THE DIGITAL STRATEGY:
CREATING OUR DIGITAL FUTURE

www.digitalstrategy.govt.nz

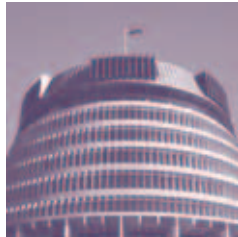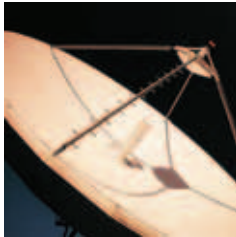# THE DIGITAL STRATEGY:

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MINISTER'S FOREWORD

"I believe we have a bright, connected, digital future ahead of us. Your overwhelming response to the draft Strategy confirms it."

There's a buzz about New Zealand right now. We have vibrant communities. We have innovative people and companies at the creative cutting-edge. Our government strives to be accessible and scores highly internationally in its approach to e-government. And we have an environment and quality of life that are the envy of many.

Much of this has been made possible by developments in information technology and communications. Many New Zealanders have been quick to seize the benefits that technology can bring, to their businesses, their creative energy, and their lives. Peter Jackson's *The Lord of the Rings* movies showed Hollywood how it's done – and down on the farm technology is making a big difference to farm productivity.

But we still have some way to travel on our journey to create a Knowledge Society. **Connection** should be instantaneous, affordable, and available everywhere. **Content** needs to be diverse, high quality, and of value to New Zealand users. Technology must be designed with people in mind, who must have the capability and **confidence** to use it to fully enrich their lives.

We have made good progress already. We have established a competitive and open regulatory environment. The government's Growth and Innovation Framework (GIF) has set our strategic direction and goals, and a number of initiatives are already taking us forward. **Project PROBE** has brought broadband access to large areas of New Zealand, the **Advanced Network**[1] is being built to connect our researchers and universities, and we are using ICT to transform government and deliver better services in **health and education**. But we must keep the momentum going!

Your feedback on the draft Digital Strategy told us we are heading in the right direction.[2] You agreed strongly with our focus on spreading the benefits of ICT right across the economy and ensuring all Kiwis can participate, through the three enablers of Content, Confidence, and Connection.

1   See www.morst.govt.nz

2   A summary of the feedback we received on the draft Digital Strategy is at: www.digitalstrategy.govt.nz

You liked the ideas we floated and the joined-up, partnership approach we proposed. But – quite rightly – you wanted to know **how** we would make this all happen, and whether there would be funding to match.

We've heard you! This Strategy will focus on what we are going to do and how we are going to do it.

The Digital Strategy is a core element of the Growth and Innovation Framework. The government is already spending millions on initiatives to create a Knowledge Society. In addition to new spending in departmental budgets and existing programmes, **I can also announce additional funding of nearly $60 million through the government's Growth and Innovation Framework specifically to deliver the Digital Strategy, including $44.7 million of contestable funding available directly to communities and partnerships.** By our reckoning, that's up to $400 million in Digital Strategy initiatives over the next five years.

To make sure we co-ordinate all these activities properly, I will establish a Digital Strategy Advisory Group, asking community and business people to advise me and other Digital Ministers directly. This will give us oversight of many initiatives and ensure that the various actions proceed in step.

We will need to work together to make it happen. Think of the Strategy as a vote of confidence in the ability of local government, economic development agencies, and others to form partnerships and get active at the local level.

I encourage you to give us your feedback on the Strategy as we move forward. Contact us at: digitalstrategy@med.govt.nz.

I believe we have a bright, connected, digital future ahead of us. Your overwhelming response to the draft Strategy confirms it. Thanks to all of you who gave us your views. Thanks too to the Digital Champions – those people who are passionate about their communities, and passionate about how ICT can transform them. You will play an important role in creating the Knowledge Society in New Zealand.

In this time of rapid and unprecedented technological change, we need to work together to harness it and create a digital future – **for all New Zealanders.**

Hon David Cunliffe
Minister for Information Technology
Minister of Communications

May 16 2005

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COMMUNITIES

BUSINESS

GOVERNMENT
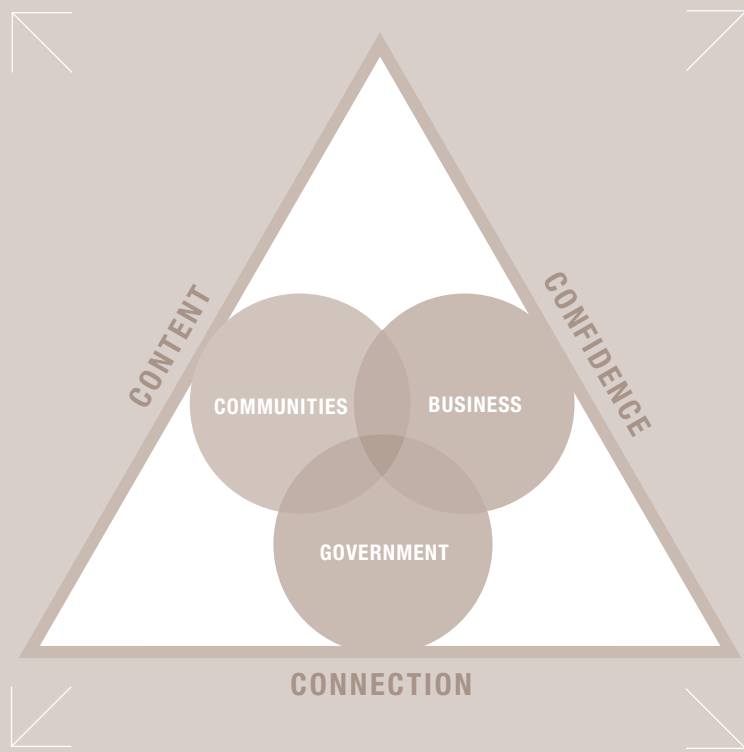
CREATING OUR DIGITAL FUTURE

New Zealand will be a world leader in using information and technology to realise its economic, social, environmental, and cultural goals, to the benefit of all its people.

The Digital Strategy is about how we will create a digital future for all New Zealanders, using the power of information and communications technology (ICT) to enhance all aspects of our lives.

In the digital future, lots of things will change for the better. The results will be seen in how we run our businesses, how we interact with each other, and how we use a whole range of government services. Thanks to affordable, high-speed access, New Zealanders will be much better connected – to each other, to the things we need for our everyday lives, and to the world of information that lies beyond.

Business people will have the skills and confidence to use digital technologies to create value for their customers and connect to new markets, helping their businesses grow. Government information and services will be easier to use, customised to individuals' needs, and delivered through many channels. People living in rural areas will have better access to health and education services. Our science and technology research communities will be supported by an advanced network infrastructure.

In the Knowledge Society of the future, all New Zealanders will have easy access to our national heritage collections and the national stock of research and science knowledge. Our communities will be stronger by being better connected and organised. We will have the skills and confidence to create our own information products and services, enrich our lives, and tell our stories to the world.

The Digital Strategy is about how we will create a digital future for all New Zealanders, using the power of ICT to enhance all aspects of our lives.

WHY WE NEED
A DIGITAL STRATEGY

The government wants all New Zealanders to be able to enjoy the benefits that ICT can bring. These benefits include instant access to our national knowledge resources (whether cultural, scientific, heritage, archival, broadcasting or community); government services that are customised to our individual needs; and the economic benefits that flow from higher productivity. The richer the information that is available digitally, and the more extensive the networks that connect people, the greater the benefits that will accrue.

Using digital technologies to create and access our distinctive cultural content enhances our identity as New Zealanders.

The information we access through digital technologies can promote innovation, increase productivity, and enrich the quality of our lives. Content creation is not only a global business – now it can be anyone's business. Using digital technologies to create and access our distinctive cultural content enhances our identity as New Zealanders. ICT helps us unlock our stores of national content, making them accessible to all, and it is a powerful tool for directing and expressing our creativity.

Lifting productivity is a key government goal. Investing in ICT can have a powerful effect on productivity in almost every industry, driving innovation, cutting costs, and opening up new opportunities. ICT can boost profits, help small firms overcome limitations of size, and enable even tiny enterprises to establish a global presence. But to take full advantage of the opportunities of ICT, we need to develop the skills of our workforce at every level, from front-line staff to senior management. Investing in management and business capability is a priority.

The Digital Strategy is contributing to productivity growth and is closely aligned with the government's productivity enhancement programmes.[3]

ICT also has environmental benefits, helping us achieve our goal of sustainable development. Through ICT we can manage resources better, such as improving the efficiency of energy use and supply, cutting production costs, and reducing our impact on the environment.

3   See *Workplace Productivity Challenge, Report of the Workplace Productivity Working Group,* Department of Labour, 2004.

TRANSFORMATION THROUGH INFORMATION AND COMMUNICATION

There is an international consensus on the importance of intellectual input in creating value, underlining the need for investment in education and skills in general, with a special focus on ICT skills and research and development. ICT has changed the face of modern science and technology research, requiring our research organisations to be linked to each other through an Advanced Network that is connected to the rest of the world. Ready access to a safe, secure, and affordable communications infrastructure that enables national and international collaboration is the other half of the equation to take us forward to the Knowledge Society:[4]

> Information **+** Communication **= Knowledge Society**

Feedback on the draft Digital Strategy roundly endorsed our view that ICT is a general-purpose enabler across the whole economy.[5] It is likely that 20 years from now New Zealand will still be a commodity producer on a global scale, but our continued success in primary industries as well as knowledge industries will depend on our ability to innovate and apply knowledge.

Digital technology is already transforming the way we manage our farms and will become more important in the future. For instance, radio frequency identification (RFID), which can be used to track food components from the farm gate to the supermarket chiller, is revolutionising agricultural supply chains.

For New Zealand to remain competitive, we must embrace and anticipate technological change. The Digital Strategy provides us with a clear view of the future we want to create, and a plan for how we will get there.

ABOUT THE DIGITAL STRATEGY

The Digital Strategy will set New Zealand's direction for the next five years. It sets out key actions over the next few years where budgets have already been committed. It puts in place a structure against which to evaluate our progress and will ensure we meet our longer-term goals.

The Digital Strategy is closely linked to other government priorities, such as the Growth and Innovation Framework and Sustainable Development For New Zealand. The diagram on page 7 shows some of the important connections.

The **draft Digital Strategy** was released in June 2004 for public feedback and discussion. We consulted extensively with businesses and industry groups, community and voluntary groups, health professionals and educators, researchers, and individuals. We received nearly 200 written submissions.

The feedback strongly supported the Strategy and told us we are heading in the right direction.[6] It agreed with us on the importance of **content, connection,** and **confidence,** and on the need to develop all of them at the same rate.

Many of you asserted strongly that there is an urgent need in New Zealand for access to affordable, high-speed networking. New Zealand's aspirations to get back into the top half of the OECD are simply not credible without it, you said. The Digital Strategy outlines what we propose to do about it.

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4   The international context on the Information Society (as set out at the World Summit on the Information Society) illustrates that New Zealand's Digital Strategy is timely and in line with current thinking worldwide, particularly in relation to the partnership approach we have adopted.

