure of the quality and availability of the underlying data. Key reports and metrics need to be agreed and staff skills are needed to draw insights from analytics reports.

Actions	By
44. Develop a framework for the consistent description of performance measures	December 2013
45. Agencies describe their business performance measures and related source data	March 2014
46. Agencies commence implementation of an analytics capability	July 2014

Measures

- ▶ Integrated analytics and reporting against agency performance measures to be introduced within agencies by December 2014

CASE STUDY:

BUSINESS INTELLIGENCE IN EDUCATION

In 2008, the Department of Education and Early Childhood Development (DEECD) began developing its Enterprise Reporting and Business Intelligence system (ERBI). The aim of the project was to provide integrated access to the department's data holdings, reduce duplication and maintenance costs, increase consistency and confidence in decision-making and improve the department's ability to respond to new information requests.

Most of the department's data is now accessible, including finance, human resource, infrastructure, demographic and performance information. ERBI has significantly accelerated the data publication process, making quality data available in days rather than months. Pre-defined reports are available to corporate and regional staff through DataZone, on the department's intranet. DataZone enables users to filter, sort and view the information in tables and graphs, while advanced users can access data cubes directly using statistical tools. For many users ERBI is their single platform for business reporting and analysis.

ERBI integrates and links quality data to provide an evidence base decision-makers can rely on. The breadth of data held by ERBI has enabled informed and strategic decisions across all areas of the department, including targeted early intervention, program and policy evaluation and resource allocation.

In 2011, a demonstration project was conducted to highlight the potential of advanced analytics. The project involved mining the department's data to better understand what factors are predictive of Year 9 student achievement. The results revealed that annual survey data from teachers and students is strongly predictive of student improvement. These insights are now being used to create better information and support systems to help school leaders identify the educational programs and improvement strategies that will make the greatest difference for their students. Work is also underway to establish an advanced analytics environment within ERBI.

7.3 IMPROVED CAPABILITY

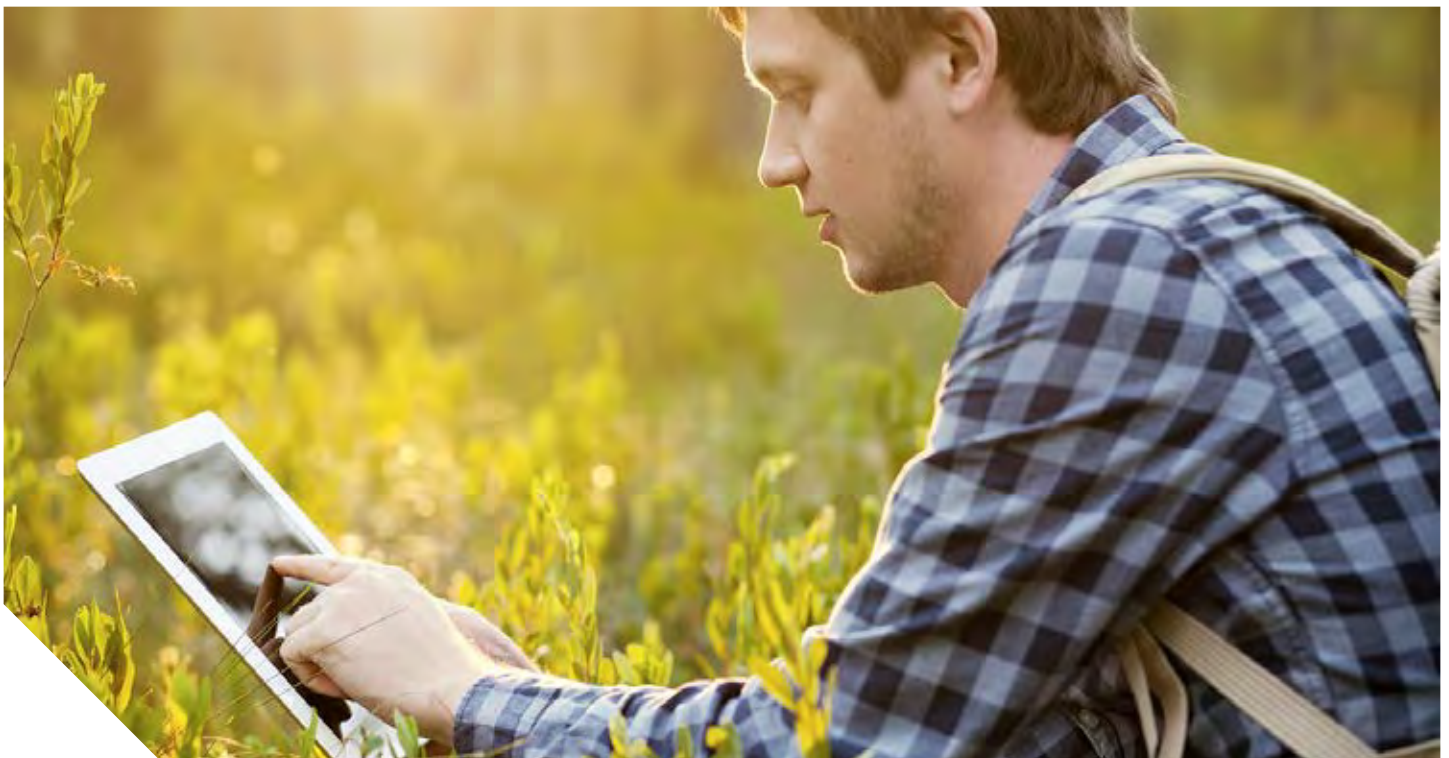
The Victorian Government will develop a capability plan that addresses skills in demand and looks at ways to improve our ability to attract and retain skilled ICT professionals.

