The Business Growth Agenda

Building a **Digital Nation**

Part of BGA Building Innovation

March 2017

Minister's Foreword

The Business Growth Agenda (BGA) sets out the Government's work to build a productive and competitive economy, focusing on the six key inputs businesses need to succeed, grow, and add jobs: export markets, investment, innovation, skilled and safe workplaces, natural resources, and infrastructure.

Digital technology creates opportunities across all six of these areas. The digital technology sector is an important driver of innovation and increases in jobs and export growth, and the application of technology across all sectors of the economy can make our businesses more resilient, productive, and internationally competitive. Harnessing the digital revolution will play an important part in achieving the goals of the BGA.

The Digital Economy Programme is a key focus of the *BGA Building Innovation* report, released in late 2015. The aim of the Programme is to ensure that we are focusing on the right areas to enable New Zealand to become a leading Digital Nation – a nation with a thriving digital sector, where our businesses, people, and government are all using digital technology to drive innovation, improve productivity, and enhance the quality of life for all New Zealanders.

As a country, we are making great progress. The digital technology sector is growing fast, with ICT service and software exports doubling between 2008 and 2014. Around 96 per cent of businesses were using the internet in 2016, and New Zealanders consumed 140,000 terabytes of data in June 2016, a 70 per cent increase from a year earlier.

As government, it is important that we are up to date with developments in digital technology and are continuing to put in place the building blocks New Zealand will need, now and into the future.

In 2015, ambitious new targets for internet connectivity were announced: that by 2025, 99 per cent of New Zealanders will have access to speeds of at least 50Mbps, with the remaining one per cent able to access up to 10Mbps. To achieve this goal, government is investing $2 billion, through the Ultra-Fast Broadband programme and Rural Broadband Initiative.

While connectivity is an important first step, for New Zealand to make the most of this investment in infrastructure, we must also ensure that our laws are suitable for the digital age, that we are creating and attracting the right types of skills, and that our people and businesses are confident in using new digital technologies.

This report builds on the 2015 *BGA Building Innovation* report, providing a detailed picture of the Government's work to enable New Zealand to become a leading Digital Nation.

The Digital Economy Programme was developed with support from New Zealand's digital community and is a cross-government effort. Joining up across the public sector, with industry, and with the wider New Zealand community will be critical if we are to seize the opportunities and address the challenges of the changing digital world.

Hon Simon Bridges
Minister for Economic Development
Minister for Communications
Minister of Transport

Digital technologies are transforming New Zealanders' lives

We live in a rapidly changing world. In the United States, it took 46 years until a quarter of the population had electricity, 26 years until a quarter had television, 16 years for computers, and just eight years until a quarter had access to the internet.

Digital technology is impacting on New Zealand and the rest of the world in many different ways. It is driving the creation of new products, services and business models. It is disrupting the way that whole industries do business. It is changing how people live their lives. And it is also changing how government makes decisions and interacts with society.

The **digital technology** sector is driving growth in employment and exports, and the transformative impacts that this sector is having on the wider economy are creating a range of opportunities for innovation and productivity growth.

People are using digital technology to interact with one another and express themselves. They use it to learn, work and play, and to buy products and services from around the world.

Businesses across traditional sectors of the economy are using digital technology to add value and change how they design, produce, and deliver products and services, and how they interact and build relationships with their customers and suppliers.

Government is using digital technology to operate more efficiently, to make better decisions and achieve better outcomes, and to deliver public services in a way that meets the changing needs of businesses and people.

There are challenges as well as opportunities

It is difficult to predict exactly what technological change and digital disruption will mean for New Zealand. While innovation and change is nothing new, the pace of change is greater now than in the past, and this is likely to bring a range of challenges as well as opportunities.

- **Digital disruption of traditional business models** – to remain competitive, businesses all around the world will need to adapt and transform themselves, their products, and their services through digital innovation. Digital disruption could come from anywhere, and while this creates a risk for New Zealand businesses, it also creates an opportunity: to become the disruptor.
- **The changing nature of work** – as automation, artificial intelligence, and other forms of digital innovation change the nature of our work, people will also need to change; upskilling and reskilling throughout their lives. While reducing the need for some types of jobs, this will also create a range of new forms of high-skilled employment.
- **Digital society and connecting online** – digital technology can make it easier for people to connect with their friends and families and participate online. However, as the digital world becomes an increasingly important and integrated part of our daily lives, some groups may miss out on social and economic opportunities if they are unable to access and adapt to new technologies and new ways of doing things.
- **Digital transformation of the classroom** – online learning, from video tutorials to university courses, makes it easier and cheaper for anyone to learn anytime, anywhere, and in a way which works for them. Traditional education providers will need to think about the way they operate in the face of these new ways of learning.
- **Digital transactions with government** – digital technology also creates opportunities for government, changing how services can be delivered and how decisions can be made. The public sector will need to mirror the nimble and ever-evolving nature of digital technology or risk becoming out of step with what New Zealanders expect.
- **Digital security** – in order for New Zealand to make the most of the opportunities offered by digital technology, it is vital that we focus on securing our information systems and building the skills and capability to prevent cyber intrusions.

What New Zealand's digital transformation will look like will depend on many factors, including how our institutions, regulations, businesses, and society adapt. Just about every country in the world is looking to ensure they benefit from technological change, and we must do the same.

Government can support this digital transformation, though there is also an important role for the digital technology sector beyond creating the new technologies. The sector can also assist by promoting the benefits of digital technology to help drive the digitisation of the New Zealand economy and society.

Where we are now

Our digital sector is growing, though it remains a small part of the wider economy

New Zealand's digital technology sector is booming, with ICT service and software exports doubling between 2008 and 2014[1]. While the sector is doing well, it still makes up a comparatively small portion of our wider economy. In 2015, ICT and high-technology manufacturing firms contributed $6.3 billion to exports, compared to exports of $11.8 billion from tourism and $12.0 billion from dairy[2].

100% growth
In ICT service and software exports between 2008 and 2014[1]

$16.2b
Contribution of the tech sector to GDP in 2015 (8% of total)[2]

28,000
Technology sector firms in 2015[2]

98,000
People working in the technology sector in 2015[2]

5
New service sector jobs created for each new technology sector job[2]

Businesses are beginning to recognise the benefits that digital technology can offer, but more could be done to seize this opportunity

Digital transformation is not just about the technology sector. It affects every sector of New Zealand. If we are not thinking about how digital technology is changing farming, construction, tourism, retail or banking, then we risk overlooking the full transformative impact of this change. New Zealand businesses are using some types of technology well, but some (particularly small businesses) may not be realising the full benefit that digital technology can offer.

50%
Of businesses used the internet to receive orders for goods or services in 2016[3]

96%
Of businesses using the internet in 2016[3]

20th
NZ's international ranking for business usage of ICT in 2016[4]

$34b
Estimated productivity impact if all NZ businesses made better use of the internet[5]

$4.5b
Estimated gains from better use of data by businesses and government[6]

New Zealanders are becoming more reliant on digital technology in their day-to-day lives, changing the types of skills they need to function in this modern society

Kiwis are more connected than they have ever been before. More than one million households, businesses, schools, and hospitals can now connect to Ultra-Fast Broadband, and more than 280,000 are already enjoying the benefits of faster internet. A further 300,000 rural homes and businesses can now connect to better internet through the Rural Broadband Initiative. As digital technology becomes an increasingly important part of our day-to-day lives, people will need different types of skills to ensure they can make the most of technology, in both their professional and personal lives.

