

The Business Growth Agenda Progress Reports

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BUILDING:

- EXPORT MARKETS
- **INNOVATION**
- SKILLED AND SAFE WORKPLACES
- INFRASTRUCTURE
- NATURAL RESOURCES
- CAPITAL MARKETS

Building Innovation



August 2012

New Zealand Government

Ministers' Foreword

We are pleased to present this progress report on the Government's work to encourage innovation and build stronger economic growth for New Zealand.

New Zealand has a proud history as a nation of innovators. *Building Innovation* lays out the challenge of building on this strength, taking advantage of all our opportunities, encouraging greater investment in research and development right across the economy, and better commercialising smart ideas into successful products.

In recognising the importance of innovation as a catalyst for economic growth, the Government has committed to establishing the Advanced Technology Institute (ATI) to better link scientific research with the high-value manufacturing sector. It is about getting our best ideas out of the lab and into the marketplace faster.

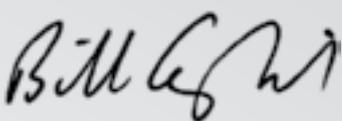
Capital, a ready market, a skilled workforce, the necessary resources, and the right public infrastructure, are all important for a business to be successful. But it can be argued that it is the innovative product or service, the intellectual property a firm can bring to bear, that is the real determinant of its success. Making it easier for firms to access all six key inputs to business is the focus of the Government's Business Growth Agenda.

The Government has established six informal portfolio groups of Ministers, specifically grouped around the work streams, to drive the Business Growth Agenda forward and focus on what matters to businesses and companies. This progress report tells you where we are at in the *Building Innovation* stream.

We want your feedback to assist us in focussing our efforts. We encourage you to engage with the relevant Ministers and officials to give us your views on the programme.

Nothing creates jobs and boosts incomes better than business growth. For New Zealand to build a more productive and competitive economy, we need more innovative companies out there selling their products on the world stage.

If we want faster economic growth for our country then more innovation is essential.



Hon Bill English
MINISTER OF FINANCE



Hon Steven Joyce
MINISTER OF SCIENCE AND INNOVATION

Building Innovation Group of Ministers:

Hon Steven Joyce
Hon David Carter
Hon Murray McCully
Hon Craig Foss
Hon Amy Adams

The Business Growth Agenda

It is businesses that drive economic growth and build a more successful economy.

Growing competitive businesses creates jobs and increases exports to the world. Nothing creates sustainable high-paying jobs and boosts our standard of living better than business confidence and growth.

Building a more competitive and productive economy for New Zealand is one of the key priorities the Prime Minister has laid out for this Government to achieve. The Business Growth Agenda will drive this by ensuring the Government stays focused on what matters to business, to encourage confidence and further investment.

There are six key ingredients that businesses need to succeed and grow. By focussing on these ingredients we will ensure businesses have the opportunity to lead economic growth.

The six key areas in the Business Growth Agenda are:



This is one of a series of progress reports each focussing on one of the six elements needed for business growth. These reports give a clear picture of the advances in each area of work and the projects the Government is focused on, both to provide transparency to businesses and to obtain feedback. The Government is holding itself accountable to the business community and to the public to achieve tangible progress.

The new Ministry of Business, Innovation and Employment is working alongside other agencies to coordinate the agenda and ensure businesses can more easily access the advice and support from Government agencies they need to be successful.

Introduction

The future prosperity and wellbeing of New Zealanders depends on improving economic productivity and competitiveness.

We need to build on our strengths and create new ones. Successful innovation improves competitiveness, increases our output, drives productivity growth, and creates successful exports by introducing new or improved products, processes, or methods into the economy. Innovation is also essential to improving environmental, social and health outcomes.

There is significant scope for New Zealand's firms to be investing more in innovation, and realising stronger gains from their efforts. This requires a high-performing and responsive system – from the science base, to human capital, to the business environment. Building a high-performing well-integrated innovation system is crucial to New Zealand's future and to creating a place where talented people want to live.

Building innovation is central to building a more productive and competitive economy and is clearly linked to the Government's other strategic priorities:



Responsible management of the Government's finances is essential to creating a business environment conducive to innovation. A balanced fiscal budget helps to create the stable business environment required for firms to compete successfully in world markets. It lowers the cost of financing for businesses and the risk of investing in, and from, New Zealand. This enables innovative businesses to invest more confidently in activities that take time to see a return.

Innovation in public services can increase productivity, improve delivery and lower the costs faced by businesses and members of the public in interacting with government. This can in turn promote innovation elsewhere.

Science and research can provide the evidence to improve the policy decisions and create the new technologies to improve services.

Having government-funded research institutions and the tertiary education system well-connected to businesses will increase the number of innovative ideas that can be commercialised in New Zealand to create value.

Innovation and research are vital contributors to the Christchurch recovery. Science is literally underpinning the rebuild, with around 150 scientists and engineers attached to the Natural Hazards Research Platform providing research and knowledge related to the Canterbury earthquakes. Information about seismicity and liquefaction is being used to understand economic impacts and develop engineering solutions.

Christchurch has a strong base of high value manufacturing and services businesses, plus a key role in servicing the primary sector across the Canterbury region. These industries are the base for the economic rebuild of the city; and are being assisted with research and development co-funding, the development of the Advanced Technology Institute – which will have a base in the city, plus planned innovation precincts in the central business district and at Lincoln.

Innovation matters

Innovation and science need to play a bigger role in achieving stronger economic growth for New Zealand

There are two ways to grow an economy. The first is to increase the quantity of inputs that go into production – capital and labour. The second is discovering and applying new ways to produce more with the same quantity of inputs – this is innovation. Innovation is the introduction of a new or significantly improved product, process or method. Innovation increases the productivity of firms and the whole economy and creates sustainable long-term GDP per capita growth.

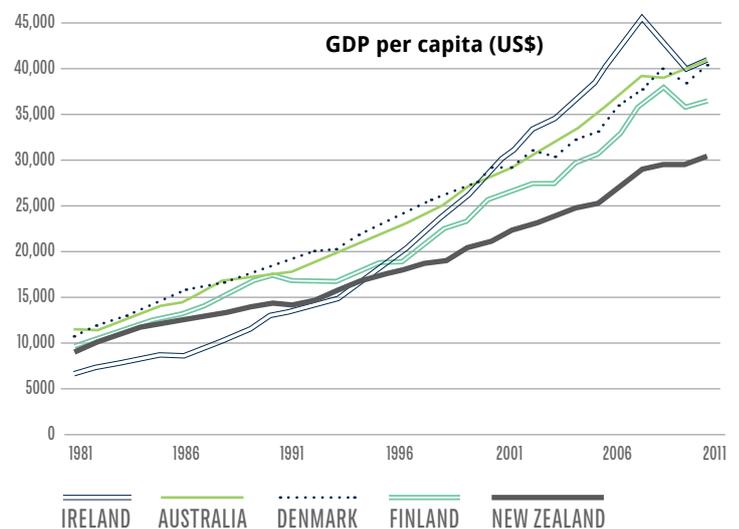
New Zealand has a strong primary sector. Seventy percent of our goods exports by value are primary products, about half of which are unprocessed. A significant proportion of export growth in the last eight years has come from primary products. We need to build on this strength by innovating and moving up the value chain, and also take advantage of our strength in agricultural technologies. But if we are to achieve good economic outcomes for New Zealanders, we also need to keep developing other parts of our economy.

Firms, often supported by innovative scientists and engineers, create valuable products and services that drive economic growth. For New Zealand's current and future prosperity and wellbeing, firms and scientists will need to innovate more. The Government will support the evolution of the innovation and science system to assist our firms and scientists to succeed.

