

Draft Digital Strategy: Summary of Submissions

November 2004

Contents

INTRODUCTION	1
VISION AND FRAMEWORK	2
Education and the Research Sector.....	2
Libraries and Cultural Sector.....	2
Businesses.....	2
Government.....	3
Local Government.....	3
ICT Sector.....	3
Industry Groups.....	3
Communities, Individuals and Māori and Pacific Islanders.....	4
Charities, Voluntary Groups and NGOs.....	4
CONTENT	5
Education and Research Sector.....	5
Libraries and Cultural Sector.....	5
Businesses.....	5
Government.....	6
Local Government.....	6
ICT Sector.....	7
Industry Groups.....	7
Communities, Individuals, Māori and Pacific Islanders.....	7
Charities, Voluntary Groups and NGOs.....	8
CONFIDENCE AND CAPABILITY	9
Education and Research Sector.....	9
Libraries and Cultural Sector.....	9
Businesses.....	9
Government.....	9
Local Government.....	10
ICT Sector.....	10
Industry Groups and Associations.....	11
Communities, Individuals, Māori and Pacific Islanders.....	11
Charities, Voluntary Groups and NGOs.....	11
CONNECTION	12
Education and Research Sector.....	12
Libraries and Cultural Sector.....	12
Businesses.....	12
Government.....	12
Local Government.....	13
ICT Sector.....	13
Industry Groups.....	13
Communities, Individuals, Māori and Pacific Islanders.....	14
Charities, Voluntary Groups and NGOs.....	14
COMMUNITIES	15
Education and Research Sector.....	15

Libraries and Cultural Sector	15
Businesses	15
Government	15
Local Government	15
ICT Sector	16
Industry Groups	16
Communities, Individuals, Māori and Pacific Islanders	16
Charities, Voluntary Groups and NGOs	16
BUSINESSES	17
Education and Research Sector	17
Libraries and Cultural Sector	17
Businesses	17
Government	17
Local Government	18
ICT Sector	18
Industry Groups	18
Communities, Individuals, Māori and Pacific Islanders	18
Charities, Voluntary Groups and NGOs	18
GOVERNMENT	19
Education and Research Sector	19
Libraries and Cultural Sector	19
Businesses	19
Government	19
Local Government	19
ICT Sector	20
Industry Groups	20
Communities, Individuals, Māori and Pacific Islanders	20
Charities, Voluntary Groups and NGOs	20

Introduction

In June 2004, the Ministry of Economic Development released *Digital Strategy: A Draft New Zealand Digital Strategy for Consultation*. The draft Strategy is an integrated framework that provides the direction and context for all ICT-related Government policy for the medium term.

The Ministry together with other departments including the National Library, Department of Labour, Ministry of Education, Ministry of Health, Ministry for Culture and Heritage and Local Government New Zealand consulted widely and sought submissions in response to the draft Strategy. The Ministry has worked in collaboration with these departments to collate and analyse over 190 submissions.

Vision and Framework

Education and the Research Sector

Submissions from the education and research sector identified with the vision of the Digital Strategy. The Digital Strategy can be strengthened by building on collaborative arrangements between organisations and sectors. Importantly, collaboration between universities and industry especially in research and development is essential to develop exciting and productive innovations.

Integrating all Government information and communication technology initiatives in a clear and coordinated fashion with clear targets and timelines, will complement one another and provide the requisite foundations for an information-empowered society. The Strategy must be underpinned by sound legal foundations that recognise, protect and promote the legitimate interests of all members of the digital society.

The outcomes of the Strategy can be achieved by addressing general literacy levels rather than just digital literacy. Educated New Zealanders will be able to reap the benefits of the information age when effective education policies and initiatives are implemented. Education enables New Zealanders to understand the context of digital media and its ongoing development, and the ability to independently acquire new skills in response to changes in that context.

For New Zealand to be a world leader in ICT use, the Government should grow New Zealand's small ICT research community and develop a culture of research and development in the ICT industry by providing support and making significant investments in ICT research and development. The Strategy outcomes can be attained by encouraging all universities to increase their numbers of students undertaking ICT and computer science programmes particularly to post-graduate level.

Libraries and Cultural Sector

The Digital Strategy represents the core business of libraries. It provides a sound foundation for ICT initiatives and is the place to start challenging and changing attitudes about ICTs. Submitters stressed the importance of collaboration. Collaboration between Government, sectors, institutions, organisations and groups is pivotal and by strengthening relationships between central and local Government through adequate funding and resourcing, Government can tie together the focus areas and achieve the outcomes of the Strategy. The Strategy must also address the importance and role of culture alongside social and economic goals.