47 hours
Time the average Kiwi spent per week using a smart device in 2016[7]

140,000 terabytes
Data consumed by NZers in June 2016 (up from 80,000 in June 2011)[8]

20th
NZ's ranking for individual usage of ICT in 2016[4]

5th
NZ's ranking for adult problem solving in technology rich environments[9]

46% of jobs
At risk of computerisation and automation over next 20 years[10]

Government is becoming more digital in how it operates and interacts with businesses and people, but we must look for ways to accelerate this digital transformation

In 2012, the Government launched the Better Public Services programme which included two result areas aimed at accelerating the digitisation of government services: *Result 9*: Better for Business, delivering better public services to business customers, and *Result 10*: New Zealanders can complete their transactions with government easily in a digital environment.

Good progress is being made towards digital service delivery, and other programmes – such as the Government ICT Strategy and Action Plan, the Open Government Information and Data Programme, and the Data Futures Partnership – are supporting the broader digital transformation of government. While progress is being made towards a digital government, technology moves at such a pace that we must look for ways to accelerate this transformation.

58%
Of government's most common transactions with NZers were online in 2016

12%
Decrease in cost for businesses dealing with government between 2012 and 2015

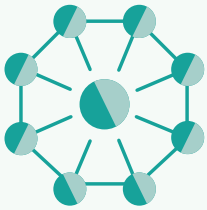
13th
NZ's ranking for government usage of ICT in 2016[4]

4th
NZ's ranking in the 2015 Open Data Barometer, which measures the impact of open data initiatives around the world[11]

[1] ICT Supply Survey (2014), Statistics New Zealand. [2] Digital New Zealand: From Tech Sector to Digital Nation (2016), NZTech (defines technology sector as a combination of the ICT and high-tech manufacturing sector). [3] Business Operations Survey (2016), Statistics New Zealand (survey of economically significant firms with at least six employees). [4] The Global Information Technology Report (2016), World Economic Forum. [5] The Value of Internet Services to New Zealand Businesses (2014), Sapere research group. [6] Data Driven Innovation in New Zealand (2015), Sapere research group & Covec. [7] ConsumerScape 360 Survey (2016), International Data Corporation (survey of consumers over the age of 18 who own one or more of the following TV, PC, smartphone or Tablet). [8] Internet Service Provider Survey (2016), Statistics New Zealand. [9] Survey of Adult Skills (2016), Organization for Economic Cooperation and Development. [10] Disruptive technologies risks, opportunities – can New Zealand make the most of them? (2015), Chartered Accountants and NZIER. [11] Open Data Barometer (2015).

Where we are heading – New Zealand as a leading Digital Nation

We want New Zealand to be an adaptive and prosperous leading Digital Nation – a nation with a thriving digital sector, where our businesses, people and government are all using digital technology to drive innovation, improve productivity and enhance the quality of life for all New Zealanders.



What would a leading Digital Nation look like?

Digital Sector

New Zealand's digital technology sector has grown to become a major part of the New Zealand economy, building on existing areas of strength and developing new niche areas of expertise by linking with traditional sectors of the economy. The digital sector is enabling innovation in products, services and processes across all sectors and is attracting domestic and international investment, as well as skills from all over the world.

Digital technology firms are connecting with the education system to support the development of local digital skills, and are partnering with government – where appropriate – to solve complex problems, provide cyber security expertise and deliver better public services.

Digital Businesses

New Zealand businesses across all sectors of the economy are safely using digital technologies to improve their productivity, add value to their products and services, and become more internationally connected and competitive.

Businesses are using technology to innovate, create new high-value jobs, support workplace health and safety, and manage their environmental impacts. Businesses are secure, resilient and prosperous online.

Digital New Zealanders

New Zealanders are safely using digital technologies to support their personal development and learning, access job opportunities, run businesses, and buy goods and services from all over the world. They are using technology to connect with their friends, family and communities, supporting social cohesion.

Technology supports people to express their national identity and to keep connected to our country's unique culture wherever they are in the world.

Digital Government

Government is using digital technologies to work more efficiently and reduce paper-based processes. Data is being shared in a safe and secure way to make better decisions and deliver better outcomes, as well as to support transparency.

Government is using technology to collaborate across agencies and with the private sector to solve problems and deliver more integrated and customer-centric services.

To achieve these goals we will need to:

Grow New Zealand's **Digital Skills** by ensuring that our skills system is dynamic and adaptive, and continues to provide people with the skills that businesses need and with the confidence and ability to participate in the digital world.

Enhance domestic and international **Connectivity** so that business and individuals are able to access high-speed, reliable, and affordable broadband that suits their changing needs.

Balance **Security, Privacy, and Innovation** to support the innovative use of information and digital technology by individuals, businesses, and the government in a way that fits with people's expectations about privacy and security. This includes supporting individuals and businesses to manage cyber security risks.

Support digital technological innovation through **Regulation** by ensuring our regulatory environment is adaptive, making New Zealand an attractive place for domestic and international entrepreneurs and established businesses to create, test and bring to market innovative digital products and services.

How will we make this a reality?

New Zealand has the potential to become one of the most prosperous leading Digital Nations. Our small size gives us a unique advantage over larger countries. It means that we can move quickly and purposefully to seize the opportunities and manage the challenges of our changing digital world.

Our stable political and regulatory environments, along with our extensive investment in digital infrastructure, make us one of the best places in the world to do business and develop new technologies. We are a highly skilled nation, we have a reputation as innovators, and our rapidly growing digital technology sector shows that we can disrupt and compete in the global digital market.

To become a leading Digital Nation will take a shared and deliberate effort from New Zealand's digital community – the technology sector, traditional business sectors, industry associations, people and government.

Government is supporting this transition by accelerating existing programmes and by collaborating with industry on new initiatives. This year, we are **supporting the establishment of a nation-wide Techweek event**, to bring together the technology sector, the wider business community, and New Zealanders to promote New Zealand as a high-tech nation. We are **developing digital sector material as part of the New Zealand Story**, to help our technology firms promote themselves offshore. We are developing an approach to **engage Small to Medium Sized Enterprises about the opportunities of digital technologies**, to encourage them to start using these tools to save time and improve productivity. We are **increasing the rollout of New Zealand's fibre-to-the-premises Ultra-Fast Broadband programme to at least 84 per cent of the New Zealand population**, so that our businesses and people can connect online. We are **initiating research to understand the impacts of digital inclusion on the social and economic outcomes of New Zealanders,** and we are **enabling the public sector to exploit ICT-enabled opportunities through the Government ICT Strategy and Action Plan**.

The four action plans included in this report outline key government initiatives to support a thriving Digital Sector, technology-enabled Digital Businesses, connected and confident Digital New Zealanders and a Digital Government. We are progressing this work with our partners in the digital community.

Part of BGA Building Innovation

This report includes a range of initiatives to enable New Zealand to become a leading Digital Nation. These initiatives also support New Zealand's broader innovation system. For further information on the Government's complete innovation work programme, see the 2015 BGA Building Innovation report.

KEY: Implementing In progress Initiating

A thriving Digital Sector

A thriving digital sector where digital technology firms make up a larger part of the New Zealand economy, where more of our exports incorporate technology, and where our digital firms are partnering with other sectors and with government to create new products and services and new ways of doing business.