- Primary products - unprocessed
- Primary products - processed
- Manufactures - simply transformed
- Manufactures - elaborately transformed
- Miscellaneous, unclassified and confidential trade

Source: Statistics New Zealand, 2011

New Zealand's GDP per capita has grown more slowly than other comparable countries



Source: OECD Main Science and Technology Indicators 2011 Volume 2

A third of goods exports are unprocessed primary products



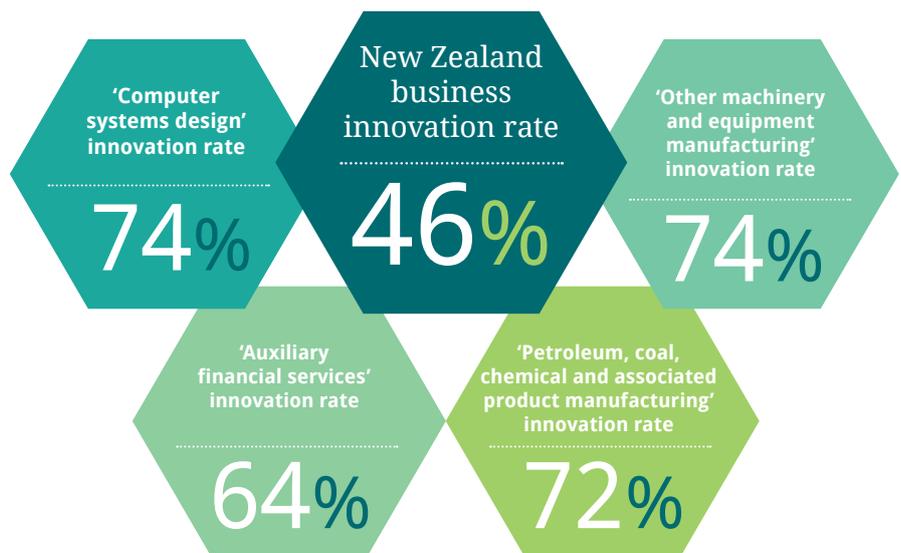
State of the Play

The role of innovation in driving growth in advanced economies is more important than ever

The proportion of New Zealand businesses reporting innovation activity has remained steady at 46% for the last five years. New Zealand has many innovative firms, but a lower proportion than in other countries. The Government is focused on supporting businesses to innovate, for instance by developing the new Advanced Technology Institute.

This follows the *Powering Innovation* report which found that the high value manufacturing and services sector has the potential to generate a step change in economic growth and social well-being in New Zealand.

The industries in New Zealand with the highest proportion of innovators are in the 'other machinery and equipment' sector and in 'computer systems design'

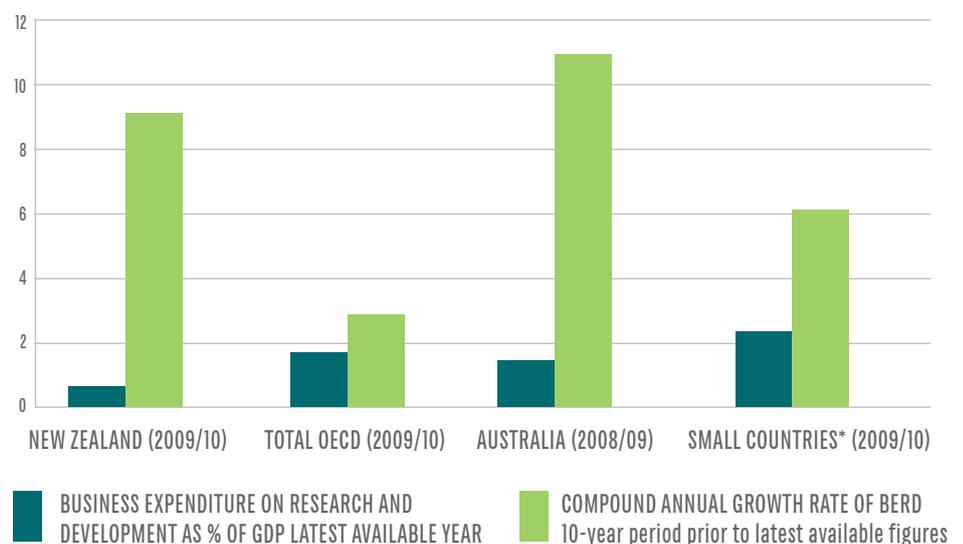


Note: Innovation rates are presented as a percentage of all business that meets survey criteria.

Source: Statistics New Zealand Business Operations Survey Innovation Module, 2012

New Zealand's level of business expenditure on research and development has been growing rapidly, but the total remains low by international standards. Other countries such as Australia, Denmark, Finland, Israel and Singapore have all significantly lifted their business research and development (BERD) spending since 1990. New Zealand faces some significant challenges in raising BERD as we have a relatively low share of R&D intensive industries (e.g. pharmaceuticals), we are a long way from markets, which increases risks for innovators, and we have few of the very large firms that dominate R&D around the world.

New Zealand's level of business expenditure on research and development has been growing fast, but is low by international standards



(1) Statistics New Zealand Research and Development Survey. Last update: April 2011. Next update: April 2013.
 (2) OECD Main Science and Technology Indicators. Last update: July 2012. Next update: January 2013.

* Denmark, Finland, Israel and Singapore.

Compared to other OECD countries New Zealand has strengths in our research base. But we also have weaknesses, particularly in the areas of business R&D, venture capital, and patent activity. These are currently being addressed through research and development co-funding, the New Zealand Venture Investment Fund, and reform of the Patent Legislation Act respectively.

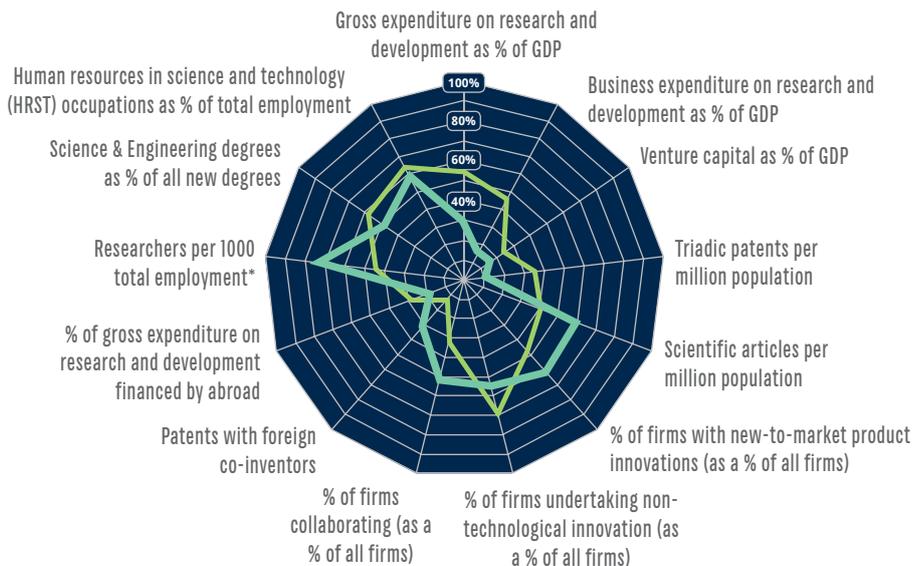
— AVERAGE
— NEW ZEALAND

*The New Zealand figure is overestimated relative to the OECD average because Masters students are included in the New Zealand figure

Note: data is not available for every OECD country on every measure.

Source: OECD Science, Technology, and Industry Outlook 2010

New Zealand has strengths and weaknesses in science and research and development compared to other OECD countries



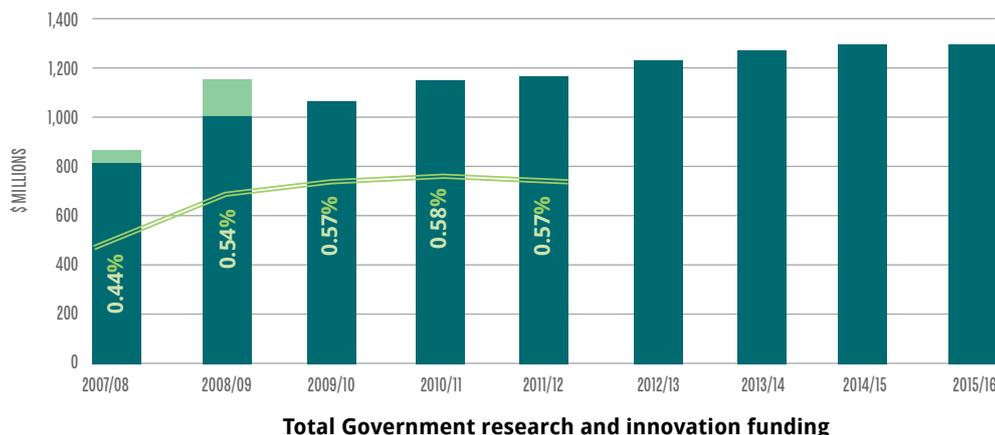
Taxpayers are investing more in research and innovation in 2012/13 than ever before. The total cross-government expenditure is budgeted to reach \$1.25 billion this year. Further committed investment in the Performance-Based Research Fund (PBRF), National Science Challenges, and the Advanced Technology Institute (ATI), will lift total annual expenditure to around \$1.3 billion in 2014/15.