Government will invest in the capabilities needed for public servants to manage ICT strategically, including skills such as:

- ▶ project and program management;
- ▶ change management;
- ▶ procurement, vendor management and commercial engagement;
- ▶ business analysis and engagement;
- ▶ ICT architecture;
- ▶ information management;
- ▶ customer service channels; and
- ▶ problem solving, including problem identification.

Recruiting high performing staff is a challenge, particularly in emerging or specialist roles. Demand for skilled labour continues to exceed supply in key areas of the ICT workforce. Where delivery of applications and infrastructure are outsourced there will be more focus on strategy, architecture and business engagement.

Actions	By
47. Develop a Victorian Public Service ICT capability framework	December 2013
48. Commence implementation of the ICT capability framework	March 2014
Measures	
▶ Victorian Public Service ICT capability development framework developed by December 2013	



7.4 SERVICE IMPROVEMENT AND INNOVATION

Government will promote citizen-focused service improvement and productivity within the public service. Government will empower staff to innovate, take measured risks and try new approaches for the benefit of Victorians. We will create an environment where staff look for innovations that will make services more effective and efficient for the taxpayer.

The size and structural complexity of government as well as regional differences makes major reform to services a huge challenge. Smaller scale demonstration programs can remove significant risks and seed broader change. Piloting new technology can generate rich, real-world data about costs and benefits, implementation options, sustainability and other maintenance issues to inform decision-making.

There are examples of successful innovation approaches to service delivery already used by the Victorian Government but these tend to be the exception rather than the rule. In particular, the Broadband Enabled Innovation Program (BEIP) and the Market Validation Program (MVP) have provided seed funding for projects that improve existing or create entirely new services.

BROADBAND ENABLED INNOVATION PROGRAM

The Broadband Enabled Innovation Program (BEIP) is a competitive grants program aimed at accelerating the innovative use of next generation ICT by the Victorian Government, industry and community organisations. The BEIP funds collaborative projects that use next generation ICT to innovate and develop new ways of working to solve problems in key areas such as environment, health, education, local government, emergency services, community services and industry.

BEIP round two focuses on productivity using high-capacity broadband and will support the development of applications that are dependent on characteristics of high-capacity broadband such as its high speed, low latency and increasing ubiquity.

Projects could also consider addressing the unique challenges and opportunities faced in regional Victoria, the convergence between radio communications, telecommunications, broadcasting and the internet, and mobility-enabling devices.

Actions	By
49. Agencies identify innovation projects	July 2013
50. First tranche of innovation projects to commence	December 2013
Measures	
▶ First tranche of innovation projects commences by December 2013	

ACKNOWLEDGMENTS

In June 2012, the Assistant Treasurer established the Victorian Information and Communication Technology Advisory Committee (VICTAC) and tasked it with overseeing the development of a Victorian Government ICT strategy. Thanks go to the VICTAC members for their leadership and contributions.

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- ▶ Australian Information Industry Association
- ▶ Deloitte
- ▶ Ernst and Young
- ▶ Gartner
- ▶ Ovum
- ▶ Price Waterhouse Coopers
- ▶ Australian Computer Society

... and also the many personal and business contributions received during the public consultation phase of this strategy.

Trend data used in infographic

- ▶ 81 per cent of Australians use the internet⁸
- ▶ The NBN will provide high-speed internet at 100Mbps to more than 93 per cent of Victorian premises⁹
- ▶ Average smartphone usage increased 272 per cent in 2011¹⁰ and the average connection speed of smartphones is expected to quadruple by 2016¹¹
- ▶ In 2011, 86 per cent of online Australians purchased products and services online, 85 per cent did their banking or paid a bill and 83 per cent researched products and services¹²
- ▶ In 2011, 61 per cent of online Australians had an active Facebook account and social networking remains the preferred method of online communication for 16 to 24 year olds
- ▶ Globally CIOs are focusing on simplifying IT infrastructure, reducing running costs and refocusing ICT resources on core business outcomes. Organisations are investing in business analytics, cloud computing and mobile technology, as they try to grow their businesses in a tough economic environment¹³
- ▶ Demand for skilled labour has continued to exceed supply in most areas of the ICT workforce and this is projected to continue¹⁴.



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