Action plan for supporting a thriving Digital Sector

Project	Description	Status	Who's involved
Promoting New Zealand's digital technologies sector nationally and internationally			
Support the establishment of a nation-wide Techweek event	Government is supporting NZTech to launch a nation-wide "Techweek" event, building off the success of the 2016 Auckland Techweek Event organised by Auckland Tourism, Events, and Economic Development (ATEED). This event will bring together the technology sector, the wider business community, and New Zealanders from across the country to promote New Zealand as a high-tech nation, bring investors and ICT talent to New Zealand, inspire youth to get into tech, and encourage business uptake of ICT through events in various regions.	New to the BGA	MBIE, NZTE, Callaghan Innovation, NZTech, ATEED
Launch The Investor's Guide to the New Zealand Technology Sector	The Ministry of Business, Innovation and Employment (MBIE) has partnered with the New Zealand Technology Investment Network (TIN) to launch *The Investor's Guide to the New Zealand Technology Sector*. This Guide – which was launched in September 2016 – provides information on the performance of New Zealand's top technology companies and highlights the significant investment opportunities within our growing technology sector.	New to the BGA	MBIE, NZTE, TIN
Develop digital sector material as part of the New Zealand Story	MBIE, the NZ Story Group and New Zealand Trade and Enterprise are working with industry to develop a collection of material highlighting New Zealand's digital technology sector, as part of the broader NZ Story. This material will be freely available to digital technology firms, helping them promote their business offshore.	New to the BGA	NZ story, MBIE, NZTech, NZTE
Accelerate the adoption of Internet of Things (IoT) technologies in New Zealand through market research and the establishment of an IoT Alliance	MBIE is partnering with NZTech to undertake a research report considering the opportunities for IoT within the New Zealand market. This research will provide a stocktake of current applications of IoT and will further explore how New Zealand can better utilise this technology in a secure way. MBIE is also supporting NZTech to form a New Zealand IoT Alliance. This Alliance will be a collaboration of industry and government working towards accelerating the adoption of IoT technologies for the economic and social benefit of New Zealand. The Alliance will utilise the research into IoT in the New Zealand market as its knowledge base to set focus and direction.	New to the BGA	MBIE, NZTech, TUANZ, InternetNZ
Accelerate the safe adoption of Artificial Intelligence technologies	MBIE and Callaghan Innovation are partnering with NZTech and the Artificial Intelligence Institute of New Zealand (AII.NZ) to support the formation of an Artificial Intelligence (AI) Forum. This forum will be a collaboration of industry and government working towards accelerating the safe adoption of AI technologies. The AI Forum will undertake research on AI in New Zealand to better understand the potential opportunities this technology can offer.	New to the BGA	MBIE, NZTech, AII.NZ, Callaghan Innovation
Develop a Digital Nation Domain Plan	Statistics NZ and MBIE are developing a Digital Nation Domain Plan to support better management of the digital economy.	New to the BGA	Statistics NZ; MBIE

Building Innovation

Project	Description	Status	Who's involved
Investigate the possibility of promoting New Zealand internationally as a test bed for emerging technologies.	As part of its efforts to implement the New Zealand Investment Attraction Strategy, MBIE is exploring options to support New Zealand's fast growing digital economy. MBIE is initiating research to identify opportunities for New Zealand to promote itself as a great place for international entrepreneurs and multinational corporations to invest in the development and testing of emerging technologies.	New to the BGA	MBIE
Support the internationalisation of the Māori technology sector through Te Tira Toi Whakangao	This intensive eight-day programme, Te Tira Toi Whakangao, is part of the Government's push for more export growth and high-value jobs for Māori. The programme aims to: • accelerate Māori technology companies' plans to enter or expand in the US market • improve understanding among Māori technology companies and investors of trends and opportunities in the global technology sector • promote investment in Māori-owned technology. The programme ran from 30 October till 8 November and was organised by NZTE with support from Ernst & Young's Māori advisory practice EY Tahi.	New to the BGA	NZTE
Building New Zealand's digital skills workforce			
Re-launch the Digital Technology Skills Forum	The Digital Technology Skills Forum is an industry-led and MBIE-supported initiative. The Forum brings together industry associations with government agencies to identify and address issues and opportunities regarding the access and development of skills for New Zealand's digital technology sector. The Forum includes technology industry bodies – the Institute of IT Professionals (ITP), NZTech, and NZRise – and government agencies – the Ministry of Education (MoE), the Tertiary Education Commission (TEC), the Department of Internal Affairs (DIA), the Department of the Prime Minister and Cabinet (DPMC) and MBIE. Several initiatives included in this report are being progressed by the Forum.	Part of BGA Building Innovation 2015	Digital Technology Skills Forum: ITP, NZTech, NZRise, MBIE, TEC, MoE, DIA, DPMC
Map future skills needs of the digital technology sector	The Digital Technology Skills Forum is mapping the trends and future skill requirements of New Zealand's digital sector, including the growing requirement for cyber security skills, to identify specific skills gaps that are likely to appear in future.	New to the BGA	Digital Technology Skills Forum
Promote cyber security education and training, including building a cyber security professional workforce	One of the actions under the "cyber capability" goal of the Government's Cyber Security Strategy and Action Plan is to establish a public-private taskforce to address the cyber security skills shortage. The work of the taskforce will span the four work streams of the Digital Technology Skills Forum and focus on practical and immediate actions to increase the number of cybersecurity professionals that industry needs, such as developing an alternative pipeline into the profession.	Part of BGA Building Innovation 2015	NCPO
Identify and encourage industry and government adoption of a common ICT skills and competency framework	The Digital Technology Skills Forum is exploring the adoption of a shared framework for describing, growing, assessing and managing competencies for ICT and digital technology professionals. The Forum has identified a skills framework, Skills for the Information Age (SFIA), and is now advocating for the implementation of this framework across government and industry.	New to the BGA	Digital Technology Skills Forum
Set up new ICT Grad Schools to add to the number of ICT graduates	The ICT Graduate Schools are a consortia of tertiary education providers who are closely linked with industry . They will help address high-level ICT skills shortages by delivering graduates with the skills the industry needs to grow our high-tech economy. Graduates will have work-relevant, business-focused skills, and the schools will also provide clear pathways from education into employment. All three ICT Graduate Schools have been launched. The Auckland School began delivery in November 2015 and the Wellington School in March 2016. The South Island School opened for business in February 2017.	Part of Building Skilled and Safe Workplaces 2016	TEC, MBIE

Building Innovation

Project	Description	Status	Who's involved
Using immigration to bring digital skills into New Zealand			
Explore the use of a skills-based approach for the Long Term Skill Shortage List and the Skilled Migrant Category for ICT occupations	Formal qualifications are currently essential for migrants wanting to work in New Zealand's digital technology sector under the Long Term Skills Shortage List (LTSSL) or under the Skilled Migrant Category. The LTSSL includes a number of ICT occupations, though for a migrant to be considered qualified under the LTSSL they must have one of the specified qualifications. For migrant applicants to be granted points under the Skilled Migrant Category they must either have a qualification, meet the requirements of the LTSSL, or have a specified number of years work experience. This initiative is looking at ways that migrants could demonstrate for immigration purposes that they have the skills and capability to do the job, in lieu of a formal qualification.	New to the BGA	Digital Technology Skills Forum
Make it easier for businesses to become Accredited Employers	Becoming an Accredited Employer provides an organisation with the control and speed they need when recruiting talent in a highly competitive global market. To become an Accredited Employer, a firm must demonstrate to Immigration New Zealand it is a good employer, it is financially stable, has strong human resource practices, etc. The current processes to demonstrate these requirements can be onerous and challenging, particularly for smaller businesses. This initiative will create an online application and renewal form with dynamic automated features, designed to better support businesses to become accredited and reap the benefits this product offers.	New to the BGA	MBIE
Balancing security, privacy, and innovation			
Support the Security Technologies Returning Accountability, Trust and User-centric Services in the Cloud (STRATUS) project	STRATUS, led by the University of Waikato, is a six-year, $12.2 million cyber security project, funded by MBIE. STRATUS will create a suite of novel security tools, techniques and capabilities which return control of data to cloud computing users. The aim is to empower users to be able to control the security of their data in the cloud and to give companies tools and services to sell. This contributes to the research action under the "cyber capability" goal of the Cyber Security Strategy Action Plan.	New to the BGA	MBIE, University of Waikato
Ensuring New Zealand's regulatory framework is fit for purpose			
Conduct the scheduled review of the Telecommunications Act	A review of the Telecommunications Act 2001 is progressing to ensure New Zealand has the right laws for communications networks after 2020, to meet the needs of consumers and businesses, and to help keep our economy growing. On 10 February 2017, the Government released a consultation paper which outlines the core policy settings and proposed approach to regulating UFB fibre. Feedback was sought on the proposed approach for the regulation of the copper and fibre networks in March 2017. Following this consultation the government is planning to develop legislation for introduction later in 2017.	Part of BGA Building Innovation 2015	MBIE
Create a regulatory environment to support the Financial Technology (fintech) sector	The Government recognises that the opportunities our fast-growing fintech sector presents for New Zealand companies and consumers are exciting. New Zealand's first fintech accelerator is currently underway, with support from MBIE. We are also making sure we accommodate innovation in financial advice: the new regulatory regime for financial advice is being deliberately drafted to allow for the provision of robo-advice (computer-generated financial advice) to New Zealand consumers. As a founding member of FinTechNZ, a new financial technology association, MBIE is working closely with industry to understand what is challenging (and what is working well) for fintech firms in New Zealand. Government will be nimble and act swiftly to address unnecessary regulatory barriers if they exist, while continuing to protect consumers and maintain confidence in our financial markets.	New to the BGA	MBIE, NZTech