5   For an explanation of what this means, see the glossary of terms at www.digitalstrategy.govt.nz

6   A summary of the feedback we received on the draft Digital Strategy can be found at www.digitalstrategy.govt.nz
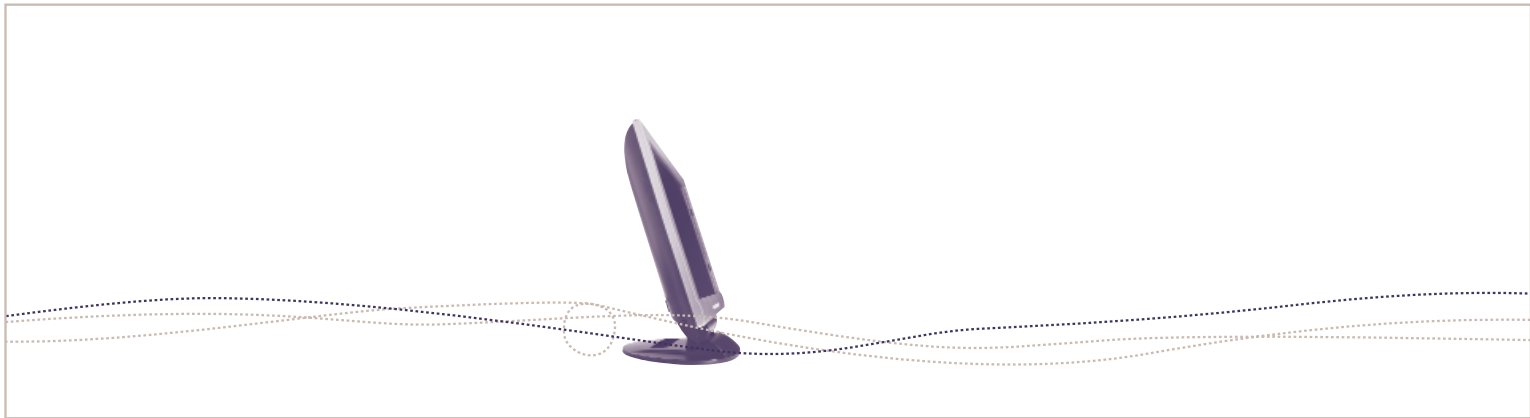
Rather than questioning whether the proposed initiatives should be delivered, your feedback asked for detail on *when* and *how* they would happen. Overwhelmingly, you supported what we propose to do and told us to get on with it.

This final Strategy takes account of your feedback and focuses on implementation, providing detail on what the government and other stakeholders will actually *do*, by when, with details of how much money will be spent. We have outlined the challenges in each area, set clear targets to be achieved, and set out a plan of action.

The Digital Strategy is closely linked to other government strategies

* see www.dpmc.govt.nz/dpmc/publications/key-goals.html
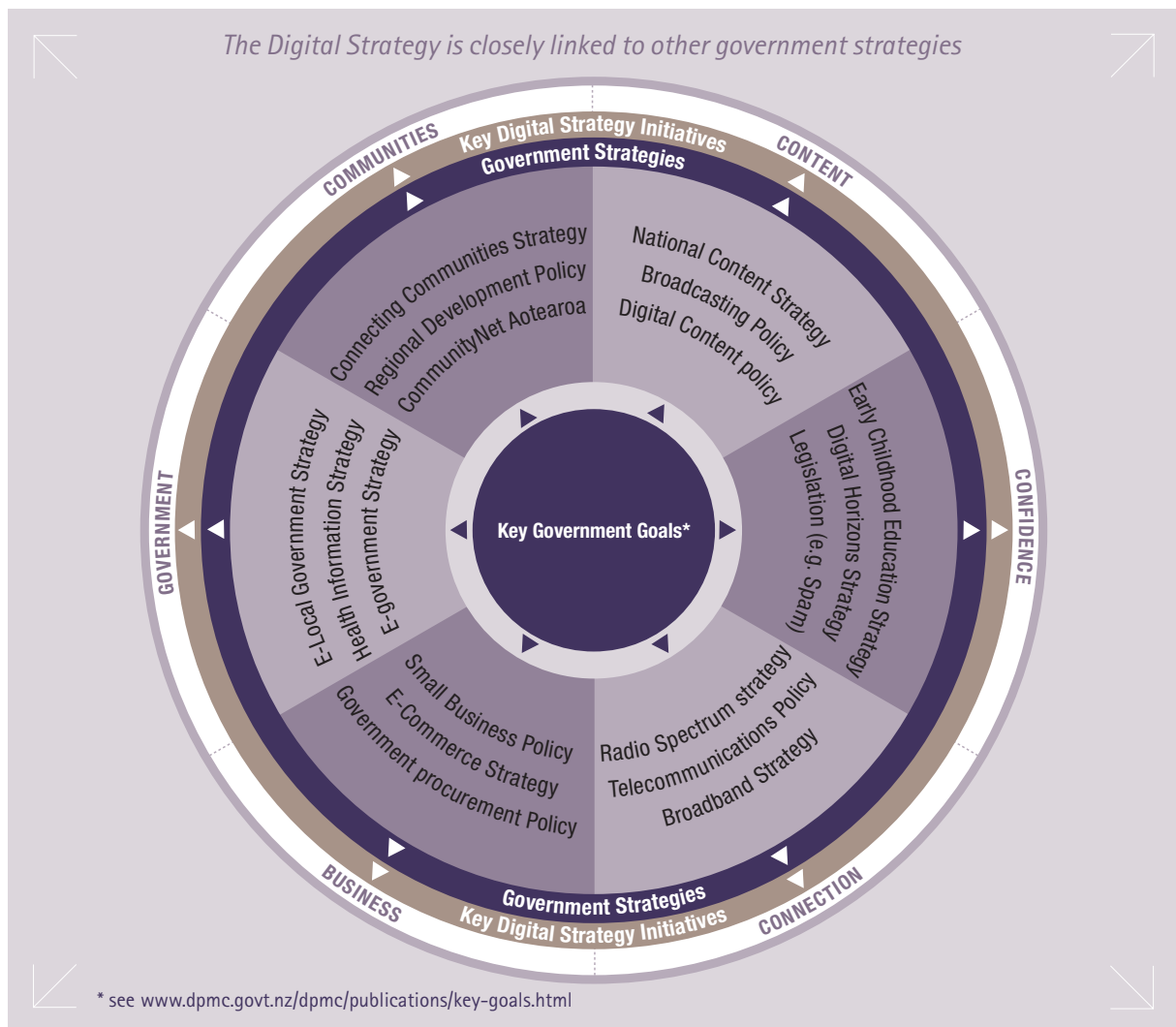
WHO THE
DIGITAL STRATEGY IS FOR
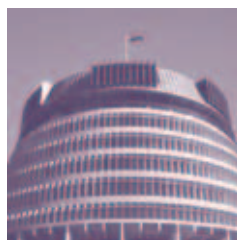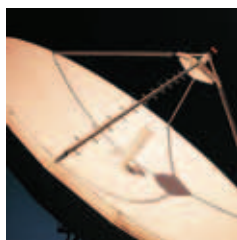
WHO THE
DIGITAL STRATEGY IS FOR

The Digital Strategy is about creating a digital future for all New Zealanders. ICT offers new ways of connecting people, strengthening communities of all kinds, enhancing the democratic process, and opening the door to new opportunities. We want our future to be one of digital opportunity for all New Zealanders.

Technology holds the potential to include all people and communities more fully in our national life.

We can use the power of technology to connect people to the things that matter most to them, express our creative talents, celebrate the unique culture of Māori, and strengthen our links to our South Pacific neighbours. Technology holds the potential to include all people and communities more fully in our national life. But misused, without due attention, it can increase barriers that already exist.

The Digital Strategy recognises the importance of working with Māori to assist Māori, as individuals or collectives, to achieve their goals for the use of ICT, in light of these goals' importance for social, cultural, and economic expression and development. Māori culture is a vital part of what distinguishes New Zealand from the rest of the world. ICT can be used to help create the conditions for the realisation of the diverse forms of Māori potential. It is crucial for the future of Māori and of New Zealand as a whole that distinctively Māori voices are encouraged and promoted.

CONCERTED ACTION

Collaboration and partnerships will be essential in implementing the Digital Strategy. We already have good models of collaboration to build upon. Project PROBE,[7] and the evolving regional networks around PROBE, have not only shown many people the importance of broadband as an enabler but have been delivering the benefits of connection to communities throughout the country. The success of Project PROBE and our work on Connecting Communities have demonstrated the importance of taking a partnership approach.

There are many other examples led by the private sector, such as Cisco System's Networking Academy Program (see Communities section, page 34)

7   See www.probe.govt.nz
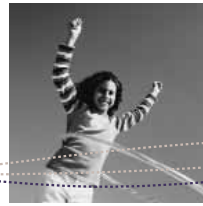
or the Vodafone NZ Foundation. The 'Connected Lives' initiative led by Telecom New Zealand and Hewlett-Packard New Zealand is designed to stimulate public interest in broadband, which is closely related to the Digital Strategy goal of raising people's awareness of the potential of ICT. The Telecommunications Users' Association of New Zealand (TUANZ) and others have done much to promote the potential benefits of broadband and its impact on business sectors.

Similarly, there are exciting initiatives promoted by community ICT trusts, not-for-profit organisations such as the Internet Safety Group, and regional and local groups. Internet New Zealand is exploring with partners the establishment of a Digital Opportunities Foundation to support public-good ICT projects. Christchurch South Library is another good example of collaboration.

How we deliver the Digital Strategy and how well we succeed will depend on the commitment of businesses and community stakeholders.

The government has committed up to $400 million to digital programmes, including about $60 million of new funding in this year's Growth and Innovation Framework. This includes $44.7 million in contestable seed funding to implement key partnership initiatives in two streams:

- **the Broadband Challenge** ($24 million), to enable affordable broadband roll-out based on competitive open-access principles
- **the Community Partnership Fund** ($20.7 million), to support grassroots initiatives that will build ICT skills in communities and regions, and help create distinctive New Zealand content.
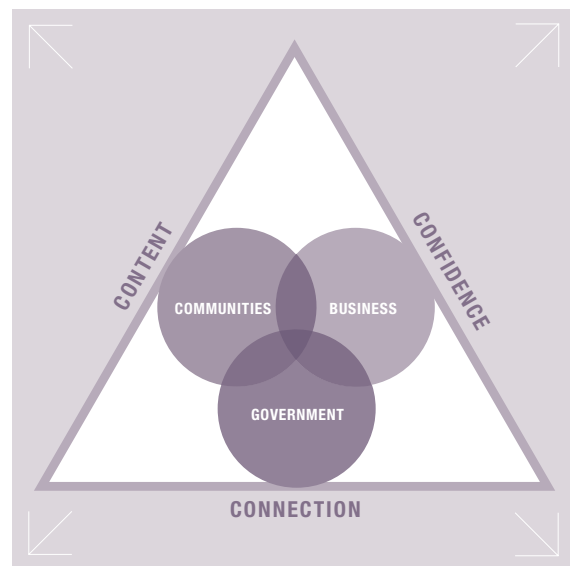
It is important that we keep all the dimensions of the Digital Strategy in line. Content, Connection, and Confidence are the three enablers. **Connection** is necessary but not sufficient – it simply provides the means. **Confidence** gives us the skills and a secure online environment, whilst accessing or creating **Content** provides a compelling reason to make it happen.

Government, business, and the communities are the agents of change and their initiatives all impact upon each other. Whilst we set out below some issues that relate specifically to communities and businesses, including not-for-profit organisations, they are clearly interwoven. Since the full benefits of ICT can only be realised when *everyone* is able to participate, we have emphasised the importance of partnership and collaboration.

This is therefore a document for all New Zealanders. By working together, we can make it happen.

THE ENABLERS:
CONTENT

TARGETS

- By December 2006, to develop and launch a National Content Strategy.
- To develop the online Cultural Portal.
- To implement the National Digital Heritage Archive and the Māori Language Information Programme and progress *Te Ara – The Encyclopedia of New Zealand* (see case study page 17).
- To digitise existing content and develop new content through the Community Partnership Fund.

CHALLENGE

To respond to two important trends:

- globalisation and the rapid expansion of access to information
- the falling cost and growing reach of technology

by ensuring that uniquely New Zealand content is made available to enrich our lives and tell our stories to the world.

In doing so we will use ICT to unlock the valuable repositories of information that have not yet been digitised, create new content, map our existing digital assets, and improve Internet access to the richness of our digital resources. This will give New Zealanders access to information that is important to all areas of our lives.