Businesses

A Strategy that sets out clear objectives for each focus area, with a clear appreciation of the demand for products and services that require ICT skills and application is essential. Education has an important role to play in achieving the goals of the Strategy and it is important to recognise and acknowledge the sector's core and fundamental role in achieving the outcomes of the Strategy.

Submitters noted that many private sector organisations already play a significant role in building confidence and capability. There is already a considerable amount of collaboration that occurs between Government and businesses and the role that businesses play should be acknowledged.

Government

An integrated framework for existing and future initiatives will provide the foundations for the uptake and effective use of ICT for economic, social, cultural and environmental gain. The Strategy must seek outcomes that involve a sustainable and energy-efficient use of resources and effectively address the needs of disabled and aged New Zealanders.

Local Government

Local Government recognises that the outcomes for the Strategy can be best achieved through strong partnership and strategic alliances with Central Government and with other local authorities. Local councils have different capabilities and capacities to implement the Strategy's initiatives and recognising these differences will allow Government to target resources effectively.

Given that local authorities are closely linked to their communities and are well placed to discover, understand and address the needs of communities, many recommended that grassroots or bottom up initiatives would be effective in achieving the outcomes of the Strategy.

Local Government also recommended that the Strategy include environmental goals in line with the Local Government Act's bottom line accountability. ICTs can enable environmental goals to be achieved but there are also risks that ICTs pose on the environment which if taken into account will contribute to the Strategy's vision.

ICT Sector

It is important to create a strong ICT environment to facilitate the economic climate which is then able to support the social and cultural goals. An effective Strategy will include measurable objectives and targets to ensure progress can be monitored and reviewed in a meaningful way. High quality ICT infrastructure, its availability and affordable access, together with a competitive communications sector and a flexible regulatory environment could encourage innovation and investment in the ICT sector while contributing to the outcomes of the Strategy. Including broadcasting alongside ICT as a digital technology would contribute to the vision; broadcasting and related technologies support the underpinning principle of cultural diversity and local content.

Industry Groups

The Strategy makes a number of positive and exciting statements and with clearer objectives and funding allocations outlined, the vision and outcomes of the Strategy can be attained.

Significant investments are important to grow the ICT industry and must be driven by industry. Adequate funding of central Government activities and an effective coordination of Government agencies would be important to achieve the vision. Submitters placed particular emphasis on the need to address funding requirements for local Government activities also.

Communities, Individuals and Māori and Pacific Islanders

Submitters stressed that the Strategy must involve all New Zealanders. There should be full and proper involvement of tangata whenua throughout the development of the strategy. It should specify actions and funding for Māori and Pacific Islanders. The ultimate goal is that all citizens are resourced, skilled and empowered with a shift away from Government initiating activities for citizens to Government collaborating with citizens in the development of activities. ICTs can provide opportunities for improved consultation and democratic processes for citizens.

Submitters also noted that the Strategy's vision include all dimensions. It should therefore include the physical, emotional and environmental dimensions in addition to social, cultural and economic dimensions.

Charities, Voluntary Groups and NGOs

Submitters were impressed with the draft strategy but noted that a longer term plan is needed otherwise the strategic direction may change before significant progress is made in achieving the outcomes of the Strategy. While some felt that the Strategy was comprehensive, others stressed that it was important to ensure that all information and communication methods offered to the public be available in different formats to cater to the needs of disabled people. Equity of access to all New Zealanders must be a central focus of the digital strategy. All New Zealanders must have equitable opportunities to access a variety of digital technologies.

Other submitters said that sustainability, the maintenance of technologies and recycling would be important elements of the Strategy. The strategy would also need to be reviewed and monitored to measure its success. Submitters also noted that although adaptive technologies are not always suitable in meeting the needs of those with disabilities, they do offer benefits that could be captured by others. Voice recognition software is an example of a technology that can be used by people to bypass literacy issues in order to capture the benefits of using ICTs to create value.

Content

Education and Research Sector

Developing a National Content Strategy with require clear objectives. Providing access scientific and research content, mapping New Zealand's content landscape, within a legal framework that provides adequate framework to handle novel issues such as those that arise from the promising use of ICTs whilst also providing protections against new or increased risks, will support businesses and the ICT sector. Providing access to New Zealand's publicly-funded research databases and science and research is also important to the education and research community.

Converting content to digital format especially where preserving historical content is sought requires sufficient funding. Submitters noted that content creation and the recognition of the importance of the media and broadcasting environment is a valuable aspect to any Content Strategy. It is also important to note that the Education and research sector also generates much content and its role in the Strategy must be specifically identified.