Building Innovation

Project	Description	Status	Who's involved
Consider the impact of convergence of telecommunications information technology, media content, and entertainment sectors	The Government has established a cross-agency convergence work programme. This work programme will ensure our regulations are fit for purpose in light of the convergence of the previously distinct telecommunication, information technology, media and entertainment sectors. This work includes: • updates to the Broadcasting Act to ensure it is fit for purpose for a digital age • a review of the regulatory framework for telecommunications to set the high-level direction for the future regulation of communications services • a review of the Radiocommunications Act • a study into the role of copyright and registered designs in the creative sector • the Data Futures Partnership is engaging with New Zealanders on their view of data use. Engagement got underway February 2017. • implementing the Cyber Security Strategy, accompanying Action Plan and the National Plan to Address Cybercrime.	Part of BGA Building Innovation 2015	MCH, MBIE, Data Futures Partnership, IRD, NCPO

Additional government initiatives supporting a thriving Digital Sector

Project	Who's involved
Use the New Zealand Investment Attraction Strategy to encourage more multinational companies to conduct Research and Development (R&D) in New Zealand	MBIE
Drive digital sector R&D through Callaghan Innovation grants	Callaghan Innovation
Support digital sector research through MBIE's Endeavour Fund	MBIE
Build expertise and international connections through the Square Kilometre Array	MBIE
Support start-ups and the commercialisation of cutting-edge research through Incubators and Accelerators	Callaghan Innovation, MBIE
Support hi-tech summer internships through R&D Experience Grants	Callaghan Innovation
Develop and trial with the private sector the Global Impact Visa to attract talented young international entrepreneurs	MBIE

High light

The Investor's Guide to the New Zealand Technology Sector

The Ministry of Business, Innovation and Employment has partnered with the New Zealand Technology Investment Network (TIN) to launch *The Investor's Guide to the New Zealand Technology Sector*.

New Zealand's technology sector offers a range of attractive investment opportunities in ambitious and scalable firms that are tackling global problems with market-leading solutions.

The Investor's Guide is targeted at the international investor audience, and uses TIN data on New Zealand's top 200 technology firms (by revenue) to tell a compelling story of the local investment opportunities.

The Guide includes:

- reasons to invest in New Zealand's technology sector
- a snapshot of growth in revenue and markets across the sector
- information on New Zealand's supportive industry ecosystem
- the investor environment and growing interest in New Zealand's high-growth firms.

The report can be found on the Ministry's website, and is being distributed through New Zealand Trade and Enterprise, and the TIN network.

KEY: Implementing In progress Initiating

Technology-enabled Digital Businesses

New Zealand businesses are using the latest technologies and are developing new products and services through digital innovation so that they can grow, disrupt, and compete across the globe

Action plan for supporting technology-enabled Digital Businesses

Project	Description	Status	Who's involved
Encouraging better use of digital technologies by small businesses to improve productivity across the economy			
Engage SMEs about the opportunities of digital technologies	MBIE is partnering with the Ministry for Primary Industry (MPI), technology industry associations, regional economic development agencies, and the wider business community to promote the smart use of digital tools in three pilot sectors: • arable farming • tourism businesses • tradies in the construction sector. The first phase of this pilot programme will develop targeted messaging and materials to actively engage arable farmers, tourism businesses, and tradies about the specific opportunities digital tools create for their sector.	New to the BGA	MBIE, business.govt, MPI, NCPO, industry associations, EDAs, Digital Journey
Assess the digital maturity of SMEs	The second phase of the pilot programme is to support arable farmers, tourism operators, and tradies to assess their current digital maturity and identify specific areas for improvement, including security. Government is supporting the development of three new Digital Journey assessment tools tailored specifically for each of the three pilot sectors. These tools will allow firms to benchmark their current digital maturity across a range of measures specific to their sector, and will provide targeted advice for steps to improve their digital maturity. This will complement work to develop a cyber credentials scheme to help small businesses improve their cyber security.	New to the BGA	MBIE, business.govt, MPI, NCPO, industry associations, EDAs, Digital Journey
Build SME's confidence and capability to go digital	The third phase of the pilot programme aims to build the confidence and capability of arable farmers, tourism operators, and tradies, supporting them to increase their digital maturity, ensure their digital security, and adopt digital tools relevant to their business. The approach for building the confidence and capability of SMEs may be different for each of the pilot sectors, but could include the creation of online training modules or workshop sessions with technology experts.	New to the BGA	MBIE, business.govt, MPI, NCPO, industry associations, EDAs, Digital Journey
Promote uptake of digital technologies through the small business roadshows and broadband completion events	*Taking Care of Business: Government Supporting Your Business* was a series of 22 events which were held across the country in 2016. One of the topics promoted through these roadshows was the Digital Journey assessment tool, which helps businesses to build customised action plans to improve their competitive edge through the use of digital tools. Another 10 roadshow events are being planned for 2017. Crown Fibre Holdings (CFH) is also running events following the completion of fibre rollout in towns across the country to promote uptake of fibre for small businesses.	New to the BGA	MBIE, business.govt.nz, CFH
Developing the digital skills of New Zealand businesses			
Provide access to the UK Digital Business Academy	NZTE has partnered with Tech City UK to deliver Digital Business Academy courses to New Zealand businesses. The Academy was created by Tech City UK in partnership with leading educational institutions, businesses and organisations. It offers free online courses designed by experts covering a range of essential business skills to help people start, grow or join a digital business. Previously only available to UK residents, the Digital Business Academy has now made it possible for New Zealand residents to also access the online courses. A New Zealand postal code is required to register.	New to the BGA	NZTE, Tech City UK