■ Research and development tax credit
■ Direct science funding
— Percentages of GDP for relevant year

Budget 2007/08 as a percentage of GDP 2008

Note: includes science funding in Votes Science and Innovation, Foreign Affairs and Trade, Primary Industries, Tertiary Education and Revenue

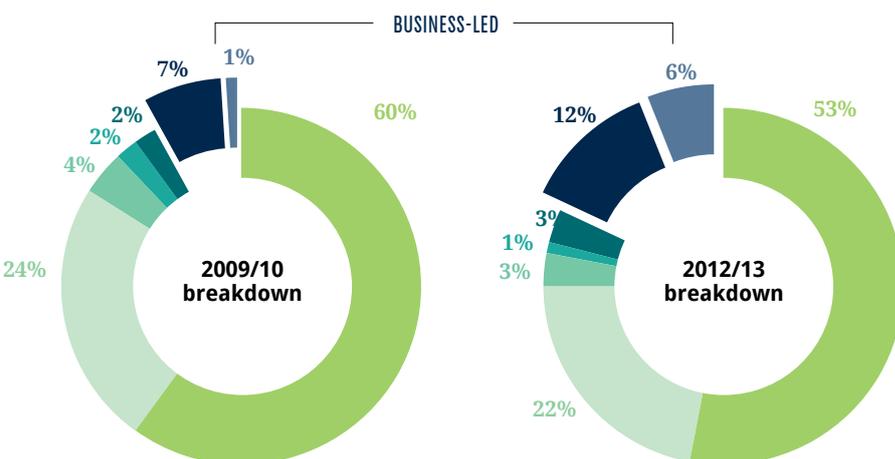
Government investment in research and innovation is growing



As Government investment in research and development increases, proportionately more is being invested in business-led projects. For example there has been over a quarter of a billion dollars of government investment in the Primary Growth Partnership (PGP). Total PGP and industry investment is currently \$590 million. The Government is also investing \$115 million per year of Tech NZ R&D co-funding in the high value manufacturing and services sector and biological industries.

The Government is investing proportionately more in business-led research and development

■ Primary Growth Partnerships
■ Other government
■ Centres of Research Excellence
■ Vote S&I science-led
■ Vote S&I business-led
■ Tertiary Scholarships
■ PBRF



Supporting high value manufacturing and services

Advanced Technology Institute

While New Zealanders are great at coming up with smart ideas, we need to become more successful at translating those ideas into commercially successful products.

The Government recognises that a key driver to getting more ideas off the drawing board and into the marketplace is creating better linkages between the worlds of business and science. To that end, it has committed \$166 million over the next four years to create an Advanced Technology Institute (ATI) (\$90 million opex and \$76.1 million capex). The Institute

will become a high-tech HQ for innovative New Zealand businesses and will focus on industries with significant growth potential such as food and beverage manufacturing, agri-technologies, digital technologies, health technologies, therapeutics manufacturing, and high-value wood products.

The ATI will incorporate much of the operations of Industrial Research Limited and will have operations in Auckland, the Hutt Valley and Christchurch. It will help high-tech firms – from start-ups to established

performers – become more competitive by better connecting them with innovation expertise and facilities. Through one gateway firms will be able to access expertise both within the ATI and across New Zealand's Crown research institutes, universities, polytechnics, and other research organisations.

The ATI was a key recommendation of last year's *Powering Innovation* report, which looked at how to boost the growth of firms in the manufacturing and services sectors.

Case study

Douglas Pharmaceuticals

Douglas Pharmaceuticals is a successful exporter that sells its products to 38 countries and is committed to growing a dynamic pharmaceutical industry in New Zealand.

Douglas Pharmaceuticals was founded on a classic piece of Kiwi innovation – West Auckland chemist Sir Graeme Douglas couldn't source the products he wanted for his pharmacy, so he started making his own.

The first item Graeme produced was a cough syrup, but he soon developed further products and began importing others. By the 1990s, Douglas

Pharmaceuticals was exporting to Australia and South-east Asia. The company now sells to 60 distributors in 38 countries.

Research and development is fundamental to developing pharmaceuticals. Douglas Pharmaceuticals has consistently reinvested in research and development projects. Its current research and development budget is around 10% of annual turnover. The company has a state-of-the-art custom-built facility and a sophisticated stage-gating product development process.

The pay-off will be winning more customers offshore and more than doubling the number of products sold in export markets. Douglas Pharmaceuticals aims to have sales of NZ\$250 million compared to NZ\$136 million in 2010/11.

In addition to offering work experience to students and employment to graduates, Douglas Pharmaceuticals is investigating commercialisation opportunities for research carried out in universities and Crown research institutes.

Lifting investment in research and development

1.30%

Total New Zealand expenditure on research and development as a percentage of GDP (2010)

New Zealand currently spends 1.3% of GDP on research and development (2010). The OECD average is 2.4%.

0.54%

Business expenditure on research and development as a percentage of GDP (2010)

Business expenditure on research and development was 0.54% of GDP in 2010, up from 0.41% of GDP in 2002. The OECD average is 1.62% of GDP.

0.59%

Government funding* of research and development as a percentage of GDP (2010)

Government funding of research and development was 0.59% of GDP in 2010, having gone from 0.49% of GDP in 2005. The OECD average is 0.73%.

* Note: This measure relates to funding rather than expenditure.

The Government is committed to:

Creating the right business environment and incentives to encourage the business sector to double their expenditure on research and development to more than 1% of GDP

Businesses know best what the right level of expenditure on research and development is for them. The Government can, however, create the right business environment and incentives for businesses to be able to invest more in research and development.

The effective use of research and development expenditure to create sought-after innovative products helps grow great businesses. New Zealand has a number of growing innovative businesses but we need more if we are to become a wealthier country and lift our overall growth rate, to the benefit of all New Zealanders.

New Zealand faces some significant challenges in raising BERD. One-half of all business R&D around the world occurs in three industries: motor vehicles, electrical equipment and pharmaceuticals. New Zealand has

a relatively low share of these R&D-intensive industries. Further, the bulk of business R&D effort internationally is undertaken by a relatively small number of very large firms, and few New Zealand businesses are at that scale.

New Zealand is also some distance from international markets and Kiwi businesses tend to over rely on bank debt and internal sources of capital which can restrict funding for R&D.

While individual businesses are best placed to decide the right level of expenditure on R&D for them, the Government can help create the right

macroeconomic business conditions, competitive tax rates and prudent fiscal and monetary policy to give firms the confidence to invest further in innovation.

There are also a host of micro-economic policies that can help encourage firms to invest back into their products and services. The following pages list a range of initiatives that will help double the business sector's investment in research and development – and lift New Zealand's overall productivity and growth.

Innovation in New Zealand means building on our strengths and diversifying the economy into new areas

Case study



Farm IQ

Farm IQ is a seven year innovation programme, funded by the PGP, Silver Fern Farms and Landcorp. Its vision is to create a demand-driven integrated value chain for red meat that delivers sustainable benefits to all participants: farmers, processors and marketers. It is also intended to demonstrate the value of a consumer requirements-led, value chain approach, rather than the traditional New Zealand red meat industry production-driven approach.

The programme consists of a range of projects covering market analysis, processing improvements and measurements, genetics and genomics, along with improving on farm productive capacity – all underpinned by an information system.

More than 300 sheep, beef and deer farmers are testing this system by adding individual animal data into a pilot database. These pilot red meat farmers are supported by regionally-based business managers,

and have a private secure website where tips, learning, research information and feedback are shared, along with monthly e-newsletters.

“I’m involved because I want to lift my bottom line”

Neil Aicken of Waikawa Farms is one of the six recently announced IQ Farms set up to demonstrate the full potential of the programme. “I’m involved because I want to lift my bottom line. It’s very exciting to be part of. The six IQ Farm farmers were together recently and the enthusiasm in the room was amazing. They’re all guys doing something different and passionate.”

Case study

Research and development underpins Endace’s global success

Constant innovation and a global mindset have propelled New Zealand company Endace into its position as a world leader in network monitoring and recording.