To become a true Knowledge Society, New Zealand needs to focus on information-rich activities: those in which we create, collect, manage, process, store, move, or access information via a networked environment. Recent years have seen rapid growth in both the amount of information created and the diversity of its formats.

Feedback on the draft Strategy suggested that the local, national, and international stocks of ideas, information, and knowledge are of equal importance to our future. However, content that is not organised, has a cost barrier, is technically of poor quality, or is hard to find, is of little value.

Respondents emphasised the importance of access to New Zealand's stock of scientific and technological research information. Digital content is now being utilised as an accepted part of most industries, including the creative, film and media areas. It is also beginning to transform other

industries such as the interpretation of bioinformatics information, medical imaging, and high-tech manufacturing.

It is important for New Zealanders from all walks of life to be able to create and use their own digital content in order to create value (social, cultural, and economic) for themselves, their communities, and our nation.

Māori are both creators and consumers of content and distinctively Māori content is particularly visible in the areas of: broadcasting; the arts and creative industries; as well as the education, health, and business sectors including tourism.[8] Māori digital content is important not simply for its economic potential, but also as a vital means of expressing Māori culture in today's society and into the future, strengthening Māori society and identity, telling Māori stories to other Māori, and communicating with the wider world. Hence the importance of content being created and maintained in the Māori language.

There are risks to be managed. Unrestricted access to information encourages the unauthorised use of copyright material. There is a need to balance the rights of intellectual property holders with the rights of those seeking access to information for educational or cultural purposes. The Creative Commons[9] concept offers a different model for managing these rights. Online information is vulnerable, and requires a secure, reliable, and well regulated ICT environment. In a digital environment, the design, format, accessibility, and searchability (of websites and documents) are all important if people are to find the information they seek.

The government has a duty to provide the easiest possible access to government information and services, including government records documenting citizens' rights and entitlements.[10] The citizen has the right to be able to access government information, hence the need to fill the current gaps in the online availability of government policy and legislation.

It is important for New Zealanders from all walks of life to be able to create and use their own digital content in order to create value (social, cultural, and economic) for themselves, their communities, and our nation.

8   See www.whalewatch.co.nz for one example.

9   See glossary at www.digitalstrategy.govt.nz

10 Government information includes statutes and regulations, legal obligations, Official Information Act requests, and details of policies and programmes.

ACTIONS

ACTION	LEAD	TIME	$
National Content Strategy Bringing New Zealand online by mapping New Zealand's information assets and developing a framework and policies for national access. Identifying criteria for what should and shouldn't be digitised from existing holdings. An information architecture will be developed to preserve, share, and manage digital objects.	National Library of New Zealand	2005-06 Development Ongoing	$0.6 M Development costs
The Cultural Portal Providing an online presence for the cultural sector, starting with an events portal which will provide online access for both domestic and international audiences.	Ministry for Culture and Heritage	From 2005	$3.9 M over 4 years
Te Ara – The Encyclopedia of New Zealand A scholarly, accessible encyclopedia. First instalment published in February 2005 (see case study page 17).	Ministry for Culture and Heritage	Ongoing	$11 M over 9 years
The National Digital Heritage Archive This will collect, preserve in perpetuity, and make accessible documents in all media that are part of New Zealand's cultural heritage. Commenced 2004.	National Library of New Zealand	2004-08	$24 M over 4 years
The Māori Language Information Programme To support the regeneration of the Māori language, using an interactive website and portal to improve connectivity between Māori speakers and increase the corpus of te reo Māori.	Te Puni Kōkiri with Te Taura Whiri i te Reo Māori	Ongoing	$1 M pa

SUPPORTING ACTIONS	LEAD	TIME	$
Any questions An online reference service for all New Zealand school students, providing guided access to online information from relevant, quality sources.	National Library of New Zealand	Pilot complete; planning 2005	Funded by partner agencies
Strong and Sustainable Public Broadcasting Environment Achieving adequacy and certainty of public funding for broadcasting; strengthening public broadcasting; facilitating digital broadcasting services; enhancing regional and community broadcasting; enhancing independence and responsibility in broadcasting; and enhancing the incentives for producing higher-quality content and schedules.	Ministry for Culture and Heritage	Ongoing	TBA
Digital Learning Materials' Development Develop digital learning objects with major cultural and heritage institutions. (With Te Papa, National Library of New Zealand, TVNZ).	Ministry of Education	2005-06	$600 k over 2 years
Archway A system that transforms the way government archives are managed and accessed. It replaces paper systems with a dynamic database that allows the documentation of government functions, agencies, and records from 1830 to the present day. Available via the Internet in 2005.	Archives New Zealand	2001-05	$8 M over 4 years
ANZAC Website A website for material relating to ANZAC Day to mark the 90th anniversary. To assist all New Zealanders and particularly those travelling to Gallipoli.	Ministry for Culture and Heritage	Live on 18 April 2005	$50 k
Copyright Act Amendments Electronic rights management.	Ministry of Economic Development	Bill introduced 2005	N/A

SUPPORTING ACTIONS	LEAD	TIME	$
Access to Electronic Resources EPIC Access for all New Zealanders through their libraries to New Zealand and non-New Zealand e-content. Provides access to 16,000+ full text journals and is available to every citizen (Consortium partners: Ministry of Education and the library sector.)	National Library of New Zealand	Ongoing	Baseline[11]
Matapihi Image database, containing some 50,000 images of New Zealand places, events, and people. (With Archives New Zealand and collaborating institutions within the National Digital Forum.)	National Library of New Zealand	Ongoing	Baseline
Supporting library initiatives include the National Union Catalogue (with libraries), the New Zealand National Bibliography, and Index New Zealand.	National Library of New Zealand	Ongoing	Baseline
Supporting culture and heritage initiatives include the Dictionary of New Zealand Biography and the NZHistory.net.nz website.	Ministry for Culture and Heritage	Ongoing	Baseline

11 An initiative funded from "baseline" is part of planned departmental spending.
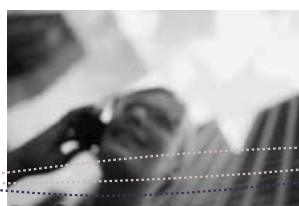
NATIONAL CONTENT STRATEGY – NEW ZEALAND ONLINE

The unlocking of valuable repositories of information (particularly older or historical material), or making new ones available, will add to the nation's wealth of knowledge, and create a major new resource for education, cultural development, and innovation.

The National Content Strategy will consider two main issues:

- what to digitise (both digitising existing holdings and developing new digital material)
- how to digitise.

There are three parts to developing a National Content Strategy:

1. **Mapping the content landscape:** Preparing a dynamic web-based asset map of digitally available material in New Zealand. This work will consider what specific e-content resources are already available in New Zealand, identify gaps and where content is being duplicated (where and by whom), and consider what new e-content might be required and could be made available by various means in key areas such as e-health, e-science, e-government, e-commerce, culture and heritage (including broadcasting), and the creative industries.

2. **Policy framework:** Developing a multi-stakeholder (pan-government and non-government) policy framework for the digitisation of material important to New Zealand and the development of new creative content. The framework would address access to international databases (scientific and other) that can assist with a range of New Zealand research needs.
   The policy framework would consider issues relating to intellectual and cultural property.

3. **Building the necessary technical architecture for comprehensive national standards–based access to e-content resources.** Internationally agreed metadata and interoperability standards will be applied to ensure that digital material can be shared and preserved to maintain access over the very long term. It will include sets of geospatial information held by government agencies and will take into account the standards developed by the E-government Interoperability Framework (e-GIF).

THE CULTURAL PORTAL

The portal will provide a co-ordinated web presence for government cultural agencies, government-funded cultural organisations, and private-sector and community-based cultural entities and enterprises.

The first stage will be to construct the infrastructure of a Web Portal, as a common access point to arts, culture, and heritage enterprises and information. It will incorporate a directory of sector organisations, facilitating easy access to information, services, and activities within the sector.

The second stage will set up a Cultural Events website within the Cultural Portal, aimed at increasing domestic and international audiences for cultural goods and services, cultural tourism events, facilities, and destinations in New Zealand.

The final stage will offer access to cultural products, activities, and services, enabling cultural enterprises to move more of their business online and reach audiences and consumers in local and global markets more effectively.
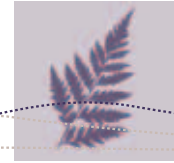
CASE STUDY | TE ARA – THE ENCYCLOPEDIA OF NEW ZEALAND

For the first time, New Zealand has an encyclopedia that has been published on the Internet rather than as a book. Launched this year, **Te Ara – the Encyclopedia of New Zealand**, showcases New Zealand history and culture, both for New Zealanders with a growing interest in their own country and for people overseas.

Publishing the encyclopedia on the Web has a number of advantages. It allows multimedia presentation using sounds, photos, paintings, maps, films, and texts. It can link to other websites of interest and to digital material in museums, galleries, and libraries throughout the country. It also makes the encyclopedia searchable and interactive. The first part of Te Ara to be published, called 'The New Zealanders', provides an introduction to the major iwi of the country and to all the immigrant groups who have made their homes here. It includes stories sent in from the community about people's voyages to New Zealand. Being on the Web means material can also be constantly corrected, updated, and reviewed.

Te Ara uses a number of devices to make it highly accessible for audiences ranging from primary school pupils and speakers of English as a second language to scholars, Māori, and international visitors.

www.teara.govt.nz

THE ENABLERS:
CONFIDENCE

TARGETS

Capability

- To improve New Zealanders' digital literacy through ICT training and education programmes, including Digital Horizons initiatives.
- To address skill shortages in the ICT industry through the Fluency in IT (FIT) programme, starting in 2005.

Security

- From 2005, to launch the National Computer Security Campaign for home users and small businesses.
- To pass anti-spam legislation by 2006.

CHALLENGE

Capability and security are essential for all New Zealanders to use ICT and benefit from it. They must possess the necessary ICT skills and have the confidence to use them.

For us to realise the productivity gains and social advantages that ICT offers, we must boost New Zealanders' capability to use ICT and give them good reason to feel safe and secure in the online world.

Digital literacy is an essential life skill, just like being able to read and write. It is both an economic and a social necessity. Without it, there is a risk that people will be cut off from job opportunities and unable to take part in the full life of the community.

The government is already investing heavily in education and skills training. Polytechnics and high schools provide community computing courses to get people started and keep them learning. Programmes like Computers in Homes have already proved their worth. One computer in a household can transform the opportunities of a whole family. One computer-literate child gains access to a different future.

Whilst it is important to emphasise ICT skills in education, we also need to improve the skills of people already in work, from senior management to front-line staff. Many young people have a higher level of digital literacy than the rest of the population – but 80% of today's workforce will still be working in 10 years' time. We can't rely on the skills of people entering the workforce to bring about the change we need. It is essential to bring all New Zealanders along with us.

> **GOAL:**
> To provide all New Zealanders with the digital skills and confidence to find and use the information they need; and to ensure that tele-communications and the Internet in New Zealand are reliable and secure.

Done well, up-skilling today's workers will enable more people to make a better contribution, improving labour productivity and the quality of our working lives.[12]

Skills are also a problem in the ICT industry itself. Already there is a significant gap between the number of ICT jobs available and the number of suitably qualified applicants. Forecasts suggest this problem will get much worse unless measures are taken.[13] We will therefore ensure that digital literacy is part of education at all levels and in all kinds of training, and take into account the needs of particular communities and people with disabilities.[14]

But skills and education, although important, are not enough. New threats are emerging to undermine our confidence online. Although the Internet offers great benefits, it is subject to the malign actions of spammers, virus writers, and fraudsters. These days, three-quarters of unfiltered email is spam. Criminals have gained access to a new world of scams such as phishing[15] and banking fraud. The government is working with others on training programmes and awareness campaigns to address these threats.