Project	Description	Status	Who's involved
Build capability though Digital Service programme	NZTE's Digital Service programme supports businesses to build their digital capability and establish effective use of digital technologies to support international sales and profitability. The programme offers three tiers of support to NZTE customers: • *Digital Kickstarter* – supporting customers to increase digital knowledge and understanding through a collection of self-directed online guidance including the Digital Business Academy courses • *Prioritising Digital* – involves hands on support delivered one-to-one by specialist Digital Advisors to build the business' digital capability and establish effective use of digital technologies • *Delivering Digital* – connects businesses to expert service providers through one-to-many workshops or one-on-one engagements to help execute the business' digital strategy.	New to the BGA	NZTE
Supporting greater connectivity for New Zealand Businesses			
Increase the rollout of New Zealand's fibre-to-the-premises UFB programme to at least 84 per cent of the New Zealand population	As at 31 December 2016, deployment of the first phase of the UFB programme to 75 per cent of New Zealanders was 71.2 per cent complete. More than one million households, businesses, schools and hospitals now have access to fibre and over 327,000 users are connected (30.9 per cent uptake). New Zealand had the highest annual growth rate of fibre connections from June 2013 to June 2014 among developed countries. The Government is extending the UFB programme to make fibre broadband available to at least 84 per cent of New Zealanders by 2024, with additional investment of up to $210 million. On 26 January 2017 the Government announced contracts between Crown Fibre Holdings and four partner companies that will see UFB extended to more than 151 additional towns and 43 fringe areas of existing UFB towns and cities.	Part of BGA Building Innovation 2015	MBIE, CFH
Roll-out Stage 2 of the Rural Broadband Initiative (RBI) and the Mobile Black Spots Fund	The Government's contribution to the first phase of RBI was completed in June 2016, ending the five year project. As at 31 December 2016, more than 300,000 rural households and businesses can access improved broadband of over 5 Mbps. 154 new towers have been established to provide fixed wireless broadband and more than 110,000 rural lines have been upgraded to deliver improved fixed line broadband. The Government is investing $100 million in phase two of the RBI and is also establishing a Mobile Black Spot Fund, with a $50 million budget, to increase mobile service coverage targeting State Highways and key tourist destinations where no operator currently provides coverage. A Request for Proposal for both the second phase of the RBI and the Mobile Black Spot Fund was released in October 2016 and closes 3 April 2017.	Part of BGA Building Innovation 2015	MBIE, CFH, Telecommunications Industry
Balancing security, privacy, and innovation			
Support individuals and businesses to protect themselves online through Connect Smart	Connect Smart is a cyber security awareness and capability raising campaign which aims to build knowledge and skills across all parts of the economy, from individuals to enterprises. The Connect Smart partnership is a public-private collaboration focused on driving cyber security improvement in New Zealand. The programme includes a website containing targeted advice for individuals and businesses and a range of outreach and other activities to build cyber security capability, including an annual Connect Smart Week. This is an action under the "cyber capability" goal of the Cyber Security Strategy Action Plan.	Part of BGA Building Innovation 2015	NCPO

Project	Description	Status	Who's involved
Set up a national Computer Emergency Response Team (CERT)	The Government is investing $22.2 million from Budget 2016 to set up a new national CERT. CERT NZ will be responsible for receiving cyber incident reports, tracking cyber security incidents, and providing advice and alerts on how to respond and prevent further incidents. CERT NZ will be a key piece of New Zealand's cyber security architecture. It will be the central place for businesses and organisations to go to for help and information when they are experiencing cyber security incidents. CERT NZ will also work closely with other international teams to understand potential or real-time cyber threats. Through the international network of CERTs, CERT NZ can support the global effort to improve internet security. This is an action under the "cyber resilience" goal of the Cyber Security Strategy Action Plan.	Part of BGA Building Innovation 2015	MBIE
Develop Cyber Credentials Scheme	The Cyber Credentials Scheme will raise the cyber security capability of small businesses, and increase both their knowledge and skills. The aim of the scheme is to enable small businesses to understand their cyber capability and, over time, demonstrate that they have put in place the basic cyber security practices. This is an action under the "cyber capability" goal of the Cyber Security Strategy Action Plan.	Part of BGA Building Innovation 2015	NCPO
Ensuring New Zealand's regulatory framework is fit for purpose			
Collect Goods and Services Tax (GST) on remote services and intangibles	The growth of e-commerce means the volume of services and intangibles (such as computer software) on which GST is not collected is growing significantly. This raises concerns about uneven GST treatment between domestic and international providers, and if such tax laws remain suitable in the future. Government has enacted new rules to collect GST from cross-border services and intangibles, including content and software purchased from off-shore websites. The new rules came into effect on the first of October 2016.	Part of BGA Building Innovation 2015	IRD
Conduct study to understand the role of copyright and registered designs in the creative sector	The purpose of this study was to better understand the way that the creative sector interacts with the copyright and designs regimes in a changing technological landscape. MBIE, in consultation with the Ministry for Culture and Heritage (MCH), completed 71 face-to-face interviews with sector participants, conducted two workshops with a wider group of stakeholders, and commissioned an online survey of sector participants and a consumer focus group. The study culminated in a report "Copyright and the Creative Sector", which was released in December 2016.	Part of BGA Building Innovation 2015	MBIE, MCH

Additional government initiatives supporting technology-enabled Digital Businesses

Project	Who's involved
Encourage businesses to operate digitally through the New Zealand Business Number	MBIE
Strengthen the uptake of Precision Agriculture in New Zealand	MPI
Support New Zealand companies to enter China through agreement with Alibaba	NZTE
Establish new privately-led regional research institutes	MBIE
Invest in Entrepreneurial Universities	TEC, Universities
Make it easier for SMEs to create their privacy statement through Priv-o-matic	Office of the Privacy Commissioner

High light

Supporting New Zealand SMEs on their Digital Journey

Digital Journey assessment tool and resources

The Digital Journey online assessment helps New Zealand SMEs to understand how digital technologies can benefit their business and streamline operations. The tool allows SMEs to:

- assess the strength of their online presence
- identify social and digital marketing opportunities
- streamline business plans and systems
- improve project management and data accessibility with cloud computing
- create a customised digital action plan.

There are also a range of articles, step-by-step instructions, tips and videos on digitalresources.nz which help SMEs to understand technology and digital services.

The Connect Smart assessment

For businesses using digital technology and the internet, it is important to understand and manage the risks. The Connect Smart assessment helps SMEs to develop an individual action plan that will set out some basic steps to protect their business and customers.

connect SMART
Protect yourself online

KEY: Implementing In progress Initiating

Connected and confident Digital New Zealanders

All New Zealanders are confident and able to function safely in the global digital world and can access the social, cultural, and economic benefits of being a Digital New Zealander. We can not only use technology, we can create with it.

Action plan for developing connected and confident Digital New Zealanders

Project	Description	Status	Who's involved
Supporting under-represented groups into the digital technologies sector			
Scope the opportunity to encourage women into the digital technology sector through a return to work scheme	One opportunity to meet the shortage of skilled workers in the digital technology sector is to encourage women into the digital technology workforce following a career break. MBIE is working in partnership with the Ministry for Women to explore the opportunity to collaborate with the digital sector on a return to work pilot. The pilot is likely to be aimed at professional women and may include a mix of skills training and work readiness coaching.	New to the BGA	Ministry for Women, MBIE, NZTech, NZRise
Create high-value jobs and opportunities that advance Māori in digital technologies through the Māori Digital Technology Development Fund (Ka Hao)	The Māori Digital Technology Development Fund is a $30 million contestable fund with the objective of creating high-value jobs and opportunities that advance Māori in digital technologies. The first round of applications opened on 6 October 2016, requesting ideas for initiatives which aim to: • improve digital skills and pathways for Māori into digital technologies • grow digital technology businesses, or • enhance new Māori language and culture initiatives through digital technologies. Successful applicants will receive funding for their initiatives by May 2017 following approval from the Minister for Māori Development and Minister of Science and Innovation, and Minister for Tertiary Education, Skills and Employment.	Part of BGA Building Innovation 2015	TPK, MBIE
Support for expansion of Shadow Tech Days	The Ministry of Youth Development has partnered with NZTech and other supporters to extend the number of participants in Shadow Tech Days. The programme, run by NZTech, connects young women who are studying technology subjects at school with women working in the tech sector, as well as women studying technology at a tertiary level, as mentors.	New to the BGA	Ministry of Youth Development, NZTech, technology companies, tertiary institutions.
Understanding and improving the digital capabilities of New Zealanders			
Initiate research to understand the impacts of digital inclusion on the social and economic outcomes of New Zealanders	DIA and MBIE have initiated joint research with academics, community and industry representatives to develop a New Zealand-specific evidence base on the impacts and opportunities from increasing digital inclusion of disadvantaged groups. This work focusses on the causes of digital disadvantage and will propose ways to address these. It also aims to identify the basic digital skills most likely to help people become more productive and/or digitally engaged citizens, and propose metrics to measure progress towards digital inclusion. Once this initial research is completed, the findings will inform the Digital New Zealanders workstream to help government identify areas of future focus and potential investment.	New to the BGA	DIA, MBIE
Support the mapping of existing initiatives to build digital capability	MBIE is working with InternetNZ and the 2020 Trust to disseminate their stocktake and heat map of existing New Zealand digital capability and inclusion initiatives. The heat map will be developed into an interactive resource which community, government and other organisations who want to build digital capability and inclusion in their region can go to for examples. This initiative is also being progressed by the Data Futures Partnership as one of their catalyst projects.	New to the BGA	MBIE, DIA, InternetNZ, 2020 Trust, Data Futures Partnership