Libraries and Cultural Sector

The context and quality of information are vital elements in any Content Strategy. Content becomes knowledge when it is relevant to the context and used effectively to create value. Content that that is well organised, and accessible to all, will be of value to New Zealanders. Continuity of content is also important. Shifting the emphasis on digitising information to one that also focuses on storing content for future generations will ensure that New Zealand's Content Strategy will be of value to future generations.

Local, national and international content are important elements to a National Content Strategy. It is important to unlock the valuable local and regional repositories to add to the nation's wealth of heritage knowledge and make as wide a range of information available as possible to all New Zealanders.

Public libraries need to collaborate with one another to share resources and determine the content of their websites, to eliminate duplication of resources and to offer New Zealanders a wide range of information. Smaller libraries and museums will require assistance with digitising their content. Film, television and sound archives play an important role in preserving our cultural heritage for coming generations. They hold content that can be used and accessed in new ways with the right protection and infrastructure. More prominence should be given to the support for and the importance of the creation and distribution of new digital content.

Businesses

In developing a National Content Strategy, consideration should be given to content ownership, copyright and the development of clear objectives. While a coordinated approach to a content strategy is essential, it is important to be able to effectively engage the community. Communities and individuals must be empowered to create their own content, reflect and adapt existing content and to share their unique

perspectives. Submitters also noted that while a focus on enabling content to be delivered to all New Zealanders is important, consideration should also be given to how content might be delivered from New Zealanders.

Science and technology research are important parts of a Content Strategy but the holdings of other institutions are also important in achieving the outcomes of the Strategy. For example, libraries, galleries, museums and archives all have content that can be used in new and innovative ways.

Government

A National Content Strategy offers opportunities that can be seized by developing national standards and a quality assurance framework to ensure that all digital information is accessible and reliable to all New Zealanders and appropriate privacy and security policies are in place to protect personal information held by Government agencies. It is also important to foster cross-agency collaboration and address cultural, intellectual property issues and commercial sensitivity in developing a National Content Strategy.

Providing communities with resources will give them the incentives to digitise the significant local content that they hold and by shifting the focus from a Government-centred initiative to one that is industry-led will provide a framework that will nurture New Zealand's content creation industries.

Local Government

An effective National content Strategy will include community-focused or local information. Further value from this initiative comes from including the creation of new content, particularly where this content is created and maintained by the community. A Content Strategy would provide further value if specific content in areas such as health, education, culture, and economic development were included in addition to generic information.

There are downstream considerations ranging from use of intellectual property, privacy, safety, data quality, retention, storage and destruction of public records that need consideration in developing a Content Strategy. Recognition of, and provision for the management of the context, structure and quality of the content along with accessibility of content will be important in implementing a content initiative.

The common metadata and interoperability standards project should include other standards such as quality standards that relate to confidentiality, security, records management and lifecycle considerations. While information standards are important for geospatial information, other options for inclusion include vehicle and business data.

Infomediaries address the information needs of communities. Other vehicles for the delivery of information are public libraries. Public libraries can also be effective learning centres.

ICT Sector

Submitters supported a National Content Strategy and recommended a broadcasting strategy for the delivery of content. Such initiatives would need to consider intellectual property issues in order that content producers have incentives and adequate protections to create and distribute content rather than focus on national heritage collections, Government information, databases of scientific and technology information, and scholarly journals.

There is a clear link between content and connection that needs to be emphasised. Not all connections are equal so the development and utilisation of different types of content will place different demands on the type of connection that is available.

A Content Strategy should articulate the provision of devices and services to those who are unable to access information. For example, the provision of community open access points such as public kiosks would enable data access by those who do not have access to ICT devices. A content strategy should also take account of quality and accessibility criteria and enable access to Government content from mobile devices to reflect the changing needs of citizens.

Industry Groups

The creation and implementation of a National content strategy is a sound objective but the quality of the underlying content, the way it is organised, managed and maintained is vital to achieve the outcome statement of the Strategy. It should also address issues such as raising awareness of what is available and how it can be accessed. Increasing broadband uptake will improve the opportunities for further content development.

A Content Strategy must take account of security issues that relate to intellectual property and privacy issues. Adequate copyright protection including technological protection measures create the incentives for content producers to invest in New Zealand content initiatives.

An inclusion of creative industries such as film in the Content strategy will progress work to digitise New Zealand broadcasting content. Submitters considered that it was important that a content development initiative recognise and include the needs of Te Reo, tikanga and all things Māori.