Much of the crime on the Internet operates across national boundaries, so we need to co-operate with law enforcement agencies in other countries to protect New Zealanders from fraud, theft, vandalism, and cyber attack.[16] The government can do its part through legislation and enforcement. The government plans to introduce a bill in 2005 to combat spam, and will co-operate closely with other countries on these matters.

The Internet and telecommunications infrastructure in New Zealand is run by the private sector. While the government has a role to play, safety and security are everyone's responsibility.[17]

It is essential to bring all New Zealanders along with us. Done well, up-skilling today's workers will enable more people to make a better contribution, improving labour productivity and the quality of our working lives.

12 For more information on the link between digital literacy and labour productivity, see *Workplace Productivity Challenge, Report of the Workplace Productivity Working Group,* Department of Labour, 2004.

13 ICT jobs in 2012 are estimated at 125,000 compared with 41,000 at present.

14 For example, the telecommunications relay service introduced in 2004 has opened up new possibilities for the participation of deaf, hearing-impaired, and speech-impaired people.

15 See glossary at www.digitalstrategy.govt.nz

16 Recent legislation to improve online security includes the Electronic Transactions Act 2003, making it easier to do business online, and the amendments to the Crimes Act in 2005 that made breaking into computer systems a criminal offence.

17 See OECD Guidelines for the Security of Information Systems and Networks: Towards a Culture of Security http://webdomino1.oecd.org/COMNET/STI/IccpSecu.nsf?OpenDatabase

CASE STUDY HECTOR'S WORLD

Jonty, 4, is playing games on his favourite website. Swimming in the corner of his computer screen is Hector Protector® the dolphin, the Internet Safety Group's cybersafety ambassador for children. If Jonty strays onto a website or email containing inappropriate images or material, with a click of the mouse Hector will cover his computer screen with an underwater scene along with a reassuring message encouraging Jonty to seek help from an adult.

Hector is part of the Internet Safety Group's NetSafe Programme, which educates New Zealanders about safety and security online. Sponsored by Microsoft New Zealand, the first stage of Hector's World involved the release of the Hector Safety Button in 2004. Once the Button is downloaded from the Microsoft New Zealand or NetSafe website (www.netsafe.org.nz), Hector swims alongside children as they surf the Internet or use email.

The second stage of Hector's World will involve a series of animated episodes dealing with cybersafety issues that children could encounter in real life using the Internet or mobile phones.

www.netsafe.org.nz

Businesses that use the Internet to supply services to customers are taking security issues more and more seriously. Banks are using more secure ways of accessing online banking, such as texting a one-time access code to the user before they log on, to protect their customers.

Other risks, ranging from viruses to accidental exposure to online pornography, affect all Internet users. Children can be exposed to harmful content with a click of the mouse. The Internet Safety Group develops programmes like Hector's World to warn children of the dangers of the Internet and help us protect them from harm, and also runs cybersafety courses for adults.

ICT can be a force for environmental improvement by enabling us to use resources more efficiently and reducing the amount of energy we use. But there are serious environmental and health impacts to be dealt with. The ICT industry needs to deal with environmental considerations at every stage, from design and manufacturing through to disposal.

With a strong alliance of government, community, and business organisations, we can raise people's awareness about safety and security. Well informed users can manage their own security risks better and take full advantage of the online experience.

ACTIONS – CAPABILITY

ACTION	LEAD	TIME	$
Digital Horizons Strategy Initiatives such as ICT training programmes with proven positive outcomes (e.g. Computing for Free, Computers in Homes) operating under the umbrella of Digital Horizons.	Ministry of Education	Ongoing	$57 M across all E-Education Projects below in 2004-05
E-Education Initiatives E-learning strategy from pre-school to tertiary education.	Ministry of Education	Ongoing	
Early Childhood Education ICT Framework Guide to the use of ICT for the child, the educator, the administrator, families, and communities.	Ministry of Education		
ICT Professional Development Clusters A programme to develop teachers' confidence and capability in using ICT, operating in 80 clusters across New Zealand.	Ministry of Education	Ongoing	$11 M p.a.
E-learning Teacher Fellowships Ten teachers released per year for research into innovative uses of ICT in teaching and learning.	Ministry of Education	2002–06	$1.13 M p.a.
The Learning Federation Joint venture with Australian federal and state governments to develop high-quality digital learning objectives for schools.[18]	Ministry of Education	Ongoing	$1.7 M p.a.
Laptops for Principals and Teachers Programme 27,000 laptops distributed as part of the scheme as at February 2005.	Ministry of Education	Ongoing	$18 M p.a.

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18 See www.thelearningfederation.org.au

ACTION	LEAD	TIME	$
Digital Opportunities Currently 11 projects are funded that are using ICT to explore new and innovative ways of supporting learning and increasing capability, including:	Ministry of Education	2005–07	$2.4 M
Digital Bridges Using technology to develop and improve the literacy skills of English as a Second Language students, and to help parents of immigrant families become more involved in the schooling of their children.	Ministry of Education	2005–07	
Community Technicians Training and support for rural and/or remote communities to maintain school computers and networks.	Ministry of Education	2005	
Digital Imaging for Special Education Using digital video to help modify behaviour and attitudes in special needs students.	Ministry of Education	2005–07	
Tech Angels (See case study, page 25.)	Ministry of Education		
KiwiCareers Pathfinder Online career-planning tool. www.kiwicareers.govt.nz	Career Services	2005–07	
Fluency in Technology (FIT) A framework for the development of ICT programmes in schools for Years 11–13 providing skills and pathways to their employment in ICT. (Ministry of Education, with HiGrowth, secondary schools, tertiary institutions, e-regions and the ICT industry.)	New Zealand Trade & Enterprise	2005	$80 k for proof of concept. $200 k committed by industry organisations, c.$500 k pledged

SUPPORTING ACTIONS	LEAD	TIME	$
Learning Power Nationwide service; schools and community groups can apply to buy donated computers and peripherals that have been refurbished through Computer Access New Zealand.	Computer Access New Zealand Trust (CANZ)[19]	Ongoing	
Research Network Capability Assisting research programmes with Advanced Network capability building.	Ministry of Research, Science, & Technology	2005	$450 k

ACTIONS – SECURITY

ACTION	LEAD	TIME	$
National Computer Security Education Campaign Information for home users and small businesses on the basics of computer security. (With government and business organisations).	Internet Safety Group	2005	Public and private funding.
Support for Internet Safety Group Internet Safety Group initiatives include: Hector's World® (see case study), courses on cybersafety provided with Technocatz and delivered around the country, NetSafe website, training modules in schools, and toll-free national helpline (0508 NETSAFE).	Ministry of Education	Ongoing	$1.0 M
Anti-Spam Bill Legislation to govern unsolicited communication.	Ministry of Economic Development	2005	N/A

19 www.canz.org.nz

SUPPORTING ACTIONS	LEAD	TIME	$
Crimes Amendment Bill (No 2) To criminalise communication with a person under the age of 16 for the purposes of committing sexual offences.	Ministry of Justice	2005	N/A
E-Crime Strategy E-Crimes include new crimes such as cyber threats and hacking as well as drug trafficking, smuggling, money laundering, the distribution of covertly filmed images, and the use of the Internet for the sale of objectionable material.	New Zealand Police	Under development	Baseline
Government Internet Gateway The government is considering a network that will include a central Internet gateway for use by government agencies to improve security.	State Services Commission	TBA	TBA
Environmental Impact and Efficient Use of Resources Initiatives to encourage the greater use of ICT to support the outcomes of the government's sustainable development strategies; and initiatives to reduce the environmental impact of ICT. (With NZTE, Department of Labour, Ministry of Education, Energy Efficiency and Conservation Authority, and Local Government New Zealand).	Ministry for the Environment	Ongoing	Baseline

CASE STUDY | TECH ANGELS

When it comes to technology at Wellington Girls' College, students teach the teachers. Each week students called Tech Angels provide mentoring and support in ICT to college staff. Each Tech Angel mentors two teachers, teaching topics ranging from general use of the computer through to scanning, movie editing and burning CDs.

Sponsored by the Ministry of Education, the students volunteer to take part in the programme and are given professional training in ICT and how to teach and support college staff. The programme was launched in 2003 when the school's technological needs started to outstrip the ICT skills among its teaching staff.

A Head Tech Angel and Deputy Head Tech Angel are responsible for organising the Tech Angels' activities and liaising with staff and organisations outside the school. The students involved in the programme also use their ICT skills for other activities including school work and voluntary community work.

www.techangels.org.nz

THE ENABLERS:
CONNECTION

TARGETS

- To implement the Advanced Network by 2006.
- To promote and support open access fibre networks in 15 cities and towns by 2009.
- To achieve upper-quartile OECD broadband performance by 2010 through policies promoting competition and economic development.
- To create the conditions for all major public institutions (hospitals, libraries, and councils) to have access to a fast (1 Gbps) connection by 2010.

CHALLENGE

We must respond to two challenges of connection:

- New Zealand has high Internet usage, but low broadband uptake
- New Zealand's small market inhibits investment and limits competition.

Being connected by broadband matters. Affordable, high-speed Internet access drives productivity and economic growth. It is a prerequisite for a 21st century economy – and for all the other goals in this Strategy.

Respondents to the draft Digital Strategy told us that the high price and low speed of broadband were inhibiting growth in New Zealand. Broadband facilitates e-business and improves communication. It can increase business efficiencies. With affordable high-speed access, businesses will be able to connect with their customers and suppliers and get the information they need. Communities outside our major towns and cities will be able to get connected, unleashing their potential. Farms need broadband, just like factories.

Broadband is therefore a critical part of our infrastructure. Moderate-speed broadband with broad coverage is not enough. Our businesses and researchers need higher-speed and more affordable broadband to compete and connect globally.

The government is committed to implementing the Advanced Network linking our universities and research organisations, so that researchers can collaborate more effectively with each other and with colleagues

GOAL:
New Zealand will be in the top quarter of the OECD for broadband uptake by 2010.
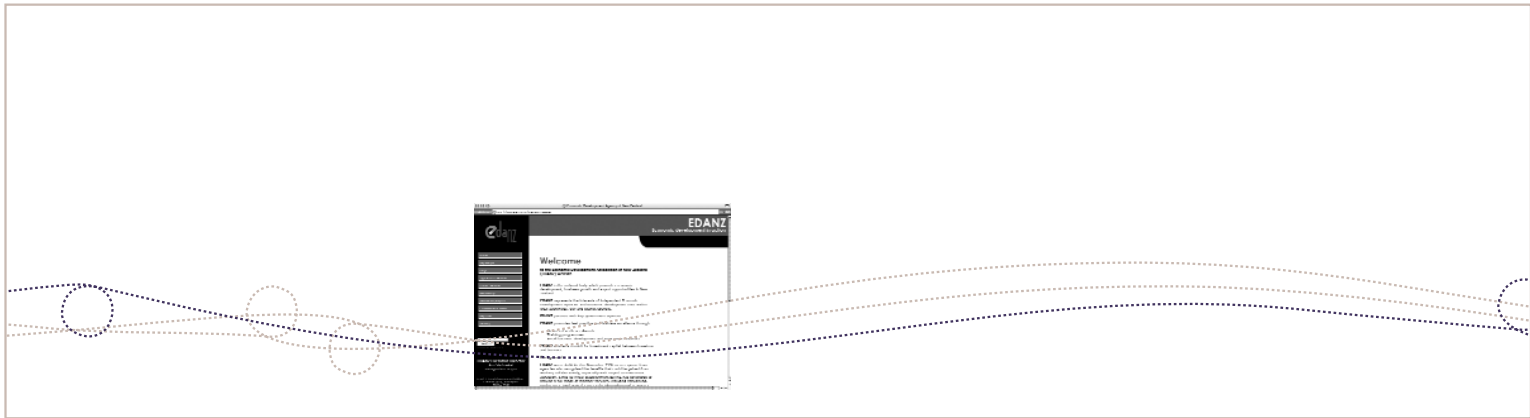
around the world. Regions and local government can play a part in partnering with or encouraging others to build open-fibre networks that link businesses, hospitals, libraries, schools, and so on.[20]

In other OECD countries, broadband is on offer from a range of suppliers at a reasonable price. New Zealand is a small market, with limited competition in some areas. A high-quality, high-speed infrastructure depends on having an open, competitive framework. The government's goal is to enhance competition between providers to promote investment, drive innovation, and improve the quality of service offered to consumers.