In December 2010, the company was one of the first beneficiaries of a Technology Development Grant from the Ministry of Business, Innovation and Employment (then Foundation for Research, Science and Technology). The co-funded grant, worth up to \$6.7 million over the next 36 months, has enabled Endace to further

accelerate its development of ultra-high performance network monitoring and recording systems.

Research and development (R&D) is the lifeblood of Endace. CEO Mike Riley estimates that around 25% of revenue goes into R&D and 65 of the 90 staff working at the company’s R&D operation are focused on creating new intellectual property. Endace was spun out of the University of Waikato in 2002.

The company has enjoyed strong export growth in recent years. Its current market cap is approximately \$95 million. It has offices in the United Kingdom and the United States, and sells its products in over 30 countries, with the US accounting for around 60% of sales. Endace’s products are used by government agencies, large enterprises and organisations that have the responsibility for monitoring, measuring and protecting critical infrastructure.

Initiatives

We are committed to New Zealand becoming a more innovative nation where scientific development and innovation underpin a prosperous and sustainable economy and society.

This requires us to undertake improvements across the innovation system. The Government's investment in science needs to be better targeted at maximising value for the economy and New Zealanders. Firms need to be encouraged and supported in investing in innovation. And scientists and

firms need to work more closely together to commercialise innovations. At the same time, our skills need to improve, our international linkages strengthened, and our business environment made more competitive.

Encouraging Business Innovation

A large number of businesses undertaking innovation, and innovating to a high level, in products and services, across all sectors of the economy.

Strengthening Research Institutions

Superb research institutions that undertake research and support commercialisation that is relevant to and creates value for New Zealand.

Boosting Public Science Investment

Investing in research relevant to New Zealand that offers opportunities for commercialisation, whilst achieving value for taxpayers.

Growing the Innovation Workforce

A tertiary education and skills policy that develops science and business skills to ensure New Zealand can compete in an innovative world and is a place where talented people want to live.

The Government is focussing on *Building Innovation* in these key areas:

Developing Innovation Infrastructure

The infrastructure to enable people and businesses to innovate successfully.

Building International Linkages

Superb formal and informal international links spanning trade, culture, investment, and research with countries around the world.

Improving Intellectual Property Settings

Effective intellectual property settings that create an environment where businesses can effectively create, manage, and utilise intellectual property.

The following pages set out the actions in each of these themes. Taken together, the actions in this report and across the Business Growth Agenda will provide the basis for a productive, competitive and innovative economy that can deliver the prosperity and wellbeing New Zealanders aspire to.

Case study

WilliamsWarn

Ian Williams and Anders Warn blended beer-industry and design skills to develop the world's first personal home brewing appliance.

With a successful career and impressive resumé, master brewer Ian Williams wasn't looking for innovation but he couldn't ignore a great opportunity when it crossed his path in 2004. While lamenting the poor quality of his own home brew

“Having MBIE partner with us was a big endorsement and worth ten times the actual money. It's taken the pressure off all the investors.”

one Christmas, Ian's uncle remarked that whoever could solve the problems associated with home brewing would become a millionaire.

The idea took root and Ian has spent the past seven years developing a revolutionary homebrewing appliance that delivers

cold, clear and perfectly carbonated beer in just seven days. He brought a team together with the skills needed to ensure WilliamsWarn became a successful business. This included partner Anders Warn, Sam Wood, who runs an engineering business in Hastings, an angel investor and two other associates with the necessary design skills.

The WilliamsWarn team faced big challenges. Ian poured all his money into the project and Anders and Sam were also major investors but they were still short of funds to pay for R&D and commercialisation.

In 2010, WilliamsWarn sought help from the Ministry of Business, Innovation and Employment (MBIE) (then the Foundation for Research, Science, and Technology) working through a Regional Business Partner at the Hawke's Bay Regional Council. MBIE invested \$200,000, which was used to develop and test prototype units and carry out research into beer ingredients and the brewing industry.

Ian says getting MBIE's support has been significant. “More than anything, it's been important psychologically. Bringing this project together has been incredibly stressful. Having MBIE partner with us was



a big endorsement and worth ten times the actual money. It's taken the pressure off all the investors.”

The WilliamsWarn personal brewery, which Ian believes to be the world's first personal brewing appliance, is initially being sold in New Zealand, but there are plans for global expansion. The company produced an initial batch of 60 machines in April 2011 and these have since sold out. They have now launched the personal brewery in Australia and have been approached by 200 distributors in 50 countries interested in distributing the home-brewing device.

Case study

Rakon

Rakon is a global high technology company that designs and manufactures world leading frequency control solutions. Rakon products are at the forefront of enabling connectivity, faster and more reliably.

Rakon was established by Warren Robinson in 1967 to produce crystals for communications equipment. It developed quickly as a family business when the founder's two sons, Brent and Darren Robinson, joined the business in the late 1980s.

Today Rakon is the chosen partner for many of the world's leading electronics manufacturers' and biggest technology brands.

Rakon targets markets that demand high performance and reliability and have high-growth potential, such as GPS for positioning, navigation devices, smart phones and tablets, 4G telecommunications

infrastructure and space satellites.

During the 1990s, Rakon used research and development (R&D) to produce technically superior crystals for the rapidly growing GPS market. The company has held this position of technical superiority for the past two decades and has continued world leading R&D.

Government co-funding enabled Rakon to develop modelling capability that enables quartz crystal oscillators to be designed to customer specifications. Successive R&D projects have helped Rakon to position its technology into the high growth smart wireless market of smart phones and tablets.

Since 1996, Rakon's revenue has grown from \$13 million to \$178 million in FY2012 and the company's New Zealand based staff has grown from 135 with five staff doing R&D to 425 staff with 92 R&D staff. Rakon's global

staff numbers are over 2100 including joint ventures in India and China.

Rakon has also secured a leadership position in the emerging high-growth market of small cellular base stations, known as small cells – this should pay off in significant revenue increases in coming years as the technology gets deployed globally.

Rakon listed on the NZX in 2006, with the Robinson family retaining 23% of the shareholding. The company's share register remains over 95% New Zealand owned.

Since 2006 Rakon has transitioned to become one of the largest global providers of frequency control solutions and has built a world class R&D and global manufacturing platform in New Zealand, the United Kingdom, France, India and China; offering a complete and diversified product portfolio into multiple high growth markets.

Encouraging Business Innovation

A large number of businesses undertaking innovation, and innovating to a high level, in products and services across all sectors of the economy

Lifting productivity is central to raising New Zealand’s living standards. But the level and growth rate of New Zealand’s multi-factor productivity (a measure of the influence of innovation and technology) has remained consistently low relative to the rest of the OECD. New Zealand needs more firms to undertake more innovation across all sectors of the economy to increase productivity. The Government

is committed to generating more business innovation by supporting more firms to innovate in ways that respond to market needs and opportunity and to see the value of innovation. This also involves ensuring the business environment, including regulatory settings, is set to give firms confidence to innovate. To do this the Government is taking these actions...

Develop the Advanced Technology Institute to encourage business innovation in high-value manufacturing

The Government is creating an Advanced Technology Institute (ATI), to be a “high-tech HQ” for the high value manufacturing and services sectors. The ATI will support firms in the manufacturing and services sectors to improve their competitiveness and grow through science and technology-based innovation and its commercialisation. The ATI will be established in the 2012/13 financial year and will incorporate much of Industrial Research Limited. New money has been allocated in the Budget for this, totalling \$166m over the next four years.

Use expanded TechNZ co-funding to encourage business innovation

The Government has increased direct support for business research and development through the MBIE TechNZ suite of programmes of \$115 million per year. These programmes use government co-funding to grow private sector R&D investment and encourage business innovation.

Implement Primary Growth Partnership

The Primary Growth Partnership (PGP) is a government-industry initiative investing in significant programmes of research and innovation to boost the economic productivity, growth and sustainability of New Zealand’s primary, forestry and food sectors. Investments cover the whole of the value chain, including education and skills development, research and development, product development, commercialisation, commercial development and technology transfer. The combined government and industry investment in the PGP is nearly \$600 million (with over a quarter of a billion dollars from government).

Increase the proportion of total public innovation investment dedicated to firm-led innovation

The Government currently invests \$1.6 billion per year in science, business research and development, business capability, and support for firms to internationalise. Work is underway to ensure New Zealand has the right balance of funding, incentives, and instruments across these activities to ensure that we are getting the greatest value to New Zealand from our investments.