Communities, Individuals, Māori and Pacific Islanders

Submitters commented that a National Content Strategy should provide information that is not Government-centric, complex and untargeted. Instead, it should address the needs of specific sectors and audiences and importantly it should make Te Reo Māori content widely available. A focus on local content development would be an effective approach to spur greater community involvement in the use of ICTs. Submitters also stressed that it would be important to own the intellectual property that arises from developing Content. Community-based organisations such as rūnanga, community groups, workplaces and Plunket centres could also deliver Government information to the public.

Charities, Voluntary Groups and NGOs

Submitters showed support for the national asset map, developing and promoting the use of common metadata and interoperability standards between sets of geospatial information as initiatives that would support this focus area.

Submitters also supported a National Content Strategy with a particular emphasis placed on local content development. Other considerations in developing a National Content Strategy require addressing how the strategy would operate effectively within copyright laws and should include environmental and cultural aspects. However, not all groups in society will want their cultural material to be available to everyone. For example, there may be some Iwi who do not want their taonga or whakapapa to be available to everyone. This means that building respect and trust are fundamental elements of a content strategy. It is also important to recognise that if Government information is made available only in digital form, then there a wide range of barriers such as the affordability of technologies and the availability of suitable adaptive technologies for those with disabilities that could impede access to digital information.

Confidence and Capability

Education and Research Sector

New Zealanders will maximise their opportunities of using ICT if there are compelling reasons and motivations to use ICTs. In order that New Zealanders benefit from ICTs, information literacy requires a greater emphasis in schools and tertiary institutions. Our education system must raise an awareness of the benefits and risks of ICTs.

New Zealand's copyright regulations must be able to support all digital initiatives. Submitters also noted that New Zealanders must be educated about the implications of intellectual property and copyright laws.

For our ICT professionals to design, implement and maintain systems, the level of expertise needed will require university graduates with expertise in areas such as software engineering, computer engineering, computer communications security, interface design and programming.

Libraries and Cultural Sector

Critical to raising information literacy is recognising the importance of context; students must have some context or motivation to locate and use the information. In order that students are able to appreciate the full benefits of ICTs in their education, they must be equipped with the skills that allow them to use information effectively. The Strategy should also emphasise the creative potential offered by digital technologies.

Digital and information literacy must be promoted at all stages of education and in all forms of training. Submitters noted that an effective digital strategy will ensure that all sections of the population have the necessary language skills needed to become digitally literate. Others said that public libraries play an important role in teaching information literacy skills. Effective intellectual cultural property protections will provide content creators the incentives to advance their work for the benefit of all.

Businesses

Submitters said that confidence and capability are a core part of realising the goals of the Strategy and stressed the importance that education plays in attaining confidence and capability goals in the Strategy.

Government

New Zealand can build a safe and secure online environment by placing a high priority on intellectual property and cultural rights protection, authentication, addressing literacy levels and identifying barriers to access of ICTs. Initiatives like the Computers in Homes and raising awareness programmes are important actions that will raise confidence amongst all New Zealanders. For example, women are largely underrepresented in the ICT sector and in academic programmes, and their capability in this area must be raised. Strategic programmes that strengthen

confidence and capabilities for Māori and Pacific islanders are also critical. The National Awareness campaign should be an immediate action targeted to a wider group of people. It could also include galleries, museums, arts companies and individual practitioners.

Addressing e-crime and nuisance behaviour is important in the effective use of ICTs. It is also important to address other risks that arise from ICTs such as the environmental and energy efficiency impacts of ICTs. Addressing these risks will allow New Zealand to attain sustainable digital strategy outcomes. Government can support producers, consumers, local authorities and the recycling industry to minimise and better manage the ICT waste stream

Local Government

Building confidence and capability through initiatives like raising awareness and Learning Pathways, comes from understanding that the barriers to ICT are not necessarily physical but may relate to people's perceptions and cultural constraints such as language or age. It is also important to implement and refine digital learning strategies and policies within educational institutes, to achieve the overall vision on an ongoing basis. Local authorities together with support networks also have an important role to play in raising awareness.

ICT Sector

Raising awareness, Learning Pathways, training and providing cybersafety and security awareness programmes are effective actions that will improve the confidence and capabilities of New Zealanders.

The Raising awareness initiative together with the provision of technical support amongst low-uptake groups must be done in unison with initiatives that fund ICT and digital broadcasting infrastructure development in rural and regional areas and must be supported by a robust regulatory framework. Together, these initiatives will improve confidence and capability and increase uptake of technologies.

Submitters noted that any legislative development must balance the need to meet legitimate community concerns whilst ensuring that it does not impose onerous or unjustifiable burdens on Internet Service Providers and other industry participants. Legislation is a component of the overall solution to combat spam but it should sit alongside other complementary initiatives such as technical measures, education campaigns and international cooperation.