Recognising that broadband uptake is beginning to increase, we intend to create an environment where prices will continue to fall and broadband speed to rise, so that New Zealanders will obtain the full benefit of broadband. There must be a balance struck between the interests of consumers (getting good service at a reasonable price) and the interests of companies that seek a return on their investment in infrastructure.

Digital technology and the convergence of broadcasting and communications have opened up exciting new ways to deliver content, such as digital TV, with new challenges and opportunities in broadcasting as much as telecommunications. Opportunities also arise from the convergence of telecommunications and IT. Wireless solutions also offer a way of increasing competition between different kinds of technology; this is important in a small market so that innovative, low-cost services can be developed.

Recognising that broadband uptake is beginning to increase, we intend to create an environment where prices will continue to fall and broadband speed to rise, so that New Zealanders will obtain the full benefit of broadband.

As a large network user and significant purchaser, the government can also help drive demand. The government will also raise people's awareness of the benefits of broadband and set clear targets for broadband speed and coverage (see page 29), benchmarked against the OECD.

Feedback on the draft Digital Strategy supported the need for medium-term targets, but called for intermediate targets to be developed. They have now been included.

Achieving fast broadband will require the government to monitor and benchmark performance, promote partnerships where appropriate, and hold industry to account where necessary. Active monitoring and benchmarking against OECD peers will ensure that we achieve our upper quartile OECD target.

20 'Regions' includes Economic Development Agencies and EDANZ (www.edanz.org.nz).

CASE STUDY OTAGONET

Renowned New Zealand historians Claudia Orange and Anne Salmond have spoken to students in rural schools all over Otago. So has marathon rowing champion Rob Hamill. Thanks to a digital learning network, students in rural Otago have had the chance to quiz these famous New Zealanders by video conference, as if they were in the classroom.

For the past three years, 11 Otago area schools and high schools have been sharing teaching resources and teachers over a network called OtagoNet. With video conferencing, a data link and a cluster-wide intranet, distance and size need no longer be barriers for these schools.

Video conferencing over broadband allows students and teachers to work with each other as though they are in the same room. This means OtagoNet schools can offer students a wider range of subjects than they would be able to on their own. Teachers also hold discussions online instead of having to travel to professional meetings.

www.otagonet.school.nz

BROADBAND TARGETS

USER GROUP	BUSINESSES IN MAIN CENTRES, RESEARCH INSTITUTES, SPECIALISED USERS OUTSIDE MAIN CENTRES	MEDIUM-SIZED BUSINESSES IN PROVINCIAL TOWNS (E.G. HOSPITALS)	RESIDENTIAL AND SME[21] CUSTOMERS
Typical applications	Grid computing Real time virtual reality Real time back-up to a disaster recovery site Distributed computing	Remote CAT scans High definition consultation Freedom to develop new business applications	DVD quality video on demand Security systems Multiple business or entertainment processes
Connection	Fibre	Fibre	Copper or wireless over short distances
TARGET FOR 2010			
Availability of fast broadband[22]	On demand	On demand	90%
Take-up	Upper quartile of the OECD		
TARGET FOR 2007			
Availability of fast broadband	On demand	On demand	60%
Take-up	Top half of the OECD[23]		

Already, some important steps have been taken to deliver these targets. Through competition and the PROBE initiative, we aim to have at least 95% of each region able to access broadband by the end of 2005. Satellite coverage will bring broadband access to almost every household and business in the country – making our broadband coverage excellent by world standards.

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21 Small and medium-sized enterprises

22 See explanation of 'fast broadband' on page 30.

23 It is not possible to set a target for take-up, as not all businesses require fast broadband connectivity.

WHAT BROADBAND MEANS IN PRACTICE

A broadband connection will enable most web pages to load in less than five seconds. You can speedily send or receive a batch of digital photos, browse electronic magazines, and file government returns online. Farmers can keep an eye on stock all around the farm, and monitor the farm remotely.[24]

A fast[25] broadband connection makes it quick to send video files. You can watch movies, send your own family video to friends and family, and use video telephony for personal calls and business meetings.[26]

Once hospitals are provided with fibre connections, you could have a scan done at Invercargill Hospital and sent at once to the specialist in Dunedin to look at it in real time – just as if the specialist were present.

ACTIONS

ACTIONS	LEAD	TIME	$
Broadband Challenge Open-access fibre networks – the government will make money available to partnerships intending to deploy open-access fibre networks in regional centres (see box page 32).	Ministry of Economic Development	2005-09	$24 M
Advanced Network Implement an Advanced Network linking New Zealand's research and higher education institutions.	Ministry of Research, Science & Technology	Commencing late 2005	$multi-millions[27]
Performance Targets Work with industry and users[28] to establish achievable, accountable, challenging broadband targets. Measure progress towards these targets and our Connection goal.	Ministry of Economic Development	2010	N/A

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24 Most broadband connections will be provided using ADSL technology over copper cables. In some areas fixed, satellite, or wireless technologies will be used.

25 By current standards a 'fast' connection implies a speed faster than 5 Mbps.

26 Many of these connections will be provided either by ADSL 2+ technology or later in the decade by VDSL2 technology. Availability will be governed by the development of international standards and the increased use of fibre in the network.

27 Figure withheld due to commercial negotiations.

28 Working with TUANZ (www.tuanz.org.nz) and others.
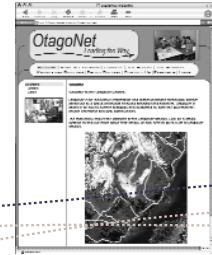
ACTIONS	LEAD	TIME	$
Telecommunications Act Review Review operation of the Telecommunications Act[29] and various regulatory issues in the telecommunications sector, and monitor the pricing, service quality, and performance.	Ministry of Economic Development, Commerce Commission	2005	N/A
SUPPORTING ACTIONS	**LEAD**	**TIME**	**$**
Project PROBE Complete implementation so that all schools have access to broadband with benefits extended to local communities. For extension to PROBE, see the Communities section.	Ministry of Education, Ministry of Economic Development	Completion June 2005	$48 M
Wireless Spectrum Commons Work towards an open access band of radio spectrum for broadband innovation.	Ministry of Economic Development	2005–06	Baseline
Schools ICT Network Upgrade Upgrade 350 schools with small or no networks.	Ministry of Education	2004-06	$7 M
'The Loop' Proof of concept for the development of a high-speed computer network connecting 13 Nelson primary and high schools.	Ministry of Education	2005	$250 k

29 See http://www.med.govt.nz/pbt/telecom.html

THE BROADBAND CHALLENGE

The concept

The government is making $24 million available over four years to enable affordable broadband based on competitive open-access principles.

Rolling out fast broadband

In other countries, providing open-access fibre has sped up the roll-out of fast broadband. This is often achieved by partnerships between local and central government and public institutions such as universities and hospitals.

In a small market like New Zealand, more targeted action is needed when market incentives do not work fast enough. In many towns and cities in New Zealand, local connections can still act as a constraint on high-speed connectivity.

The Broadband Challenge provides for fast broadband roll-out by supporting partnerships with achievable business plans and if necessary by facilitating partnerships between businesses, and local and central government. The Broadband Challenge will promote:

- high-speed capacity for regional centres and their businesses. (These can be termed urban networks or 'MUSH networks', as they cover the municipality, universities, schools, and hospitals amongst other users)

- innovative ways of making broadband available to smaller communities that are currently unable to access such a service (see Communities section).

The process

The government is providing seed funding, but local government and regions will be central to the process, harnessing the input from their businesses and wider communities. Criteria for successful partnerships are likely to include:

- partnership engagement
- financial commitment (including the degree of leverage of other funds to complement and maximise the benefit from the government seed funding)
- clear demonstration of the needs and benefits (how they relate to the region's or community's needs and whether they are part of a longer-term sustainable plan)
- ability to implement and deliver, demonstrating that the technology is fit for purpose and that such networks adhere to open-access principles.

More details, including the process for 2005–06, will be made available on the Digital Strategy website.[30]

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30 www.digitalstrategy.govt.nz

THE AGENTS OF CHANGE:
UNLOCKING THE POTENTIAL
OF COMMUNITIES

GOAL:
To enable communities to use technology to realise their social, cultural, and economic aspirations.

TARGETS

- Implement a contestable Community Partnership Fund in 2005.
- Extend the reach of Project PROBE from schools into community centres and rural businesses from 2005.
- Implement the Connecting Communities Strategy.

CHALLENGE

- To provide communities with the tools they need to fulfil their innovative potential and realise their aspirations.
- To ensure that all communities can enjoy the benefits of ICT, especially access to affordable high-speed broadband.

ICT can enhance our sense of identity and connection to a particular place or group. It can extend services to isolated communities or those excluded from full participation in the life of the community. It can enable people to become more involved in democratic processes and decision-making at all levels.[31] The government recognises the vital role that community, voluntary, and Māori organisations and iwi play in New Zealand society.[32]

'Community' means more than geographic communities. The term includes traditional associations such as whānau and hapū, ethnicity or occupation, and virtual communities of interest or practice. Many communities have identified their own vision of the future and have developed innovative and resourceful ways to get there.[33]

All communities are different. A top-down programme delivered from Wellington won't necessarily meet the needs of Taupo, Temuka, or

31 There are a number of developments encouraging participation and e-democracy solutions: see www.decisionmaker.co.nz; an e-democracy group in Waitakere www.wedg.org.nz; and a Christchurch-based software group using the concept of a commons approach to decision making, www.openstrategies.com

32 'An independent and vibrant community sector is essential to a healthy civil society. Government and the community sector depend on each other to achieve shared goals of social participation, social equity, and strengthened communities.' Statement of Government Intentions for an Improved Community-Government Relationship, Ministry of Social Development, 2002, http://www.dsw.govt.nz/work-areas/communities-hapu-iwi/community-and-government/statementhtml.html

33 A new NZ, www.anewnz.org.nz, is just one example.

Tolaga Bay. Communities themselves are best placed to determine their own needs, in partnership with local government and other organisations.

Isolated communities need broadband. The economics of technology networks favour roll-out in areas with high population density and high income. Rural areas and regional communities have been marginalised. There are high economic and social gains to be realised by ensuring that all New Zealanders can enjoy the benefits of ICT.

ICT can connect us more deeply with each other, by reducing distance and bringing people together. For instance, Te Whānau a āpanui in the Bay of Plenty is offering IT training and certification to its high school students in partnership with Cisco Systems, providing career options for its young people, and keeping in touch with the 80% of the iwi who live outside the rohe.

The draft Strategy advocated a grassroots approach to providing services. Feedback agreed that a partnership approach is required. To be effective, initiatives must come from communities themselves. The government can help to provide communities with the tools they need, building on programmes and resources such as CommunityNet Aotearoa,[34] and using models like the People's Network that have been shown to work elsewhere.[35]

Asset mapping is one such tool. It enables communities to identify and map their unique physical and human resources, building on geospatial and other data, so that information can be developed for planning purposes or simply accessed by community members.

The government has committed seed funding to achieve the digital vision for strengthening communities. This partnership funding will allow communities to define their own ICT needs, then apply for contestable resources. Seed funding must be matched by contributions from communities, local government, or the private sector.[36]

A partnership approach is required. To be effective, initiatives must come from communities themselves.