Building Innovation

Project	Description	Status	Who's involved
Integrate Digital Technology into the New Zealand curriculum	We need to ensure people have the skills and knowledge to participate and contribute to a fast-growing digital economy. From 2018, all schools need to incorporate digital technologies in their curriculums.	Part of BGA Building Skilled and Safe Workplaces 2016	MoE
Investigate how to support adults to learn new technologies	Work with the industry and the new coding schools that are being set up to find out what more needs to be done to help more adults to take advantage of opportunities in the technology industry.	Part of BGA Building Skilled and Safe Workplaces 2016	MBIE, TEC
Supporting greater connectivity for New Zealand communities			
Support social engagement of Deaf and hearing impaired people through a new Video Interpreting Service	From July 2016 a new online Video Interpreting Service is available for Deaf and hearing impaired New Zealanders. The new service helps reduce communication barriers for Deaf people making it easier for them to interact with their friends and family and take part in parent-teacher interviews, medical appointments, and meetings with businesses and government agencies. The new service combined two existing services – the Video Relay Service and the Video Remote Interpreting Service – and is processing more minutes per month than the former two services combined.	New to the BGA	MBIE, ACC, MoE, MoH, MSD
Balancing security, privacy, and innovation			
Make it easier for people to get things done online through RealMe	RealMe is a voluntary, consent-based identity and login service that enables services to be offered securely online. There are currently 84 services across 33 organisations using RealMe as their login, and ten services across seven organisations are now using the verified information provided by the RealMe service. There is a process underway for developing a strategy and investment framework for digital identity in New Zealand which will consider RealMe as part of a broader identity ecosystem.	New to the BGA	DIA, NZ Post
Launch Tahi, an identity and access ecosystem for educators and students	In June 2016, Network for Learning (N4L) launched Tahi – an Identity and Access Management Solution – which enables educators and students to use a login and password to access education applications. Tahi works with a school's Student Management System to create a single Tahi identity for every student and teacher, simplifying a school's secure access to its favourite online educational content. This allows students and school staff to access multiple online applications using their one Tahi identity, reducing the need for schools to manage thousands of logins and passwords. Tahi identities stay with their users throughout their school career, even when changing schools.	New to the BGA	N4L
Explore Social Licence through public engagement	The Data Futures Partnership is engaging with New Zealanders to have a meaningful conversation about the ways in which data can be used and shared. Effective data use presents New Zealand with exciting opportunities and wide reaching benefits. But there are also challenges and questions which need to be considered. The Partnership is exploring these issues – through online engagement, and a series of workshops – to support New Zealand to become a world leader in the trusted use of shared data to deliver a prosperous and inclusive society.	New to the BGA	Data Futures Partnership

Project	Description	Status	Who's involved
Ensuring New Zealand's regulatory framework is fit for purpose			
Streamline consenting rules to speed up UFB installations	The Telecommunications (Property Access and Other Matters) Amendment Bill creates a new consenting process that telecommunications companies must follow when installing networks such as UFB. This Bill will make it simpler for those living in apartments or with shared property access to connect to faster broadband at home, by addressing delays such as neighbour disputes and unanswered queries. The Bill passed its second reading in Parliament in February with unanimous support, and is due to be referred to the Committee of the Whole House in March.	New to the BGA	MBIE

Additional government initiatives for developing connected and confident Digital New Zealanders

Project	Who's involved
Launch a $1 million fund for education and digital technology projects	MoE
Enhance access to learning through the use of Assistive Technology	MoE
Investigate opportunities to leverage schools' broadband connections to support the wider community	N4L
Deter online bullying, harassment and other harmful communications through the Harmful Digital Communications Act	MoJ
Provide people with access to privacy advice through AskUs	Office of the Privacy Commissioner
Make it easy for people to request their personal information through AboutMe	Office of the Privacy Commissioner
Support Pacific people to study STEM through Toloa Scholarships	MoE
Review regulatory settings to encourage innovation in school education	MoE
Grow the numbers of enrolments and graduates for in-demand disciplines like Engineering, ICT and applied sciences	TEC

High light

Delivering faster broadband to rural New Zealand

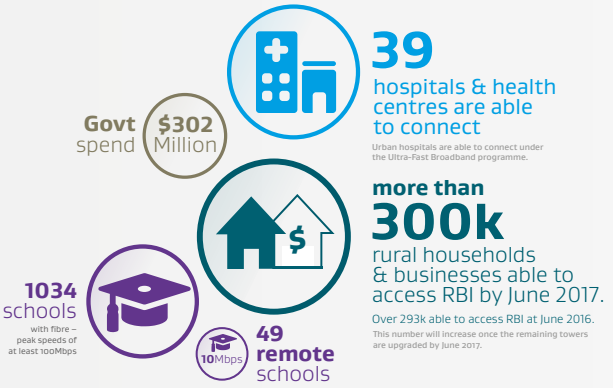
Connectivity is a necessity. It is an essential part of New Zealand's growing economic and social infrastructure, and even more integral for our rural communities.

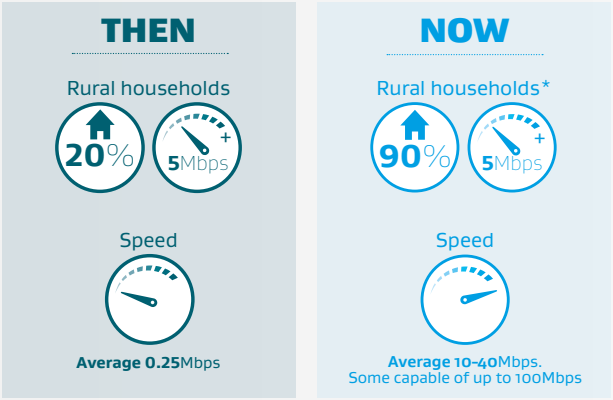
The Government's contribution to the first phase of the Rural Broadband Initiative (RBI) was completed in June 2016, ending the five year project.

The objective of the first phase of the Rural Broadband Initiative (RBI) was to deliver faster broadband to priority users and communities outside of Ultra-Fast Broadband (UFB) areas. Under phase one, 154 new cell sites have been built, and 387 existing towers will be upgraded to offer RBI services by June 2017. A total of 1,242 cabinets have been upgraded and over 110,000 households and businesses are able to access new or improved fixed line broadband.

Around 300,000 New Zealand households and businesses now have improved broadband thanks to RBI. Rural hospitals and integrated family centres are able to access peak speeds of 100Mbps under the programme. All New Zealand state and state-integrated schools are able to connect under UFB or RBI, or the Remote Schools Broadband Initiative.

Rural communities are already accessing faster broadband, with uptake of wireless or fixed line services currently around 40 per cent.





A Digital Government

A digital government, where the public sector is using digital technology innovatively to work smarter, make better decisions, generate value from New Zealand's information, and transform the services that are delivered.