Building confidence and capability can be achieved by drawing on the expertise of industry. ICT firms are eager to participate in implementing the initiatives of the strategy and recognise that they have an important collaborative role to play with Government in the field of interoperability, and increasing users' awareness of ICT security and safety issues. Firms also recognise that industry self-regulation in safety and security is critical. For example, industry initiatives such as the SMS spam code that is being developed and educational programmes are examples of how industry self-regulation could complement Government's policies. Submitters also noted that the environmental effects of ICTs such as e-waste need to be addressed.

Industry Groups and Associations

Raising awareness of the benefits and risks of ICTs will also involve addressing digital literacy. To raise digital literacy, it is important to consider the context. A focus on how information is structured, managed and accessed will help raise digital literacy amongst all New Zealanders. Most importantly, the digitally literate must also have a sound knowledge of safety and security issues as well as an understanding of responsible and ethical online behaviour. New and emerging mobile technologies raise new safety and security challenges. Therefore awareness and an appreciation of the implications of technological change is needed in the Strategy.

Communities, Individuals, Māori and Pacific Islanders

Enhancing digital literacy skills and encouraging and motivating New Zealanders to use content will be important steps in realising the objectives of this focus area. All New Zealanders must be educated and trained to use ICT tools with confidence and capability. There is a need for affordable and accessible foundation learning and training in cybersafety issues in community and work environments to improve confidence. It is also important to address the need to build New Zealand's ICT technical and support staff to achieve the outcomes of the Strategy. Submitters emphasises the need for a proactive ICT waste strategy in mitigating the harmful effects of ICTs on the environment.

Charities, Voluntary Groups and NGOs

Increased participation in ICT would close the digital divide, raise confidence, and improve accessibility and digital literacy of all New Zealanders. Raising awareness of ICTs and cybersafety and security issues will contribute to achieving the outcomes of this focus area. Building confidence and capability will depend on being able to provide effective training for all and providing technical support for users but it is also critical to address general education as a means to raise confidence and capability in the use of ICTs. The adverse effects of increased use of digital technology such as health implications would need to be dealt with effectively. All groups in society particularly those with disabilities must be able to access the right form of communication and technology for the right purpose.

Connection

Education and Research Sector

Good networks and optimal bandwidth are the heart of universities. Affordable connectivity is crucial for our research institutions to be able to undertake effective research and development and participate in the world research community. Submitters also noted that an Advanced Network infrastructure is a critical factor for New Zealand to foster innovation, a key plank of the knowledge economy.

Incentives, different business models or firmer regulation will improve the availability and price of broadband. Broadband access can be improved through ICT technical support and maintenance and non-ICT infrastructure. Submitters noted that partnerships between universities and Government play an important role in developing connection strategies.

Libraries and Cultural Sector

Funding the delivery of broadband access to all public libraries and CABs and assisting the work of infomediaries are actions supported by the library sector but connectivity is only one aspect of infrastructure development. Infrastructure development also includes the institutions and public spaces required to house ICTs as well as any equipment to help people use ICTs. It also involves regular maintenance and updating of ICT infrastructure, addressing security and technical capabilities and developing skills. Working with private sector providers will be important to address costs and provide a reliable service to support content providers.

Businesses

Submitters supported the Advanced Research Network initiative. The initiative will require criteria for evaluation and funding of research projects.

Content delivery requires affordable access to broadband facilities and affordable traffic costs. Establishing low-cost access to high-speed, high-capacity bandwidth is essential to achieve the outcomes of the Strategy.

Government

New ways of accessing content and the generation of new content and content distribution require the availability of high speed, cost effective connections. The Advanced Research Network would provide benefits to the academic and research community but also to other groups such as the creative industries. Affordable and ubiquitous broadband is important for New Zealand's SME culture. Additionally, international connectivity provides capacity for businesses to build competitive advantage in the global arena.

Local Government

Real and affordable opportunities for access and availability of broadband require Government to provide for arm's length Government initiatives to facilitate the uptake of broadband. The provision of broadband to rural areas is a worthwhile goal and together with an emphasis on the provision of broadband connections to areas with greater rates of economic growth, the gaps in infrastructure in areas of high population density can also be addressed.

By presenting a clear plan of how the broadband benchmark targets will be achieved, ensuring that there are strategies to ensure that those who are disadvantaged are adequately provided for, monitoring connection costs and regulating the market to ensure that it is open and fair and that all market players comply with the regulations will improve uptake and contribute to improving New Zealand's OECD rankings in broadband uptake.