34 See www.community.net.nz

35 The People's Network is the successful initiative to upgrade the ICT capability of all the public libraries in England – see www.peoplesnetwork.gov.uk

36 The term 'matched' is taken to mean co-funding from communities, local government, the private sector, or other partners, including contributions in kind.

ACTIONS

ACTION	LEAD	TIME	$
Community Partnership Fund The fund will build capacity in communities; and develop strong local partnerships in the community, business, and local government to develop ICT skills, capability, and content in regions and communities. See below for more details.	Ministry of Economic Development	2005-09	$20.7 M
Project PROBE Extension The government will extend the reach of PROBE, with priority for regions where community coverage has been harder to achieve. The process will be co-ordinated regionally.	Ministry of Economic Development	2005-06	$1.44 M
The Connecting Communities Strategy Identifies seven action areas for community use of ICT. Delivered in tandem with the communities elements of the Digital Strategy. (With local government, Department of Labour, Ministry of Social Development, community partners, and others.)	Connecting Communities Agencies Department of Internal Affairs	Ongoing	$450 k
Whānau Connections Provide whānau with resources to assist them to access information, connect with each other, and plan their future development using ICT.	Te Puni Kōkiri	2005-06	$300 k
People's Network (Infomediaries Project) The National Library of New Zealand will assess the potential for a New Zealand network to strengthen the nation's ICT connectivity and capacity and build the delivery of content including government information through public libraries and Citizens Advice Bureaux (CABS). (With Department of Internal Affairs, State Services Commission E-government Unit, Local Government New Zealand, local councils and their public libraries, CABs, and local partners).	National Library of New Zealand	2005-06	TBA

SUPPORTING ACTIONS	LEAD	TIME	$
CommunityNet Aotearoa An Internet information resource providing how-to guides, news, and information sharing for community and voluntary organisations.	Department of Internal Affairs	Ongoing	< $250 k
CyberCommunities To provide ICT skills training and mentoring for people who are unemployed or disadvantaged in the local labour market. Also to create opportunities for technical planning and support leading to increased local community capability.	Ministry of Social Development	2005–06	$904 k
Unlimited Potential Learning Foundation An IT-skills training programme for trainers in Community-Based Technology and Learning Centres that benefit economically disadvantaged and 'unconnected' communities. (With Whitireia Community Polytechnic, Microsoft New Zealand, and community groups.)	State Services Commission	2005-07	$400 k
Digital Opportunities Foundation Internet NZ is committed to establishing, with partners, a Digital Opportunities Foundation to support public-good ICT projects. This should help achieve goals consistent with the Digital Strategy goals and targets.	Internet NZ	TBA	TBA

THE COMMUNITY PARTNERSHIP FUND

The concept

The government is providing $20.7 million seed funding over four years to partly fund initiatives by partnerships that will improve people's capability and skills to use ICT and develop digital content.

Unleashing the potential of communities

ICT can be used to bring communities closer together, to build the capacity of individuals and groups, extend existing services to isolated communities or to those excluded from participating fully, and increase participation in the democratic process. We recognise we need a concerted approach to harness those skills, to map and build on the assets already within communities. We also recognise this is not possible without content that is high quality and meaningful for New Zealand users, as outlined in the Content section of the Digital Strategy.

The Community Partnership Fund will support the many grassroots ICT-related initiatives that draw on the benefits of the broadband infrastructure put in place by Project PROBE and our continued work in the Digital Strategy. The seed funding is to support proposals that will primarily:

- build ICT skills and capability in regions and communities
- map communities' ICT assets and identify priority gaps
- strengthen community projects through the use of ICT
- address issues of confidence, such as safety and security, in using ICT
- create and digitise distinctive and valuable New Zealand content.

The process

There will be scope for small-scale community initiatives, as well as for a limited number of more significant collaborations of national importance. The process will be contestable, addressing needs identified at the local level. It will be delivered and led primarily through local partnerships, although it will be open to intermediaries or government partners acting as aggregators of demand. Successful proposals are likely to be those that demonstrate the above factors, and can show leverage of other funds to complement and maximise the benefit from the government seed funding, provide a demonstration of the needs and benefits, and are part of a longer-term sustainable plan.

EXTENDING THE REACH OF BROADBAND – THE PROBE EXTENSION

The concept

The government's $48 million investment in Project PROBE has helped introduce competition in the market and raised broadband coverage to approximately 95% in each region. The satellite contract being rolled out by ICONZ also through PROBE will mean that potential coverage is now close to 100% – making New Zealand's broadband coverage excellent by world standards.

But some rural communities and businesses are still excluded from the benefits of affordable broadband. Private sector initiatives such as the Telecom New Zealand deal to provide broadband Internet to all 17,000 Fonterra farmers, are helping to address this, although the market may not reach every community for some time.

Extending PROBE

The government will make $1.44 million available to extend the reach of PROBE, with priority for regions where community coverage has been harder to achieve. The process will be co-ordinated regionally.

We are also considering how the PROBE satellite link can connect Pacific peoples living in New Zealand with their island communities.

CASE STUDY COMMUNITYNET AOTEAROA

If you're looking to set up a community project or group in New Zealand, CommunityNet Aotearoa is the place to go. It's an Internet portal where people share stories, experiences and lessons about running community projects and organisations. It also offers practical resources, web-links and information and discussion groups, all helping to raise the profile and capability of the community sector.

CommunityNet Aotearoa is a government and community partnership and makes resources available from both sectors. The site acts as a portal with an indexed list of more than 900 selected links, covering more than 40 community-related subject areas.

The portal is designed for people working in and with whānau, hapū, iwi and community organisations. It also acts as a guide and exemplar in using the Internet, providing a place for community groups to post news, events, advertisements, training and job vacancies and more.

www.community.net.nz

THE AGENTS OF CHANGE:
PROMOTING INNOVATION IN BUSINESS

GOAL:
To enhance the contribution ICT makes to New Zealand's overall business productivity.

TARGETS

- To contribute to lifting the growth rate of the ICT sector towards 10% of GDP by firm-focused industry development.
- To deliver a world-class business portal that assists capability development in New Zealand businesses by June 2008.
- To assist an initial 30 small businesses to become skilled broadband users and develop their export potential by June 2006.

CHALLENGE

To respond to three issues:

- small businesses need help to secure the benefits of ICT
- productivity gains from ICT need to be captured right across the economy
- New Zealand's ICT sector is being held back by demand constraints.

ICT is important because it drives productivity and innovation in other sectors of the economy. New technologies such as broadband are opening up new markets, new opportunities, and new ways of doing things faster, better, more cheaply. Businesses grow, and the whole economy prospers. Large businesses are already aware of the benefits of investing in ICT, but small businesses often struggle with ICT.

The feedback we received on the draft Digital Strategy confirmed that small businesses need particular help. They need to know what ICT can do for them, and they need mentors to help them do it.

Businesses identified some barriers to making fuller use of ICT:

- lack of management know-how about how to apply ICT in their business
- the risks posed by viruses, hackers, or Internet fraudsters
- slow or unstable connections.

In particular, feedback on the draft Strategy told us to:

- raise awareness of ICT and promote its stimulating effect on industries to raise firm productivity
- target programmes to support small business needs
- help improve businesses' ICT management capability
- lower business compliance costs using ICT
- address issues of affordable high-speed access and security online.

The ICT sector is a leading growth sector in the New Zealand economy. Of the top 50 fastest-growing firms in New Zealand, 25 are ICT firms or Internet-based businesses.[37] The ICT sector has significant export potential and is supported by New Zealand Trade and Enterprise programmes (including Investment New Zealand).

Even more importantly, ICT holds the potential to unlock productivity gains right across the economy. Our key challenge is to help all businesses gain maximum benefit from what technology can offer.

For example, ICT has already had a transformative effect on banking and financial services. Lower banking charges and better services such as EFTPOS and Internet banking benefit all businesses. The government wants to see similar gains made in all sectors – particularly those sectors that dominate the New Zealand economy, such as agriculture and tourism.

The agriculture sector plays an important role in New Zealand's economy, providing 16–18% of GDP, with 6-7% generated on the farm. Broadband has the potential to increase innovation and productivity on the farm. With pasture management, stock management, biosecurity, and traceability imperatives, ICT applications combined with accessible broadband are essential tools for competitive advantage.

Through Project PROBE and the regulatory work of the Commerce Commission, coverage of basic broadband has increased to above 95%. Broadband is becoming steadily more affordable for farms in rural areas, but there are still service issues and coverage gaps in remote places that need to be addressed.[38]

The ICT sector is also important to the creative content industry, especially film, multimedia, and interactive design. Collaboration within the sector is as important

Our key challenge is to help all businesses gain maximum benefit from what technology can offer.

as competition. Moves by ITANZ, the Wireless Forum, the Internet Society, HiGrowth, and others to improve industry collaboration are welcomed by the government and are being supported by NZTE.

The government is a big ICT customer, spending up to $2 billion each year on ICT (once the spending by central government, local government, health boards, universities, and other Crown entities is taken into account). The government's procurement practices are therefore critical to the domestic ICT market. In partnership with the ICT industry, the government will introduce programmes to ensure a more competitive domestic ICT sector and more cost-effective procurement for government. Ongoing policy initiatives will address small supplier procurement issues.

37 Deloitte Fast50 – *Unlimited* November 2004.

38 The Connection and Communities sections of the Digital Strategy also address this issue.

CASE STUDY | BOOSTING PRODUCTIVITY ON THE FARM

Once it was the electric fence that offered a break-through in boosting efficiency and productivity on New Zealand farms. Now farmers are turning to smart ICT applications, like individual animal identification, to ensure they retain their lead in primary production techniques.

With the current trend towards regulatory compliance and traceability, farmers need to be able to trace every step of the food production chain from paddock to plate. An application like individual animal identification allows farmers to collect data through-out the production process, seamlessly, immediately and securely.

They are then able to use that information – in the office or out on the farm – using a mix of convergent devices, such as Personal Digital Assistants (PDAs), cell phones and laptops. Underpinning all these systems is fast, "always-on" broadband delivered by landline, wireless or satellite connections. A mix of commercial partnerships is making broadband widely available throughout rural New Zealand.

ACTIONS

ACTION	LEAD	TIME	$
Business ICT Productivity www.biz.org.nz to be extended as a world-class, one-stop capability development portal providing access to key information and links to advisor-assisted services to businesses, including helping develop their e-business capability. (With NZTE)	Ministry of Economic Development	2005-09	$10.4 M
Government ICT Procurement Ten government ICT procurement workshops led by industry to improve sector participation in government ICT contracts and improve government purchasing practice in ICT procurement.	New Zealand Trade & Enterprise	2005	$200 k
In conjunction with the ICT procurement seminars, a specialist ICT procurement training module for public sector ICT purchasers.	State Services Commission	June 2005	$100 k
New Zealand Trade & Enterprise ICT Business Programmes Implementing ICT Taskforce objectives, including: • executive development: **321 GoGlobal** to improve the leadership capability of New Zealand ICT entrepreneurs • educational support initiatives: e.g. **Futureintech** project building an entrepreneurial ICT culture that supports and celebrates business success • joint industry body projects: HiGrowth and ICTNZ • international market development programmes (including international trade shows and in-market support such as the **Beachheads** programme) • co-funding of **market development initiatives** to accelerate expansion of New Zealand technology companies into global markets (over 30% are ICT companies).	New Zealand Trade & Enterprise	Ongoing, (2005–06 budgets shown)	$150 k $1.4 M $0.5 M $1 M >$6 M pa

ACTION	LEAD	TIME	$
Cybersafety Awareness Training All ICT awareness and capability-building programmes delivered by NZTE include security awareness training modules (with MED).	NZTE	Ongoing	Baseline
Doing Business with the Government A programme through the Small Business Advisory Group that will make SMEs' communications with the government easier and more efficient. Ongoing policy work to address small supplier procurement issues.	Ministry of Economic Development	Starting in 2005	Baseline
SUPPORTING ACTIONS	LEAD	TIME	$
Project Collaboration To understand and support action in the private and public sectors to address the management capability gap. (30+ government and industry organisations.)	Ministry of Economic Development	Ongoing	Baseline
COMET Pilot Pilot will develop 30 small businesses with export potential but little e-commerce experience into skilled users of high-tech applications and broadband. Lessons will inform expanded COMET Project with 2000 firms. (With NZTE, Regional EDA's, e-regions, Otago University, and UCOL.)	Ministry of Economic Development	Pilot completed June 06	$500 k

THE AGENTS OF CHANGE:
TRANSFORMING GOVERNMENT

TARGETS

- By June 2007, network and Internet technologies will be integral to the delivery of government information, services, and processes.
- By June 2010, government operations will have been transformed through its use of the Internet.