Identify and implement improvements to incubator settings, including examining international models

Not enough innovative high-growth firms are being created in New Zealand and staying located here, and growing to the point where they generate significant economic benefits as well as stimulate innovation in other firms. The Government is investigating ways to improve our incubator model so that more potential high-growth firms successfully complete the ‘seed’ commercialisation stage and launch their product.

Maximise the competitiveness of the New Zealand business environment

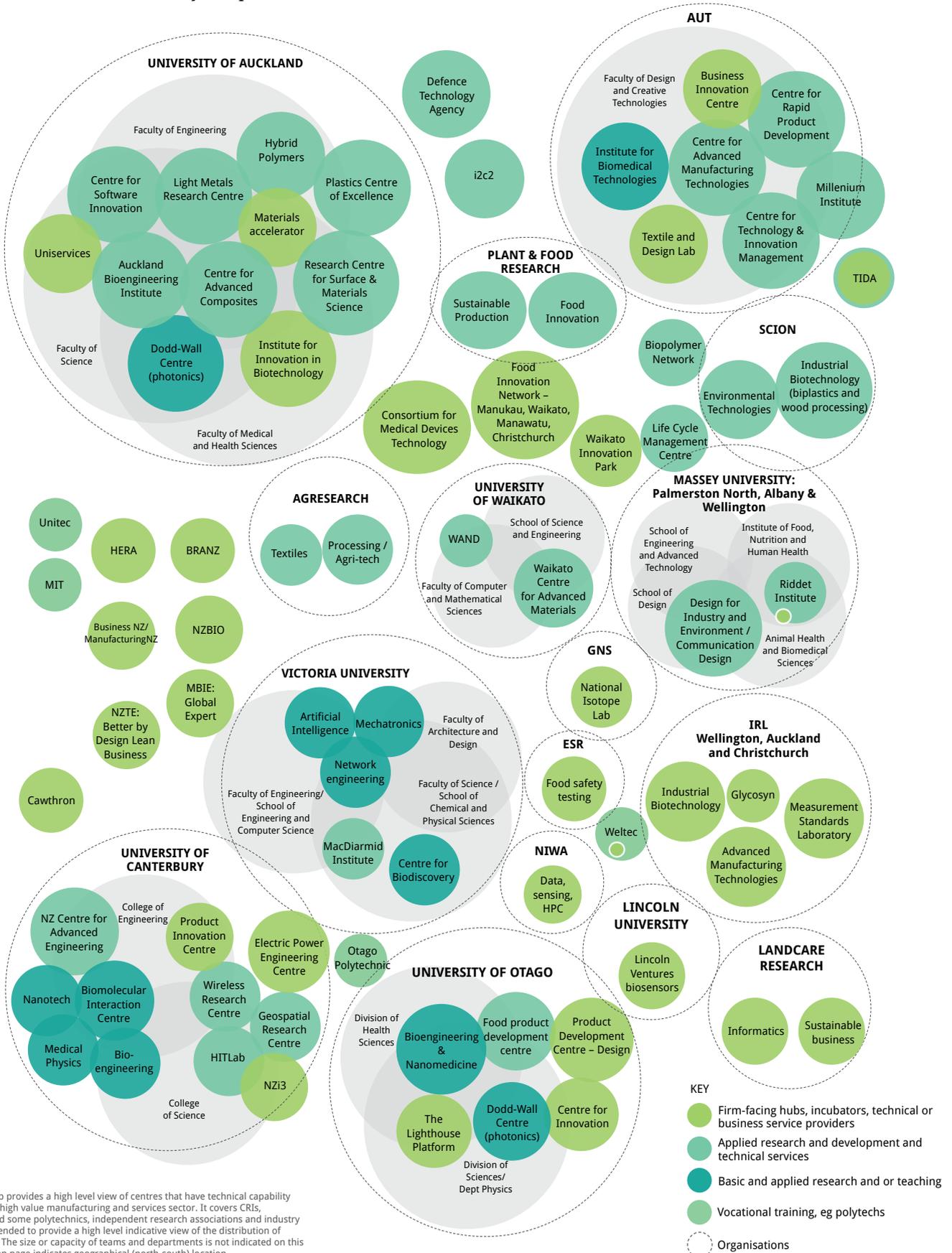
Competition is one of the most important catalysts of innovation. Successive New Zealand governments have sought to foster a competitive domestic market, but this can be challenging given our small population and remoteness. We are currently below the OECD average in this area. The Government is improving the business environment by reforming consumer law, and deterring anti-competitive conduct while promoting pro-competitive collaboration through the Commerce (Cartels and Other Matters) Amendment Bill.

Other actions the Government is taking to encourage Business Innovation



Technical expertise in high value manufacturing and services

This diagram of research facilities linked to the high value manufacturing and services sector is illustrative of the very complex research sector we have in New Zealand.



Notes: This map provides a high level view of centres that have technical capability relevant to the high value manufacturing and services sector. It covers CRIs, universities, and some polytechnics, independent research associations and industry bodies. It is intended to provide a high level indicative view of the distribution of capability only. The size or capacity of teams and departments is not indicated on this map. Position on page indicates geographical (north-south) location.

Strengthening Research Institutions

Superb research institutions that undertake research and support commercialisation that is relevant and creates value for New Zealand

We have some world class science research capabilities in fields such as agricultural science, veterinary science, and geothermal engineering. However, not enough of this science is commercialised to create value for New Zealand. There needs to be more interaction between business and researchers, greater exchange of information and people, more joint research projects, and ventures to commercialise

research. Universities, Crown research institutes (CRI) and polytechnics need to do more to become centres of innovation, undertaking superb research and being drivers of economic growth. The Government is committed to investing in science and strengthening incentives and opportunities to commercialise innovations. To do this the Government is taking these actions...

Review Centres of Research Excellence and evaluate opportunities for a flexible or cross-institutional research model

The Centres of Research Excellence (CoREs) were created in 2001 to encourage the development of excellent tertiary-education based research that is collaborative, strategically focused and creates significant knowledge transfer activities. Investment reached \$34 million per year in 2010. The CoREs review is evaluating the effectiveness of the policy and how the CoREs model fits within both the tertiary sector and the broader science and research sector to achieve the Government's economic as well as social and environmental objectives.

Strengthen the governance of universities to ensure a stronger economic contribution to New Zealand

Changes to governance settings are being considered in order to help universities to become more agile institutions able to

respond better to economic fluctuations, population shifts, changes in demand and performance, students' and employers' needs in different regions, and unexpected crises, such as the recent economic downturn and the Canterbury earthquakes.

Further develop core funding model for CRIs to incentivise agreed performance

The role, purpose, outcomes and scope of CRIs were defined by Cabinet in 2011 in Statements of Core Purpose. Core funding allows CRI boards to strategically invest to meet their core purpose. MBIE leads the process to ensure that CRIs are delivering on their outcomes and are financially viable. On-going monitoring will be supported by performance assessment of the delivery of benefit to New Zealand.

The performance framework of CRIs, particularly in the area of technology transfer, is being improved by introducing performance based funding and ownership

mechanisms. MBIE is in the process of developing more performance based tools in 2012 that recognise and reward high performance.

Help businesses interact more effectively with research institutions

New Zealand has a very large number of research institutions for a country of its size. Businesses looking to engage in research face a complex and bewildering landscape. The Government is working to simplify the interactions between businesses and research institutions, and ensure cross-institutional linkages that provide scale for research activities. The Advanced Technology Institute will assist that process. It will gather together R&D co-funding, research, testing services, access to facilities, and links to other institutions, in one organisation that businesses can use as a one-stop shop.

Other actions the Government is taking to strengthen research institutions



Boosting Public Science Investment

Investing in research relevant to New Zealand that offers opportunities for commercialisation, whilst achieving value for taxpayers

The Government invests in science to achieve economic, social and environmental benefits for society. In particular, science underpins the innovation required to significantly improve the performance of the economy. Government funding for research and development was 0.59% of GDP in 2010. Investments are made through contestable grants, investigator-led grants, the Performance-Based

Research Fund (PBRF), and the Primary Growth Partnership among others. New Zealand needs to increase the value to taxpayers from these investments so that they drive our economic growth and support our environment and society. The Government is committed to increasing the value to New Zealand from these investments. To do this the Government is taking these actions...