The Advanced Research Network initiative should be extended beyond CRIs and tertiary institutions to the creative and innovative sector which also relies on high speed, high bandwidth connectivity to produce and export digital content. It can also be extended to include local Government as it is a significant provider of content.

ICT Sector

New Zealand must have a network infrastructure for an information-empowered society which can be achieved with a competitive telecommunications industry and a flexible regulatory environment. Extending PROBE, e-Regions and developing the Advanced Research Network would facilitate New Zealand's transition to an information-empowered society. Submitters also recommended that broadcast infrastructure be included; the development of digital broadcast technologies is just as important to achieve the vision as telecommunications infrastructure objectives.

Submitters noted that raising the awareness of the benefits and the real economic efficiencies that broadband connections can create, could drive broadband uptake. Government monitoring of the prices of broadband services, clearly defined targets of broadband rollout and pushing the industry to a lower price structure were recommendations made to ensure that New Zealand gets to the top quartile of OECD rankings for broadband connectivity. However, other submitters noted that converging mobile and fixed technologies and television require a new generation of communications infrastructure and therefore an awareness of new infrastructure opportunities that could facilitate the goals of the Strategy.

Industry Groups

Extending the coverage of PROBE and developing the Advanced Research Network will be prerequisites for a successful Strategy but raising awareness of the benefits of high speed connections, addressing affordability issues, maintaining a flexible regulatory environment so that the market is open and fair to all competitors are equally important drivers that will influence uptake. It is also important to note that the Advanced Research Network is important to other sectors such as the creative

industries as it is for the research institutes and universities particularly in a globally competitive market.

There were other considerations that submitters regard as important in influencing broadband uptake. Submitters noted that a number of countries have strong public and private sector collaborative arrangements. Submitters recommended that public and private sector partnerships be strengthened in New Zealand in order to improve broadband uptake.

Submitters were concerned that Government has focused efforts on rolling out broadband infrastructure to rural communities with an assumption that urban communities have access to high quality ICT infrastructure and applications. The gaps in the broadband infrastructure in urban areas would also need to be taken into account.

Communities, Individuals, Māori and Pacific Islanders

Submitters considered that adequate investment in connectivity infrastructure would be important and that addressing the high costs of broadband connections would be important in improving uptake. Others recommended that Government consider community-owned networks in rural and remote areas, with connection jointly funded and operated by telecommunications firms, local authorities and other local organisations.

Charities, Voluntary Groups and NGOs

Many submitters noted that affordable and accessible infrastructure would drive the outcomes of the Strategy. Relying on digital technology as a means to communicate with New Zealanders will mean that it is essential that Government ensure that all facilities are easily accessible and affordable. The Government must monitor connectivity development to ensure a healthy balance between commercial enterprise and public good. The strategy should also address the requirements of all users and how it will address specific issues for certain groups such as those with disabilities, Māori, ethnic minorities and those living in rural and urban communities with poor infrastructure development.

Communities

Education and Research Sector

Submitters said that research indicates that there is no necessary link between connectivity and building social capital. While this can be an outcome, much depends upon how technologies are developed by and through strong local social institutions. Local ownership must be strong and there must be a genuine partnership between all. Effective community initiatives are based on partnership between central and local Government. Additionally, schools and tertiary institutions have important roles in enabling communities to use ICT. Schools are often the focal points in communities (especially rural communities) and tertiary institutions can provide leadership and expertise in ICT. Submitters noted that a separate initiative would be needed to address Māori needs and development.

Libraries and Cultural Sector

Public, school and tertiary libraries have an important role to play in bringing successful outcomes for communities. In encouraging communities to design their own solutions, the needs of any ICT-disadvantaged groups in society must be supported. They must also be sustainable from a financial and human resource perspective. Maintenance and technical support will also be important considerations in community initiatives. Infomediaries could be extended to a wide range of locations such as marae, museums, galleries and community centres.

Businesses

New Zealand has been an active and early user of ICTs for a considerable time. Submitters recommended that the Strategy acknowledge this work and that its framework must value this feature of New Zealanders and enable the growth of new opportunities.

Government

A concert of actions operating together is necessary to achieve the vision. Effective community initiatives will take account of the needs of all New Zealanders particularly those individuals that live with the physical constraints of a disability or age and will address the health risks that arise from the use of ICTs.

Local Government

The Local Government Act 2002 addresses the role of councils in community wellbeing. Many councils already have policies and investments around community access to ICTs. Local Government is in the best position to interact with communities compared with central Government because of their positioning in the community. They are closely linked to their communities and are well placed to discover, understand and address the needs of communities.

Partnerships and strategic alliances with members of the community are also important. Community initiatives will be successful when Central Government works in partnership with Local Government to deliver the Digital Strategy to communities.