CHALLENGE

To transform the government through enabling technology, so:

- individuals and businesses have a better and more consistent experience in their dealings with government
- agencies work more closely with their customers and with each other
- the cost of delivering services, both online and through other channels, is reduced.

The government is already taking a 'citizen's view' in the way it presents online information. It is building portals where people can find all the information they require on a particular topic, irrespective of whether the services are delivered by different agencies.
Some examples are:

- the New Zealand government portal for government information and services
- WorkSite for employment information
- BIZ for information for small and medium-sized businesses
- the edCentre portal for the education sector.[39]

Government websites are designed to operate simply and consistently. They must conform to common standards and be aligned with international best practice.

The government is delivering better services to businesses, to help them be more productive. Thanks to the Companies Office, it is easier to form a company in New Zealand than in any other country in the world. Inland Revenue's e-Enablement Strategy is another successful example, allowing taxpayers to file returns electronically, calculate and pay the tax they owe, and communicate with Inland Revenue – safe in the knowledge that the transactions are secure.

GOAL:
The delivery of government information, services, and processes will be integrated, accessible, and customised.

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39 www.govt.nz, www.worksite.govt.nz, www.biz.org.nz, www.edcentre.govt.nz
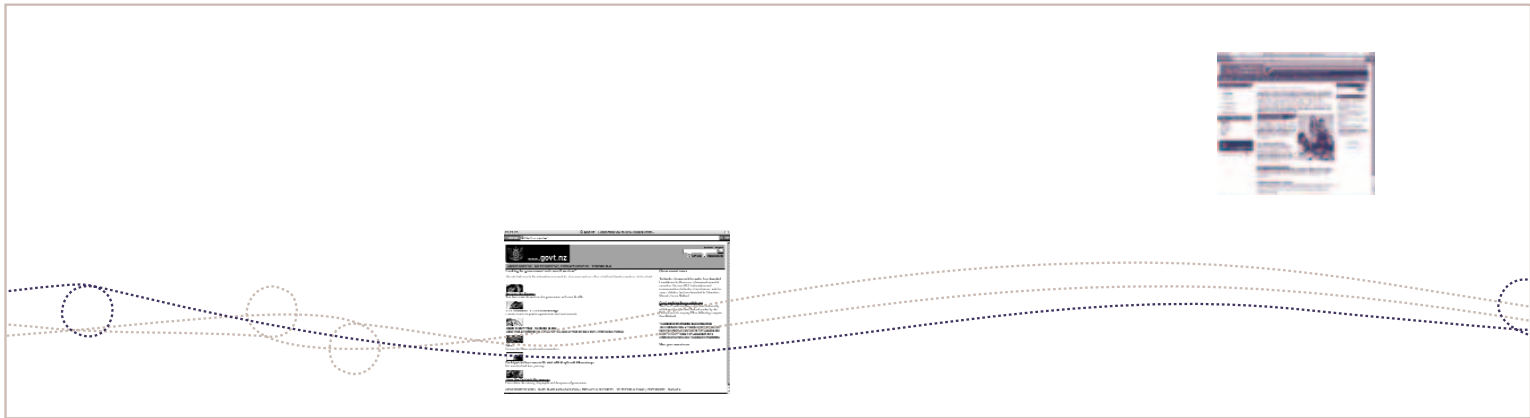
The government will use ICT to transform the way it engages with people and businesses.

The **E-government Strategy** is a whole-of-government approach to transforming the way agencies deliver services and provide information, using infrastructure that enables better integration and collaboration. The Strategy recognises the need to preserve individuals' right to privacy.

In the future, the government will:

- develop **standards** to ensure interoperability and infrastructure (such as authentication and name and address verification) that allow for further technological development, and can support long-term and complex interactions with businesses and the public

- deliver complete online services to clients for complex transactions handled by several agencies (such as student loans, business services, and compliance functions).

The greatest potential of ICT to transform the provision of government services is in **health** and **education.** Both are information intensive and their delivery is widely dispersed. Broadband offers huge potential for improving the health and education services provided in the farthest corners of New Zealand. The resulting productivity gains will flow into the wider economy. These examples show how the pieces all fit together. Broadband connections are a key **enabler**, rich content is needed as a **driver**. Together with interoperable business **applications**, they are all key components in transforming government.

EDUCATION GOAL:
To improve learner achievement in an innovative education sector, fully connected and supported by the smart use of ICT.

The education sector is committed to raising learner achievement through a networked, flexible education system offering accessible, relevant, high-quality learning opportunities to all New Zealanders to support the ongoing development of a highly skilled national workforce.

We are developing a national standards-driven ICT infrastructure for education. Every learner, teacher, lecturer, or administrator will have access to the digital resources and services they need wherever they are located within the education system. Repositories of relevant, high-quality digital content resources will support rich teaching, learning, and research outcomes.

HEALTH GOAL:
To provide access to high-quality, timely health information, to support achieving health outcomes.

In health, ICT offers the possibility of improving services while making significant cost savings. The challenge is to provide care providers with the information they require at the time they need it. The **Health Information Strategy** will provide a context to support New Zealand health and disability strategies to make innovative use of information to improve the health and participation of New Zealanders.[40]

Consumers will receive care that is targeted to their health needs and provided in a co-ordinated way. **Care providers** will be able to make more informed decisions at the point of care because relevant patient information will be accessible and they will have immediate access to evidence-based knowledge on which to base their interventions. **Provider organisations** will be able to configure services to achieve the best outcomes for the people they serve because they will be better informed about their health needs. **Funders** will be able to target services more selectively, while **policy-makers and researchers** will be able to identify what actions will have the biggest impact on improving the health outcomes of all New Zealanders.

CASE STUDY **NORTHLAND DISTRICT HEALTH BOARD (DHB) NURSES**

Pocket PCs are helping to save close to one working day a week on paperwork for district health nurses employed by Northland District Health Board. As a result nurses have more time to spend with the patients on their rounds.

The DHB introduced ECLIPS (Electronic Community Liaison Information Portal System) as a pilot in early 2004

to provide better information and reduce the paper war for its district nurses. The system consists of pocket PCs for each nurse, a clinical application and scheduling for community patient visits. Instead of writing notes in diaries and later transferring the information onto paper forms to be faxed or mailed to data operators, nurses now enter information directly into spreadsheet forms attached to emails. The system schedules patient visits and records referrals and visit and procedure statistics. Visit statistics can then be reported for Ministry of Health service contracts.

Moving away from the previous paper-based system has not only given nurses significantly more time to spend with patients. The data is more secure, protecting patient privacy, and the DHB has more accurate data about its services and contracting reporting.

www.nhl.co.nz

40 The Health Information Strategy was under development when the Digital Strategy went to press.

ACTIONS

ACTION	LEAD	TIME	$
Delivering the E-government Strategy Develop **E-government infrastructure** in support of agency and sector initiatives to deliver the E-government Strategy, including the Authentication Programme, the E-government Interoperability Framework (e-GIF), and Government Networks. Delivery: all of government (including local government).	State Services Commission	Key milestones June 2007, June 2010	> $10 M across govt
Transforming Government Agencies **Education** (see Capability Section for full scope) **Education Sector Portal** www.edcentre.govt.nz Provides easy, direct access to education agency information resources.	Ministry of Education	Launched 2005	$0.720 M
Education Sector Architecture Framework A collaborative education sector programme to ensure interoperability across the sector.	Ministry of Education	2005	
These initiatives involve six education sector agencies (Career Services, Education Review Office, Ministry of Education, New Zealand Qualifications Authority, Teachers Council, Tertiary Education Commission) and National Library of New Zealand.			
Health Information Strategy for New Zealand Supports health and disability strategies to make innovative use of information to improve the health and participation of New Zealanders.	Ministry of Health		
Other key examples of transforming government include:			
Justice Sector Information Strategy 2003-2006, which provides the framework for justice agencies in creating and delivering world-class justice information. The vision is to enhance safer communities and build a fairer and more effective justice system by creating and sharing high-quality justice information.	Ministry of Justice		

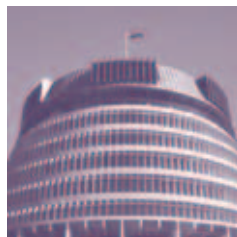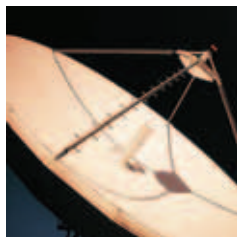| ACTION	LEAD	TIME	$
Continuum – Create and Maintain, a whole-of-government approach to record-keeping, designed to help government agencies meet best practice record-keeping standards, so that the most significant records of government are preserved now and for future generations.[41]	Archives New Zealand	Ongoing	
Inland Revenue's comprehensive e-Enablement Strategy, setting out a series of 52 linked initiatives that will be implemented over five years. Work is underway to allow customers to file their individual income tax returns electronically and to send and receive emails securely.	Inland Revenue	Ongoing	
The Ministry of Social Development's consolidated voice and data network (VoIP) that provides a toll bypass facility for approximately 240 sites throughout New Zealand. The VoIP network is used for phone calls and natural speech recognition technology being used by Work & Income clients to electronically declare their income and update their records.	Ministry of Social Development	Ongoing	

41 Host agency: Archives New Zealand, http://www.archives.govt.nz/continuum/index.html

SUPPORTING ACTIONS	LEAD	TIME	$
E-Local Government Strategic Plan This promotes and facilitates a collaborative approach by all local authorities, working with central government. The Plan covers the provision of information and services and the promotion of citizen participation, and promotes local leadership of community and business e-enablement. Key actions include improving community and local business accessibility to ICT by providing learning centres, training programmes, tools, and affordable high-speed Internet services.	Local Government New Zealand	Ongoing	Ongoing commitment from individual councils
Geospatial Strategy Location related information underpins many activities, e.g. emergency services' response, defence planning, Treaty of Waitangi processes, the provision of health services, business decisions, and everyday activities of New Zealanders. The strategy covers Data, Access, Interoperability, and Governance.[42] (With central and local government, Crown Research Institutes, and industry.)	Land Information New Zealand	2005	Baseline
Geospatial Information Online Access Scoping Study To identify how best to give access to New Zealand's stock of geospatial information, including a Geospatial Portal. (With central and local government, Crown Research Institutes.)	Land Information New Zealand	2005	$0.526 M

42 Geospatial Information – The Future Role of Government (November 2004). www.linz.govt.nz/geospatial/

HOW WE WILL
MAKE IT HAPPEN

What is different about the Digital Strategy? The government has been doing lots of good work over the last five years. But over that time many government departments and agencies have been working more or less independently on many fronts. There hasn't been a mechanism for pulling actions together and ensuring government money is being best spent. Nor have we always been consistent in our dealing with communities, local government, and the private sector.

In order to make the Digital Strategy happen, we need communities, local government, and the private sector to be actively involved.