Launch the National Science Challenges to seek answers to core science questions New Zealand faces

A science challenge approach will be implemented as a new science funding mechanism in 2013. This approach will be used to focus effort on some of the most important challenges for New Zealand. The Government will provide additional research funding to stimulate new activities to solve each challenge. The public will be asked to help identify New Zealand's biggest challenges. Researchers will work together to find innovative solutions to solve the problems within a defined time frame.

Increase the Performance-Based Research Fund to \$300 million per annum

The PBRF is the primary government funding tool for investigator-led research at New Zealand tertiary institutions. It is designed to support the quality of research-led teaching at universities, polytechnics and Wananga. The government committed to increasing the size of the fund by 20%, from \$250 million a year to \$300 million a year, by 2016, by appropriating an additional \$100 million over four years.

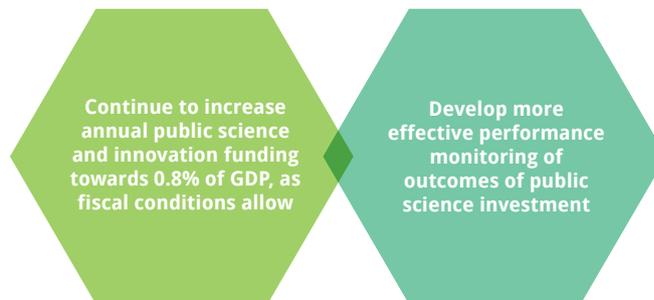
Review the operational settings of the Performance-Based Research Fund

The PBRF has been in place since 2003. The PBRF review provides an opportunity to check the policy settings for the PBRF, including whether it supports innovation, technology transfer, and commercialisation sufficiently. In particular the Government wants to assess whether it inadvertently restricts the movement of scientists between the academic and commercial sectors.

Develop a statement of science investment priorities to clearly articulate the core target areas for science research

In 2012/13, the Government will invest \$784 million through Vote Science and Innovation to achieve economic, social, and environmental benefits, an increase of \$48 million from the previous Budget. The Statement of Science Investment Priorities will specify the priorities for Vote Science and Innovation across mission-led, business-led, and investigator-led activities, and will align with the National Science Challenges.

Other actions the Government is taking to improve public science investment



Developing Innovation Infrastructure

Ensuring the infrastructure is in place to enable people and businesses to innovate successfully in New Zealand

Firms and innovators need world class infrastructure to assist them to develop and commercialise their innovations. Traditional public infrastructure such as electricity transmission and roading remains important, but high quality high-tech infrastructure is now equally important for innovation.

Whether it is for a pilot plant for food processing, or a high-tech research laboratory, the investment required is likely to be beyond that of small high-tech firms as they are starting out. Government has a role in ensuring that research institutions are willing and able to provide the infrastructure for successful research and innovation.

Improving New Zealand’s communication network will be a key enabling infrastructure for innovation. New Zealand’s expenditure on telecommunications infrastructure as a percentage of GDP has historically been lower than the OECD mean, and New Zealand is in the middle of the OECD pack for average advertised broadband download speeds. There are signs of improvement. For example, the number of broadband subscribers is increasing faster in New Zealand than in other OECD countries. The Government has embarked on a major investment to continue to lift telecommunications performance and enable greater innovation and growth.

Roll out Ultra-Fast Broadband through fibre to 75% of New Zealanders by the end of 2019

The Government has created a major public-private partnership to roll out fibre to 75% of New Zealanders (this includes homes, businesses and schools) by the end of 2019. The partnership is investing \$3–3.5 billion in the project (\$1.35 billion of this is government funding) that will create the biggest step-change in communications infrastructure since the introduction of the copper phone network. Fibre to the home will deliver ultra-fast broadband (UFB) speeds to cities and towns around New Zealand, and will encourage innovation in products, services and processes. By July 2013, 235,000 premises in UFB areas will be able to connect. By the end of 2015, priority users such as schools, hospitals, and 90% of businesses in the UFB coverage area will be able to connect to it.

Roll out the Rural Broadband Initiative

Outside the main urban areas, the Government is spending another \$300 million on upgrading rural broadband infrastructure, in order to deliver fast broadband services to rural subscribers. The rural fibre, Asymmetric Digital Subscriber Line (ADSL) and wireless services will be deployed fully within four years, and will greatly increase the opportunity for innovation in the primary sector and in our rural schools.

Manage the digital switch-over and next generation mobile services

The transition from analogue to digital television will enable more content to be broadcast at higher quality, using less radio spectrum. The move is being managed through the Going Digital programme, which will be completed by December 2013. The spectrum that is released is likely to be used for next generation cellular mobile services. These would otherwise soon become constrained by lack of availability of spectrum. It is intended that the spectrum

will be re-allocated before December 2013 so that it can be deployed to provide faster mobile broadband as soon as possible.

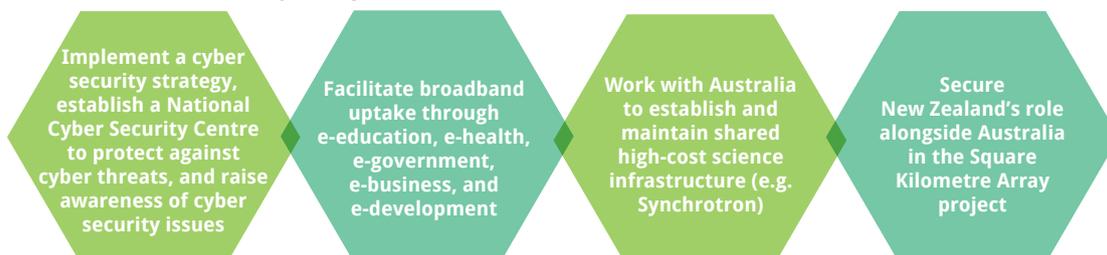
Investing in core science infrastructure

The Government has made significant investments in key high performing research infrastructure, including the RV Tangaroa, the NeSI Supercomputer network and the Australian Synchrotron.

Investigate and encourage the development of Innovation Parks

Clustering research providers, innovative private sector firms and start-ups in the same geographic location is a proven technique internationally for encouraging innovation by having highly-skilled individuals working in close proximity. The Government has set up a project to encourage the development of innovation precincts in New Zealand, including at the proposed Wynyard Quarter ICT precinct in Auckland, the IRL Gracefield campus in Lower Hutt, at Lincoln in Canterbury, and as part of the CBD rebuild in Christchurch.

Other actions the Government is taking to improve innovation infrastructure



Improving Intellectual Property Settings

Effective intellectual property settings that create an environment where businesses can effectively create, manage, and utilise intellectual property

Intellectual property rights are essential in incentivising and enabling firms to innovate. Intellectual property rights grant innovators a monopoly on their innovation for a limited period. New Zealand is among the upper tier of OECD countries on the strength of its intellectual property protection and the effectiveness of this, but scores

very low on the number of patents registered relative to our population. The Government is committed to further improving how intellectual property is created, managed, and utilised in New Zealand. To do this, the Government is taking these actions...

Complete the passage of the Patents Bill to more closely align New Zealand's patent settings with its trading partners

Passing the Patents Bill will align our patent laws more closely with those of our trading partners and international best practice. The current system was put in place in 1953 and needs updating for the twenty-first century.

Create a single trans-Tasman patents examination regime with Australia to simplify patent applications

A single trans-Tasman patents examination regime will align quality standards and outcomes of examination with Australia. This will enable New Zealand to leverage the trans-Tasman quality standards for broader international protection. It will also simplify the process for obtaining intellectual property protection and, covering a larger area, make applications much more worthwhile.