Action plan for accelerating a Digital Government

Project	Description	Status	Who's involved
Supporting the digitisation of the public sector			
Enable the public sector to exploit ICT-enabled opportunities through the ICT strategy	The *Government ICT Strategy and Action Plan to 2017* was launched in June 2013, and has since laid the foundation for service and system transformation within Government. In 2016, to ensure that it remained relevant and incorporated emerging technologies and practices, the strategy was revised and now aims to achieve the following outcomes: • *Digital Services* – Customers experience seamless, integrated and trusted public services • *Information* – Information-driven insights are reshaping services and policies, and adding public and private value • *Technology* – Adoption of information and technology innovations is accelerated and value is being created • *Investment* – Investment in innovative digital services is being prioritised and benefits are being realised • *Leadership* – Complex problems are being solved and innovative solutions are being adopted. While the Government Chief Information Office (GCIO) within DIA remains accountable for the strategy, its implementation will be delivered collectively through the partnership between the GCIO and senior public sector leaders.	New to the BGA	GCIO
Deliver the Better Public Services Result 9 "Better for Business" programme to make business-to-government dealings easier and seamless	Result 9 is a cross-agency Better Public Services initiative making government services better for business by taking a customer-centred approach to the design and development of regulatory processes and service development , transforming digital services, re-using and sharing of information, and using innovative digital technologies to deliver outcomes for business. Since the beginning of Result 9, there has been an overall decrease in the effort for businesses of dealing with government. Innovative digital solutions have been identified and are in the process of being implemented.	Part of BGA Building Innovation 2015	MBIE
Deliver the Better Public Services Result 10 programme so New Zealanders can make their government transactions digitally	The Government is on track to achieve its target for 70 per cent of New Zealanders' most common transactions with government to be completed in a digital environment by 2017. A Service Innovation Work Programme has been developed to reflect the shift in focus from increasing the volume of digital transactions towards delivering integrated digital services which will substantially change the way government services are delivered. The Service Innovation outcome, 'People have easy access to public services, which are designed around them, when they need them', reflects the outcome for Result 10 as part of the Better Public Services Results refresh. The new measure and target for Result 10 is 'By 2021, 80% of the most common public services will be easier for people to complete in a digital environment.	Part of BGA Building Innovation 2015	DIA

Project	Description	Status	Who's involved
Support schools' use of digital technologies through N4L Managed Network and Pond	N4L's Managed Network offers a number of services that can be used to enhance a school's online experience and help make their online environment safer for students and staff. Services include a trusted internet connection, web and email filtering, security, remote access, and performance monitoring. These services are tailored to meet each school's unique needs. Schools receive support from N4L's specialist team during the transition onto the Managed Network, and once connected have access to a support team whenever assistance is needed. Currently 97 per cent of schools are on the Managed Network. N4L's Pond is a digital content and services platform which helps educators and students to navigate the complexities of learning in the 21st century.	Part of BGA Building Innovation 2015	N4L
Implement Digital Health 2020	In April 2016, the Government launched the new New Zealand Health Strategy. The strategy will guide change in the health sector, leading the transformation to a more innovative, integrated and patient-centred approach to healthcare in New Zealand. Digital Health 2020 has been developed to progress the core digital technology opportunities presented in the strategy. Digital Health 2020 includes a set of actions including improved access and use of electronic health records and data including through mobile and emerging technologies to support care delivery, research and innovation; the use of 'smart systems' to improve data sharing and strengthen national analytical capability; technology to support preventative health screening programmes; and increased hospital digital maturity.	New to the BGA	MoH
Leverage our international relationships through a United Kingdom and New Zealand digital data and technology exchange	A two-part professional exchange between the Home Office of the United Kingdom and the DIA in New Zealand will be piloted in 2017. The purpose of the exchange is to bring together high-potential staff from across the two organisations at various levels and professions to develop knowledge and learning, and share best practice. If successful it is intended that the exchange will be held on an annual basis.	New to the BGA	GCIO
Encourage innovative public sector ICT procurement models			
Partner with industry to solve complex government problems through the R9 Accelerator	The R9 Accelerator is a key enabler of accelerated innovation and provides an all of government, fit for purpose accelerator and incubator process to deliver GovTech outcomes for New Zealanders. The R9 Accelerator brings together teams of entrepreneurs, ICT developers, private sector specialists and government experts to work on projects that solve major pain points for New Zealand businesses and reduce their costs of dealing with government. Two Accelerator programmes have now been completed, the first in 2015 and a second in 2016. R9 Accelerator 3.0+ began with the 'Rev Up' event in January 2017. The 12 week Accelerator process started in March 2017 with eight new teams, this time focusing on both business and social sector pain points. Further work is underway to ensure that New Zealand can make the most from this new capability. It will support technology innovation in a sustained way resulting in government problems being solved, growing new New Zealand businesses and creating new export markets.	Part of BGA Building Innovation 2015	MBIE
Support annual GovHack events	GovHack is an annual event where developers are able to use selected government data in new and interesting ways to tackle problems and create valuable solutions. For the second year running, MBIE hosted the Wellington GovHackNZ event in July 2016. The event involved hundreds of participants from Australia and New Zealand who came together to utilise open data to address social and economic issues. The theme for 2016 year's GovHack was digital literacy for all.	Part of BGA Building Innovation 2015	MBIE
Establish ICT Marketplace for government agencies	Government is establishing an ICT Marketplace that will enable agencies to access a wider range of public cloud services under a common commercial contract while also improving the efficiency of typical procurement practices where security and commercial risk is managed in accordance with government procurement and security standards. This will be launched in the second half of 2017.	New to the BGA	GCIO

Building Innovation

Project	Description	Status	Who's involved
Developing the digital skills of government			
Identify the digital capability needs, future skills and capability growth areas for government	The GCIO is undertaking an Information, Technology and Digital Skills (ITD) Survey across government. The survey seeks to quantify and understand current availability of information, technology and digital skills and leadership, and to identify future growth areas. The objectives of the survey are to: • establish the survey as a valuable benchmarking tool to identify current ITD capability across government • provide agencies with an evidence-based tool to support them in decision making around training investment spend, resource allocation and workforce planning • create a common understanding of the role of ITD skills in the future workforce and the actions required to ensure the workforce is future-ready.	New to the BGA	GCIO
Establish the GovTech Graduate Talent Programme	The GovTech Talent Graduate Programme was established to support the Government's ICT Strategy 2015. Supported by the GCIO, the Programme aims to accelerate Government's digital leadership capability by establishing a sustainable pool of information, technology and digital talent. Seven participating agencies will host two or three graduates (out of a total of fifteen) over three 8-month rotations, providing them with unique opportunities to explore technological innovation and service delivery transformation in government. Participating agencies are: The Ministry of Education, The Ministry of Business, Innovation and Employment, The Ministry for Primary Industries, The NZ Transport Agency, Statistics NZ, Inland Revenue and the Department of Internal Affairs.	New to the BGA	GCIO
Collaborate with nations in the Digital 5 (D5)	In 2014 the Governments of New Zealand, Korea, Estonia, United Kingdom and Israel founded the group D5, a group of the most digitally advanced governments in the world to provide a forum to share best practice, identify how to improve the participants' digital services, collaborate on common projects and to support and champion their growing digital economies. New Zealand is the current chair of this group.	New to the BGA	GCIO
Balancing security, privacy, and innovation			
Protect New Zealand's most important information infrastructures and boost the cyber security capability of the public sector	The Government Communications Security Bureau (GCSB) provides the CORTEX advanced malware detection and disruption services to help protect New Zealand's most important information infrastructures from advanced cyber threats. Government agencies are required to provide assurance reports on their overall protective security status under the Government's Protective Security Requirements, approved by Cabinet in December 2014. The first annual report on system-wide capability and maturity in privacy and protective security of government agencies was provided to the Minister of State Services in June 2016. It found that protective security and maturity has improved across the system, and target capability across agencies will take three to five years. This fits with the "cyber resilience" and "cyber capability" goals of the Cyber Security Strategy Action Plan.	Part of BGA Building Innovation 2015	GCSB, NZSIS, DIA
Use data to improve the lives of vulnerable New Zealanders through a social investment approach	The cross-agency Social Investment Unit (SIU) is responsible for advancing and embedding the Government's social investment approach, which aims to improve the lives of vulnerable New Zealanders by applying rigorous analysis and evidence-based investment practices to social services. Key components of a social investment approach include understanding people's needs, evaluating services, measuring outcomes, analysing costs and benefits, and calculating return on investment. The SIU will work with agencies on the components of social investment required to deliver better outcomes for targeted populations. This includes providing guidance on how to implement a social investment approach, methods and analysis.	New to the BGA	SIU