We therefore need a strong central co-ordination point to:

- bring the three parallel streams of work (Content, Confidence, Connection) together
- assess project proposals and allocate funding
- co-ordinate government action with all the initiatives being implemented by businesses, local government, or community organisations.

In order to make the Digital Strategy happen, we need communities, local government, and the private sector to be actively involved. In some cases matching funding or in-kind contributions will be needed.

GOVERNANCE AND PARTICIPATION

The Minister for Information Technology and an ad-hoc group of Digital Ministers will make decisions on direction and implementation. Each area of the Digital Strategy will be championed by the Minister responsible (e.g. the Minister of Education for Capability, and so on). A Steering Group of officials co-ordinates work between departments.

We will set up a full-time **Secretariat**, based in the Ministry of Economic Development, to manage the implementation of the Strategy. The Digital Secretariat will:
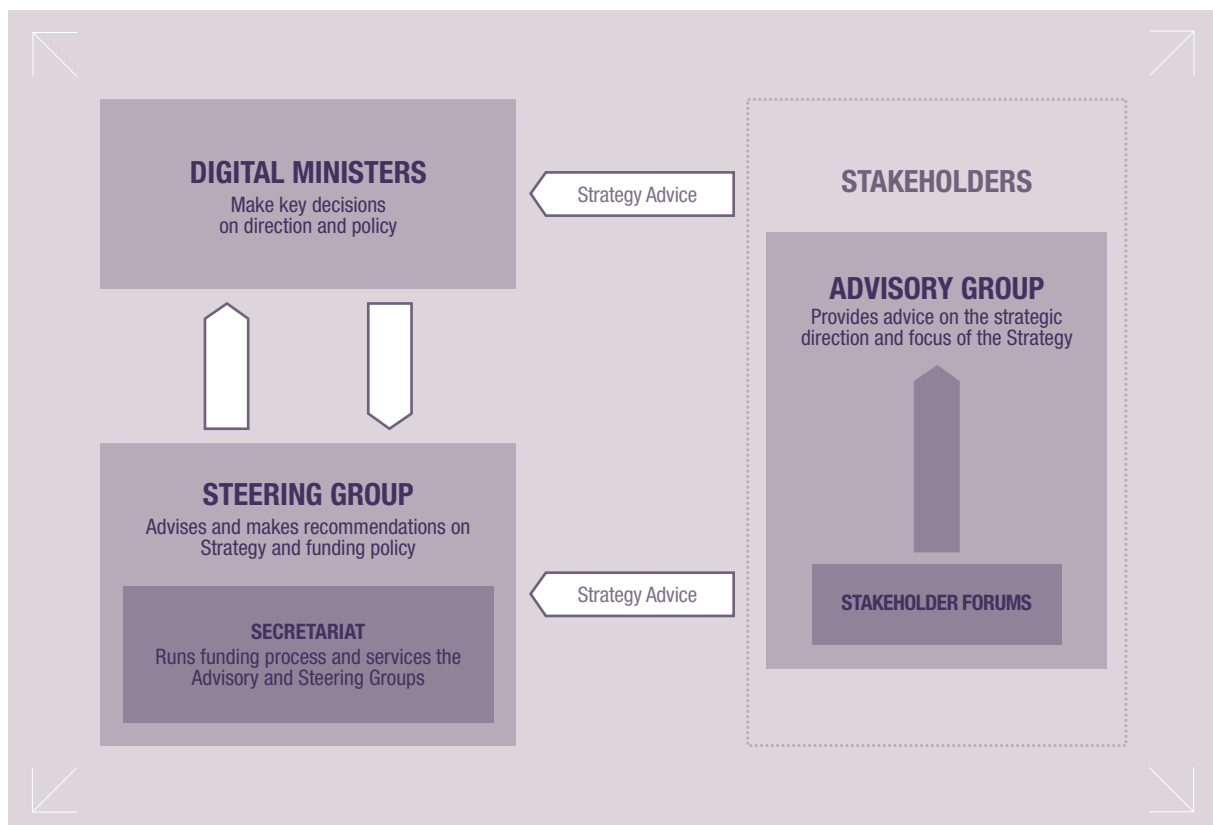
- work closely with agencies and external partners
- gather and disseminate information about Digital Strategy activities
- provide support services for the contestable funds
- monitor and evaluate the projects that are funded
- report on progress to the Digital Ministers.

We will set up an **Advisory Group** to have oversight of the Strategy's effectiveness, covering the three strands of the Strategy. The Advisory Group will be made up of senior people from business and the community who can tell the Digital Ministers about progress and advise where to concentrate resources and projects in the future. The Advisory Group will advise the Digital Ministers on overall direction, priorities for future action, areas for government attention, and how to engage stakeholders. To make sure their views are heard at a high level in government, the chief executives of the relevant government agencies will sit on the Advisory Group.

Once the Advisory Group has been set up, the various departments will consult with their stakeholder groups to get the collaboration process going.

The Advisory Group will be made up of senior peple from business and community who can advise where to concentrate resources and projects in the future.

THE GOVERNANCE STRUCTURE

DIGITAL MINISTERS
Make key decisions
on direction and policy

Strategy Advice

STAKEHOLDERS

ADVISORY GROUP
Provides advice on the strategic
direction and focus of the Strategy

STEERING GROUP
Advises and makes recommendations on
Strategy and funding policy

SECRETARIAT
Runs funding process and services the
Advisory and Steering Groups

Strategy Advice

STAKEHOLDER FORUMS

FUNDING ARRANGEMENTS

The government has committed to spend up to $400 million over the next five years to make the Digital Strategy happen. But this won't be enough on its own to achieve our objectives. So we plan to use government money to stimulate action and commitment by others – to provide seed funding and to stimulate activity.

The government has signalled its commitment to the Digital Strategy by making it a flagship initiative under the Growth and Innovation Framework (GIF). It will provide nearly $60 million to implement the Digital Strategy, including $44.7 million contestable seed funding over four years for partnership-driven activity in two streams:

- **Community Partnership Fund ($20.7 million) for regional and community initiatives.**

  The fund will support local partnerships to develop ICT capabilities, address issues of confidence in using ICT, or strengthen community projects through the use of ICT, and create and digitise distinctive and valuable New Zealand content and harness innovation in design and content.

- **The Broadband Challenge ($24 million) to enable affordable broadband roll-out based on competitive open-access principles.**

  The fund will promote high-speed capacity in regional centres and support innovative ways of making broadband available to smaller communities. We will give seed funding to partnerships with achievable business plans and the ability to make it happen.

For this to work, communities, local government, businesses, and individuals all need to be involved. We all need to share in making the investment because we will all reap the benefits.

- There will be **additional GIF funds** for the Cultural Portal ($3.9 million), for Biz.org.nz and business ICT productivity ($10.4 million), and contingency monies for ICT procurement workshops and other initiatives.

- New funding for digital initiatives across departmental baselines (as set out in previous sections).

- Continuation of existing digital programmes (such as the e-Education initiatives, the Advanced Network, and the National Digital Heritage Archive programmes).

This shows that the government is serious about making change happen – creating a digital future for all New Zealanders.

For this to work, communities, local government, businesses, and individuals all need to be involved. We all need to share in making the investment because we will all reap the benefits.

Communities can make in-kind contributions. Local government can deliver by making its resources available. Private-sector companies can contribute their own funds. Individuals working in their own businesses who want to improve their efficiency by using technology are contributing their own time to develop their skills and capability.

DIGITAL STRATEGY–RELATED BUDGETS

Partnership Fund; Broadband Challenge

New $45 M GIF funding over four years for Partnership and Challenge initiatives

ICT Procurement; Cultural Portal; Research Network Capability; Geospatial Online; COMET, National Digital Content Strategy; Business ICT Productivity

New $15 M GIF funding over four years to agencies for Digital Strategy initiatives

Digital Horizons Strategy; Advanced Network; Schools Network; Internet Safety Group; Archway; MLI; E-government Strategy; Te Ara; Digital Heritage Archive; Whānau Connections; Connecting Communities; Cyber Communities; NZTE Business programmes; e-Local government; Education Portal

> $400 M – ongoing departmental strategies and initiatives that are directly contributing to the Digital Strategy (five year total 2005-06 – 2009-10)

Relevant to E-government Strategy implementation; Government procurement; Policy initiatives

ICT spending – up to $10 billion ($2 billion per annum expenditure across government, local government and Crown agencies)

DIGITAL STRATEGY PROGRAMMES

MONITORING AND EVALUATION

We need to put a mechanism in place so we have a consolidated view of whether we are achieving Digital Strategy outcomes, including how successful our portfolio of investments is in meeting the goals and targets.

We will use robust processes to allocate funds. All bids for funding will need to include key performance indicators, so we can monitor performance and ensure our objectives are being met. In making funding decisions, we will want to know how the funding will be used to **make a difference**.

We recognise that not all Digital Strategy initiatives will work equally well. Some will catch on like wildfire; others may fail. We will monitor projects during implementation and evaluate their effectiveness to make sure that money is being spent wisely and well.

MOVING FORWARD

We will now concentrate our efforts on implementing the programmes set out in the Strategy, and doing so in partnership with others. As a first step we will have the Digital Strategy Advisory Group in place by July 2005.

We also need to build the foundations in the first year, on which to build the success of the Digital Strategy over the following years. We will put in place the arrangements for the Community Partnership Fund and the Broadband Challenge. We will develop the National Content Strategy and help build knowledge of the assets available to communities, so that partnerships can make best use of them.

The key next steps will be:

- the Minister for Information Technology will appoint the members of the Advisory Group in consultation with the Digital Ministers by 1 July 2005.
- the Digital Secretariat will be appointed.
- by September 2005 we will be issuing the first call for Community Partnership Fund and Broadband Challenge proposals.

We will keep you informed of developments via the Digital Strategy website – www.digitalstrategy.govt.nz. This is the place to look for details about the Digital Strategy, its programmes, and funding. The Community Partnership Fund in particular is a grassroots approach – give us your ideas!

You can help us achieve the aims of the Strategy by getting involved. We welcome your input.

MAJOR INITIATIVES – AT A GLANCE

	NOW	2005-06	2006-07	2007-08	2008-09	2009-10	OUT YEARS	LEAD AGENCY
ENABLERS								
Content								
National Content Strategy		$0.6 M – Design						National Library
The Cultural Portal			$3.9 M			$0.85 M	$0.85M	Culture & Heritage
Te Ara			$11 M					Culture & Heritage
National Digital Heritage Archive		$24 M						National Library
Archway	$8 M							
Māori Language Information		$1 M per annum						Te Puni Kōkiri
Confidence								
Digital Horizons		Between $45 M and $60 M per annum						Education
Research Network Capability	$0.45 M							Research, Science & Tech
Internet Safety Group		$1 M per annum						Education
Anti-Spam Legislation	Baseline							
Connection								
Broadband Challenge			$24 M					Economic Development
Advanced Network			$10s of millions					Research, Science & Tech
Project PROBE	$48 M							Education/Economic Dev
Schools ICT Network Upgrade	$7 M							Education
USERS								
Communities								
Partnership Fund			$20.7 M					Economic Development
PROBE Regional Extension		$1.44 M						Economic Development
Whānau Connections		$0.3 M						Te Puni Kōkiri
Connecting Communities Strategy		$0.45 M per annum						Internal Affairs
Cyber Communities		$0.9 M						Social Development
Business								
ICT Productivity			$10.4 M					MED/Trade & Enterprise
ICT Procurement	$0.3 M							Trade & Enterprise/SSC
NZTE Business Programmes		> $9 M per annum						Trade & Enterprise
COMET		$0.5 M						Economic Development
Government								
E-Government Strategy Development		> $10 M per annum						State Services Commission
E-Local Government		Local Government Baselines						Local Government
Education Portal	$0.7 M							Education
Transforming Government		Baselines						All Departments
Geospatial Online		$0.5 M						Land Information NZ