A number of local authorities have recommended that grassroots or bottom up initiatives would be an effective approach in achieving the outcomes of the Strategy. Grassroots or community-based ICT projects require technical competence and resources to set up and maintain networks needed for running ICT initiatives. It is also important to ensure that already disadvantaged communities are not left further behind in their ability to access potential community, social and economic development opportunities through ICTs.

ICT Sector

A focus on community and voluntary groups has the potential to improve the social fabric of New Zealand. With initiatives like a national asset map, establishing a cross-sector foundation and promoting community-based models of excellence in the use of ICTs, there are opportunities for greater coordinated public/private sector partnerships. Submitters also stressed that there should be actions that meet the requirements of Māori.

Industry Groups

For communities to take up ICT as a tool for their social, cultural and economic ambitions, they need support in accessibility, affordability, skills, knowledge development and assistance to be able to develop and implement local initiatives.

Communities, Individuals, Māori and Pacific Islanders

Digital divide issues were raised with submitters noting that there is a need to address those who are disadvantaged. Others said that communities must be empowered to find their own solutions and drive their own initiatives in using ICTs.

Submitters stressed that partnerships that are locally based and run across sectors would strengthen community ICT initiatives. Greater support for rural and remote communities will be needed to address issues around economies of scale in connectivity, technical support along with improved collaboration between Government agencies. It is also important to identify and build on current community ICT developments and the unique attributes of Māori and Pacific Island communities.

Charities, Voluntary Groups and NGOs

Initiatives like providing communities with the tools to map their assets, contestable funds for strategic ICT partnerships, and developing a national asset map will contribute to achieving the objectives of the strategy. However, key to achieving the vision is enabling participation amongst all New Zealanders particularly for those who are disadvantaged. Submitters also noted that it is important to monitor the harmful side effects of ICTs on communities such health, environmental and electronic crime.

Businesses

Education and Research Sector

Research plays a vital role in enabling growth in the ICT sector. Strong research partnerships between universities and industries with a strong research culture fuelled by significant public sector funding, has led to growth in the ICT sector in other countries. Innovation could be better leveraged by research activities that support New Zealand's ICT sector.

The majority of New Zealand businesses are small with limited resources or skills to use ICTs. To capitalise on the intellectual property of small highly agile business ventures, collaborative partnerships with other businesses and/or Government could promote greater innovation and competitive advantage. Additionally, Government can lead by example and support/purchase New Zealand-produced ICT products and services.

Libraries and Cultural Sector

Submitters in the library sector supported the youth enterprise initiative and enhancing SME interactions with Government but the success of these initiatives will depend on genuine collaboration between central Government and businesses. A greater recognition of the information needs of sub-sectors in the broader business community such as farmers, manufacturers as well as small businesses is required. Content creation industries such as film, design, music, and publishing have an important role to play in advancing the objectives of the strategy. Galleries, museums and archives all have content that can be used in new and innovative ways for a variety of economic markets.

Businesses need to be able to successfully access Government support and information to compete with international companies. For example, the need to access essential legal information that must be digitised is important for successful business enterprise. Libraries are a natural starting point to help with the dissemination of information as well as assist in training initiatives for businesses.

Businesses

New Zealand's size and population have meant that a unique set of partnerships between business and publicly funded organisations have developed. It is important to not dismiss these partnerships for they are important in achieving the outcomes of the Strategy.

Government

Developing an integrated ICT awareness and capability programme and enhancing SME interactions with Government will help to raise the awareness of the possibilities offered by technologies for businesses such as the content industries.

Local Government

Submitters expressed a readiness to develop partnerships with central Government to implement business initiatives. Many councils stressed the importance of raising awareness of ICTs amongst SMEs. Assisting ICT businesses develop a greater global presence, promoting youth and community enterprise solutions and the fit for future management development programme will contribute to raising awareness of the benefits of ICTs to business.

ICT Sector

ICTs are important tools for businesses to be able to compete both internationally and nationally. ICT application in business is important to promote innovation and increase productivity. Developing a greater global and national presence of our ICT sector, implementing the taskforce recommendations on ICT procurement, enhancing SME interactions with Government and developing an integrated ICT awareness and capability programme will all be crucial to achieving the outcomes of this focus area.

Industry Groups

Businesses must have effective access to high quality digital content, appropriate ICT infrastructure and technical training. Fostering collaboration between local and central Government will also be important in implementing the actions in this focus area. Given the size of the SME sector, it is important that these activities benefit small businesses.