Project	Description	Status	Who's involved
Enable safe and secure information sharing between agencies and NGOs to support better decision making through a new Data Exchange	The SIU is developing a cloud-based Data Exchange to enable safe and secure sharing of non-anonymised data, creating system-wide feedback loops. This sharing of data will support better decision-making, improve record keeping and help deliver better frontline services. The first 'live' transfer of anonymised data across the exchange – for test purposes only – was successfully completed in December 2016.	New to the BGA	SIU
Conduct a Data Futures Programme to encourage the use of data for analytics and innovation in the public and private sectors	The Data Futures Partnership Working Group was appointed by the Ministers of Finance, Justice and Statistics to encourage data innovation by harnessing the energy of organisational leaders, data users and innovators. The Partnership is focusing on three streams of work: • catalyst projects using data to tackle real-world problems and provide system learning • diagnose and fix ongoing and emerging issues in the data-use ecosystem • facilitate a conversation with New Zealanders about the potential value of data use, and to explore their feelings and perspectives on data use.	Part of BGA Building Innovation 2015	Data Futures Partnership
Ensuring New Zealand's regulatory framework is fit for purpose			
Review transport regulation to encourage the use of new technologies	Intelligent Transport Systems (ITS) apply digital technology to vehicles. If technologies that enable vehicles to communicate digitally with other vehicles and with infrastructure become ubiquitous, they would form the largest computer network in New Zealand. In 2014, the Government agreed to an ITS Technology Action Plan with 42 specific actions that include a scan of transport regulations to ensure there are no unnecessary barriers to the uptake of technology, including the use of driverless cars. A report summarising the outcome of the scan will be completed by June 2017.	Part of BGA Building Innovation 2015	MoT
Enable better digital interactions between individuals, businesses and government through the Electronic Interactions Reform Bill	On 13 October 2016, the Electronic Interactions Reform Bill had its first reading in Parliament and was referred to the Government Administration Committee. This cross-agency omnibus bill amends a range of legislation and forms part of ongoing information management and digital transformation work in the State sector. The Bill includes amendments: • to allow certain Births, Deaths and Marriages services to be completed without requiring statutory declarations • related to requirements to "appear before" government agencies in certain specific proceedings, and to allow certain types of notices to be provided electronically • related to the online sale of game hunting licences and online voting for Fish and Game council elections.	New to the BGA	DIA, DOC, MBIE

Additional government initiatives for accelerating a Digital Government

Project	Who's involved
Support teacher-led innovation through $18 million fund	MoE
IRD Business Transformation Programme	IRD
MSD Simplification Project	MSD
Support an open and transparent government through the Open Government Information and Data Programme	Statistics NZ
Bring together government information through govt.nz	DIA
Support new parents with Smart Start	DIA
Transform the ACC customer experience with Shaping Our Future	ACC
Advanced Survey and Title Services	LINZ
Transform the system of service delivery across government	DIA

High light

Delivering better outcomes for vulnerable New Zealanders through a social investment approach

The cross-agency Social Investment Unit (SIU) was established in December 2015 with the responsibility for overseeing and coordinating the Government's social investment approach, which will help deliver better outcomes for vulnerable New Zealanders.

Social investment is about improving the lives of New Zealanders by applying rigorous analysis and evidence-based investment practices to social services, with agencies and the social sector collectively making better decisions about where to put their investments to get better results for targeted populations.

Why do we need social investment?

New Zealand needs to operate in a different way to address serious social issues. For example, indicators have identified a wide range of children at risk of poor outcomes. The four key indicators of higher risk children (aged 0-14) are:

- a Child Youth and Family finding of abuse or neglect
- being mostly supported by benefits since birth
- having a parent with a prison or community sentence
- having a mother with no formal qualifications.

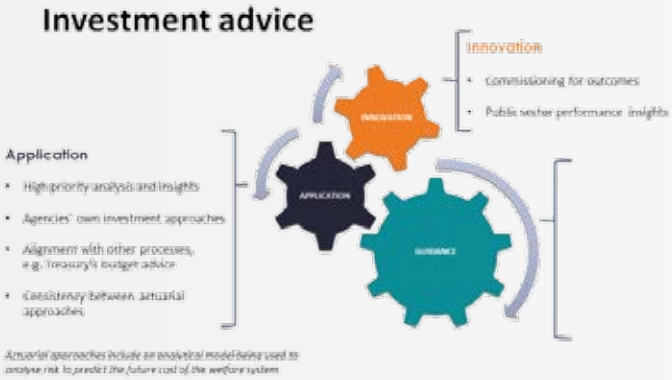
When compared to other children in New Zealand, this priority population is:

- nearly 14 times more likely to witness family violence
- nearly twice as likely to have been in hospital with a preventable condition
- two and a half times more likely to have had a dental referral before starting school
- six times more likely to move house at least once a year
- nearly 37 times more likely to have had a caregiver with current gang affiliations.

How will the SIU support agencies?

The SIU will undertake a number of actions to support this change, including:

- building a data exchange platform
- developing robust and consistent methods for analysis and creating shared tools for agencies
- supporting agencies to make consistent and greater use of data and analytics
- shifting to an integrated social investment system where social investment principles are carried through to routine agency and frontline decision-making and where data analytics, evidence, liability management, return on investment and other aspects of a social investment approach are embedded in every day agency practice.



Where to from here?

This report sets out a range of key government initiatives supporting New Zealand to become a leading Digital Nation. While this will provide a good foundation for success, the rapid pace of digital transformation means that we must be agile in how we approach the challenges and opportunities that come with this change.

While government will play an important role in supporting this transformation, the wider digital community will play the critical role of driving and shaping what this transformation looks like. How our digital technology sector grows, how it engages and creates linkages with other sectors of the economy, with people, and with government, will have a significant impact on what New Zealand looks like in the future.

The challenges and opportunities which come with digital transformation can only be addressed through collaboration across the digital community.

Digital community

NEW ZEALAND TECHNOLOGY INDUSTRY ASSOCIATION

.DigitalJourney

business.govt.nz

CallaghanInnovation
BUSINESSTECHNOLOGYSUCCESS

N4L

NZRise

NEW ZEALAND STORY GROUP

MINISTRY OF SOCIAL DEVELOPMENT
TE MANATŪ WHAKAHIATO ORA

INTERNAL AFFAIRS
Te Tari Taiwhenua

tuanz

NEW ZEALAND DIGITAL SKILLS FORUM

New Zealand IoT Alliance

Innovation Partnership

forum NEW ZEALAND

MINISTRY OF YOUTH DEVELOPMENT
TE MANATŪ WHAKAHIATO TAIOHI
Administered by the Ministry of Social Development

InternetNZ

Manatū Taonga
Ministry for Culture & Heritage

ministry for Women
Manatōnga mō ngā Wāhine

TIN100

connect SMART
Protect yourself online

DATA FUTURES PARTNERSHIP

KA HAO

IT Professionals
NEW ZEALAND

SIU
SOCIAL INVESTMENT UNIT

Ministry for Primary Industries
Manatū Ahu Matua

Crown Fibre Holdings

Tertiary Education Commission
Te Amorangi Mātauranga Matua

Te Puni Kōkiri
REALISING MĀORI POTENTIAL

Ministry of Transport
TE MANATŪ WAKA

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

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