Other actions the Government is taking to improve intellectual property settings

Review Trade Mark regulations and implementation of the Madrid protocol

Investigate whether the intellectual property settings of public institutions are optimal for technology transfer

Explore opportunities for Government to improve the environment for firms' use of intellectual property

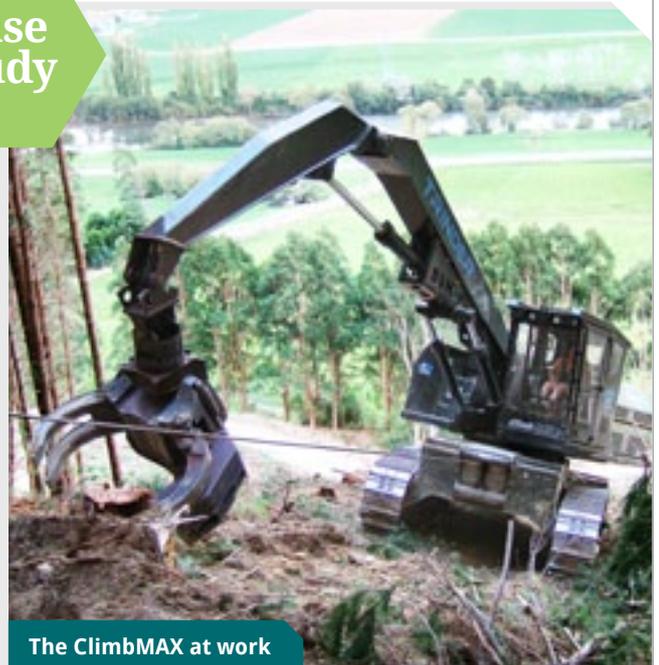
Steep Land Forest Harvester

"No worker on the slope, no hand on the chainsaw" is the vision of a 6 year PGP programme co-funded by Future Forests Research and the Government to improve productivity and safety of steep land harvesting in New Zealand. The targets are to: reduce harvesting costs by 25%; substantially grow harvest machinery manufacture in New Zealand; and make harvesting jobs safer and more attractive.

The centrepiece of the programme is the development of a remote controlled harvester which can operate on steep slopes without endangering workers. The "ClimbMAX" is being built by Kelly Logging and Trinder Engineers in Nelson. The programme is also developing improved cable harvesting systems.

"The benefits of this programme will be huge for the forestry industry and the economy. It is a great example of industry partnering with government to deliver innovation that will make a real difference to the competitiveness and safety of our industry." (Peter Clark, CEO PF Olsen Ltd.).

Case study



The ClimbMAX at work

Growing the Innovation Workforce

An innovation skills policy that develops science, engineering, design and entrepreneurial skills to ensure New Zealand can compete in an innovative world, and is a place where talented people want to live and work

Innovative ideas and technologies are created by skilled people in firms and research institutions. Other skilled people then turn these innovations into new products and services. Many of the best new products are design-led, where industrial designers work with marketers and engineers to develop products that meet a clear market need.

New Zealand has a relatively strong science skills base by world standards, and some notably innovative entrepreneurs, engineers and designers. But we do have skill

shortages in areas such as engineering and management that are crucial for turning innovations into success stories.

The Government is working to address these shortages and encourage young people to acquire the high-quality skills necessary for innovation. Competitive tax policies for highly skilled workers and our attractive quality of life will help ensure we can compete successfully with other countries for skilled workers into the future.

Lifting the profile of science

We are actively working to engage New Zealanders in science to excite future generations and to find more innovative solutions to issues facing New Zealand. Key activities under way include the National Science Challenges, the Rutherford Discovery Fellowships and building the public's understanding of science through the Prime Minister's Chief Science Advisor.

Complete a stocktake of post-PhD opportunities for young scientists

There has been a big increase in the number of students achieving doctoral degrees in New Zealand in recent years, and there is some debate around whether there are sufficient early career opportunities at post-doctoral level in science or in business. The Government is completing a stocktake of post-PhD opportunities for young scientists and of post-doctoral positions currently available in the tertiary and science sectors. The result of this stocktake will be used to assess whether current policy settings are in any way reducing opportunities for post-PhD scientists, and options for addressing those issues.

Increasing investment in engineering

New Zealand has an under-supply of engineers and we are training only about half the number we require. There is also a need to increase our investment in training scientists to help fuel the innovation required to grow the economy. Therefore the Government has committed \$158.9 million over four years to invest in engineering, science, and research-led learning in our tertiary institutions.

New initiatives over the next four years include:

- › Additional \$42 million operating funding for engineering (an 8.8% funding increase per equivalent fulltime student).
- › Additional \$17 million operating funding for science (a 2% funding increase per equivalent fulltime student).
- › \$100 million operating funding to increase the size of the Performance-Based Research Fund from \$250 million to \$300 million a year by 2016.

This will encourage tertiary institutions to focus on growing the number of engineering graduates and will complement

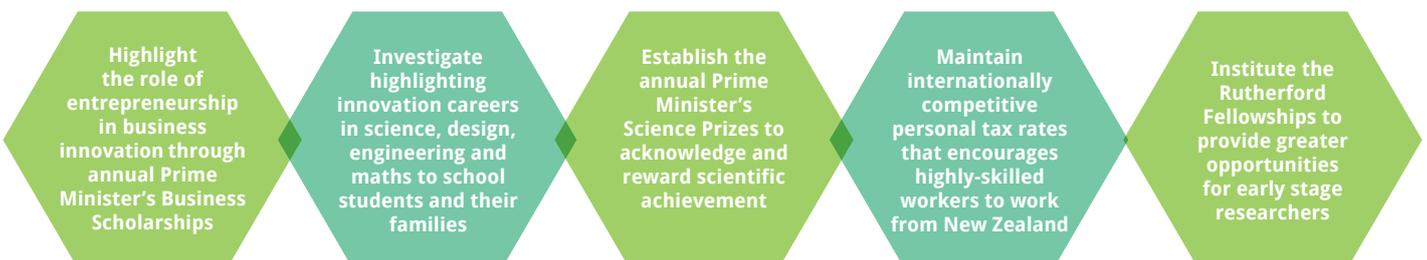
the Government's investment in the new Advanced Technology Institute.

The reality is, if we want faster economic growth for our country, then we must invest more in skills that will help grow the economy. To retain our competitiveness internationally, we need increased investment in engineering, science, and research.

Collect and provide better information on career prospects to students and the tertiary sector

There is an on-going mismatch between some of the skills needed for our economy and the subjects many students seek to study. While to some extent any degree teaches good generic skills to students, many industries require specialist technical skills. MBIE is sponsoring a new project that will collate and publish high-level demand-side information on the 10 year career prospects of a number of key occupations, to better inform senior school students, their families, and tertiary providers, as to which subjects will be in greater demand in the years ahead.

Other actions the Government is taking to boost the innovation workforce



Building International Linkages

Superb formal and informal international links spanning trade, culture, investment, and research with countries around the world

As a small nation, New Zealand does just 0.2% of the world's research and development activity. Utilising knowledge created elsewhere is therefore very important for developing our own innovations. Strong international

connectedness is crucial, and the Government is committed to strengthening New Zealand's international science and innovation relationships.

Establish a small advanced economies group

The Small Advanced Economies Initiative will establish an informal dialogue with a select number of small advanced economies focussing on how small countries position themselves for economic growth in a changing global environment. The initial meeting this year will focus on science and innovation and provide a forum to draw on expertise and best practice amongst the participants' key policy makers on how to maximise knowledge-based innovation to drive economic growth.

Develop mutually-beneficial science investment opportunities with Singapore

Science administrators and leaders from Singapore and New Zealand have exchanged visits and Minister Joyce has visited Singapore. The two countries have agreed to develop closer relationships in

science and innovation with an initial focus on nutrition, food science and advanced food products and related technologies. The lead agencies will be MBIE and Singapore's Agency for Science Technology and Research.

Work to achieve science and innovation opportunities identified in the China country strategy

Earlier this year the bilateral China-New Zealand Joint Commission on Science and Technology met in Hangzhou to confirm priorities under the 5-year New Zealand-China science roadmap. These include food, health environmental sciences and high technology platforms. To support these priorities, China and New Zealand have agreed to double their commitment of funds to joint scientific research. The Prime Minister's Chief Science Advisor has been appointed to the New Zealand China Council.

Actively encourage more multi-national companies to conduct research in New Zealand

The Government has hosted a discussion with major international and New Zealand food firms to develop a strategy to encourage the international food industry to develop advanced foods using the capacities of New Zealand researchers. A working party of MPI, MBIE and MFAT officials are now working with those companies and the research community to advance the agreed strategy.