Communities, Individuals, Māori and Pacific Islanders

Improving business capability will require a focus on ensuring that there is cross-sector information flow between Government and SMEs in addition to training in management, ICT awareness programmes and developing a greater global presence for our ICT sector. Submitters also noted that it will be important to ensure that Māori businesses are aware of, and are able to access knowledge to build their businesses.

Charities, Voluntary Groups and NGOs

Submitters noted that building a strong business environment requires initiatives that address safety and security implications and raise awareness of ICTs for SMEs through training initiatives, promoting youth enterprise, and enhancing SME contact with Government. Submitters commented that Government consider local vendor ICT offerings in its procurement decisions. The voluntary sector would like to be offered the same initiatives as the business sector in order to realise the benefits of ICTs as they are also a significant sector.

Government

Education and Research Sector

There are considerable opportunities for ICT to enhance access to the democratic process, services, health and education. A citizen-focused, whole-of-Government approach is important to continue our strong progress in the e-Government initiative. Access and affordability of Government information are the criteria for implementing the e-Government initiative. Education and training in the use of ICTs must occur at all stages in the education cycle. The universities and other education providers will recognise that their role is vital to the successful development and adoption of the Education Sector Architecture Framework and the E-learning Strategy.

Libraries and Cultural Sector

Developing common standards across Government and benchmarking the current e-Government strategy will enhance efficiencies across all Government organisations and allow citizens to access and receive the same type of information regardless of their point of contact. Submitters noted that achieving the outcome statement will require building public trust and participation by all and ensuring that those who do not have access to ICTs have alternative channels to access Government information. A whole-of-Government approach requires a careful consideration of the implications of privacy and sharing personal information across Government agencies.

Businesses

A regional enablement focus in the strategy will enable Government to work effectively with local businesses particularly those who have already demonstrated the values espoused in the Strategy.

Government

Common standards, interoperability and collaboration will ensure that there is a common architecture across all Government agencies but a whole of Government vision requires changes in the way Government departments work together. The Strategy provides the opportunity and incentive for effective leadership by Government departments, particularly in sectors that are characterised by fragmentation of effort, limited resources and a diversity of objectives.

Local Government

Local Government strongly supports the streamlining of, and easy access to public services through as many channels as possible but public services should retain a human dimension – ICTs must make Government services more effective rather than be a substitute for them. An integrated, cross-agency approach and greater information sharing is necessary to achieve the desired outcomes with an acknowledgement that sharing information across agencies will require a careful consideration of privacy and access issues.

The role of local e-Government and its contribution to the e-Government initiative can be clarified so that actions in this focus area that require local Government can be implemented effectively.

ICT Sector

Submitters said that it was important to foster the development of software and other technologies that facilitate seamless interoperability and communication across diverse software applications and systems in order to reduce the complexity that users face. Government can take steps to advance interoperability by allowing industry to take the lead in promoting technical interoperability, support interoperability mechanisms that can be implemented using multiple technologies and platforms, and avoid regulatory policies that mandate specific technology solutions, platforms, or business or development models.

Submitters also stressed that the principles of technical neutrality, non-discrimination and transparency should continue to be followed in Government ICT procurement.

While an integrated, cross-agency approach and greater information sharing is supported, a consideration of privacy and access issues is a prerequisite to achieving that goal.

Industry Groups

Comments stressed the importance of supporting the streamlining of and easy access to public services through as many channels as possible whilst retaining the human dimension. An integrated, whole-of-Government focus with increased support to local Government will help strengthen collaboration between central and local Government.

Communities, Individuals, Māori and Pacific Islanders

Submitters commented that Government information must be made available to all New Zealanders in a way that meets their needs. Government has a key role to play in leading by example. It should work to strengthen the e-Government initiative and make it more accessible and facilitate a meaningful two way communication strategy between communities and Government in order to achieve the desired outcomes.

Charities, Voluntary Groups and NGOs

Central Government can make an important contribution in driving a digital economy and in promoting new and better ways of carrying out our lives. However, more emphasis and recognition must be given to the role of local Government. Local Government is best placed to integrate the cultural wellbeing of its citizens with the opportunities of the digital age but it is also important to recognise that different local councils have varying relationships with their communities which need to be considered in implementing the Strategy. Other submitters noted that local authorities are well-positioned to address challenges such as digital literacy. Submitters also said that there should be greater collaboration between central and local Government.

A critical element to this focus area is the principle of equity. Cost-effectiveness should not come at the expense of those groups in society who are disadvantaged. Current e-Government strategies must be assessed in terms of their effectiveness in delivering equitable access to Government services. Submitters also emphasised that it would be important to ensure that all Government websites are consistent in terms of presentation and ease of locating and using information.