Other actions the Government is taking to build international linkages



Progress Indicators

■	Completed
■	In progress
■	Implementing
■	New project

The Government is focussed on making substantial progress in the following *Building Innovation* initiatives

	Action	Progress	Lead	Also in
Encouraging Business Innovation	Develop Advanced Technology Institute to encourage business innovation in high-value manufacturing	In progress*	MBIE	
	Use expanded TechNZ co-funding to encourage business innovation	In progress	MBIE	
	Implement Primary Growth Partnership to lift private sector investment in primary sector innovation	Implementing*	MPI	Resources
	Increase the proportion of total public innovation investment dedicated to firm-led innovation	In progress	MBIE, MPI	
	Identify and implement improvements to incubator settings, including examining international models	New project	MBIE	
	Maximise the competitiveness of the New Zealand business environment to encourage innovation	In progress	MBIE	
	Replace R&D Tax Credits with targeted co-funding that incentivises measurable lift in firm R&D	Completed*	MBIE	
	Investigate whether tax treatment of R&D is discouraging firm R&D	New project	Treasury, IRD	
	Further leverage Better by Design Programme to encourage firms to undertake design-led innovation	In progress	NZTE, ATI	
	Simplify and modernise government procurement policy to encourage innovation and firm participation	Implementing	MBIE	Better Public Services
	Improve the standards infrastructure to support productivity and innovation	In progress	MBIE	
Strengthening Research Institutions	Further develop core funding model for Crown research institutes to incentivise agreed performance	New project	MBIE	
	Implement core contract funding for eligible independent research institutes	In progress	MBIE	
	Strengthen the governance of universities to ensure a stronger economic contribution to New Zealand	New project	MoE	Skills
	Help businesses interact more effectively with research institutions	In progress	MBIE	
	Review Centres of Research Excellence and evaluate opportunities for a flexible or a cross-institutional research model	In progress	MoE, TEC	Skills
	Ensure Centre for Agricultural Greenhouse Gas Research maximises progress in developing knowledge, practices and technologies that allow farmers to address agricultural emissions	Implementing*	MPI	
	Complete implementation of the Health Innovation Hub and ensure it meets needs of medical researchers	In progress*	MBIE	
	Complete the development and utilisation of the Food Innovation Network	Implementing*	MBIE	
	Encourage ATI to work alongside polytechnics to provide local tech transfer services to SMEs	In progress	MBIE, ATI	

	Action	Progress	Lead	Also in
Boosting Public Science Investment	Launch the National Science Challenges to seek answers to core science questions New Zealand faces	In progress*	MBIE	
	Increase the Performance-Based Research Fund to \$300 million per annum	In progress	MoE, TEC	
	Review the operational settings of the Performance-Based Research Fund	In progress	MoE	
	Develop a statement of science investment priorities to clearly articulate the core target areas for science research	In progress	MBIE	
	Continue to increase annual public science and innovation funding towards 0.8% of GDP as fiscal conditions allow	In progress	MBIE	
	Develop more effective performance monitoring of outcomes of public science investment	In progress	MBIE	
Developing Innovation Infrastructure	Roll out Ultra-Fast Broadband through fibre to 75% of New Zealanders by end of 2019	Implementing*	MBIE, CFH	Infrastructure
	Roll out the Rural Broadband Initiative to deliver high quality broadband and increase connectivity	Implementing*	MBIE	Infrastructure
	Facilitate broadband uptake through e-education, e-health, e-government, e-business, e-development	Implementing	MBIE	
	Manage the digital switch-over and next generation mobile services	In progress	MBIE	
	Secure New Zealand's role alongside Australia in the Square Kilometre Array project	In progress	MBIE	
	Investing in core science infrastructure	Completed	NIWA	
	Implement a cyber-security strategy, establish a National Cyber Security Centre to protect against cyber threats, and raise awareness of cyber security issues	Completed	MBIE	
	Investigate and encourage the development of Innovation Parks	New project	MBIE	
	Work with Australia to establish and maintain shared high-cost science infrastructure (e.g. Australian Synchrotron)	In progress	MBIE	
Improving Intellectual Property Settings	Complete the passage of the Patents Bill to more closely align New Zealand's patent settings with trading partners	In progress	MBIE	
	Create a single trans-Tasman patents examination regime with Australia to simplify patent applications	In progress	MBIE	
	Review Trade Mark regulations and implementation of the Madrid protocol	New project	MBIE	
	Investigate whether the intellectual property settings of public institutions are optimal for technology transfer	New project	MBIE	
	Explore opportunities for government to improve the environment for firms' use of intellectual property	New project	MBIE	
Growing the Innovation Workforce	Lift the profile of science through the appointment of the Prime Minister's Chief Science Advisor	Completed*	MBIE	
	Complete a stocktake of post-PhD employment opportunities in New Zealand and make policy changes if required	In progress	MBIE	
	Increase investment in engineering studies at tertiary institutions and lift graduate numbers by 500 per annum by 2017	Implementing	TEC	Skills
	Institute the Rutherford Fellowships to provide greater opportunities for early stage researchers	Completed	MBIE	
	Collect and provide better information on career prospects to students and the tertiary sector	New project	TEC, MOE	Skills
	Highlight the role of entrepreneurship in business innovation through annual Prime Minister's Business Scholarships	Implementing	MBIE	
	Investigate highlighting innovation careers in science, design, engineering and maths to school students and their families	New project	MBIE	
	Establish the annual Prime Minister's Science Prizes to acknowledge and reward scientific achievement	Completed	MBIE	
	Maintain internationally competitive personal tax rates that encourage highly-skilled workers to work from New Zealand	Completed	Treasury, IRD	

	Action	Progress	Lead	Also in
Building International Linkages	Establish a small advanced economies group to leverage opportunities for innovation and growth	New project	MFAT, MBIE	
	Develop mutually-beneficial science investment opportunities with Singapore	New project	MFAT, MBIE	
	Work to achieve science and innovation opportunities identified in the China country strategy	Implementing	MFAT, MBIE	Export Markets
	Actively encourage more multi-national companies to conduct research in New Zealand	New project	MFAT, MBIE	
	Establish mechanisms to secure commercial export opportunities on the basis of core public sector intellectual property and expertise	New project	MFAT, MBIE	Export Markets
	Design science and innovation components for upcoming NZ Inc strategies with the EU, Australia, and the US	In progress	MFAT, MBIE	Export Markets
	Continue to actively support the Global Research Alliance on Agricultural Greenhouse Gases, including through the New Zealand Fund for Global Partnerships in Livestock Emissions Research	In progress	MPI	

* These actions formed part of the Government's pre-election 120 point *Economic Development Action Plan*



SnapitHD

A small Nelson company has developed a product that has the potential to be the best time-lapse camera in the world. The snapitHD³ immersive camera captures live images of a 360° panorama, which can be displayed on websites and distribution channels online. Because there are no moving parts to the actual camera, multiple users can log in at the same time and view the footage from all different directions, using their mouse to pan, zoom and tilt. Normally, this would take several individually fixed cameras in different locations.

Like many Kiwi creations, the immersive solar-powered camera began its life in the garage. Chris and Andrew Rodley, the two Nelson brothers who developed the camera, come from a web application and hardware design background and have been making high-resolution web cameras for about five years.

They were prompted to begin making their own cameras because of the poor quality pictures from the imported webcam their father had installed to keep an eye on his Hanmer Springs holiday home. Chris says his father

wanted to see live shots of what the weather was like before he visited. The brothers built a camera capable of capturing the entire field of view and once the pictures were on the internet, they started getting a lot of enquiries.

Snap Information Technologies obtained MBIE Science and Innovation Group funding in 2011 through a Regional

“The Las Vegas gig just opened so many doors, all these big names from Apple, NASA and Boeing coming up to us, it was huge.”

Business Partner at the Nelson Regional Economic Development Agency (EDA) to help develop its latest 360° live network camera. The R&D funding was the

springboard to gaining exposure in the US, most notably at the world Consumer Electronics Show in Las Vegas.

“The Las Vegas gig just opened so many doors, all these big names from Apple, NASA and Boeing coming up to us, it was huge. We got talking to some guys from US rock band Linkin Park, who want to use our camera to shoot a 360 video documentary as a mobile application,” says Chris.

The snapitHD³ camera can be used in a number of applications, including security, tourism and on commercial construction sites. Several ski fields in the US are already interested in the product and SnapitHD are trialling it at Rainbow Ski Field in the Southern Alps this year. The Rodley brothers eventually want to see their cameras used everywhere from the ski fields of Lake Tahoe to downtown New York. “Primarily we want to target the tourism sector. The market is worth \$1.6 trillion and the US market is obviously a lot bigger than New Zealand’s,” says Chris.

To try the SnapitHD camera, visit the company's website: www.snapithd.com

Relationship to cross-cutting themes

The Government has three additional cross-cutting themes, which it intends to see reflected across the Business Growth Agenda workstreams

Māori Economic Development

The Māori economy is significant, with a sizeable and growing Māori asset base in fishing, forestry, agriculture and tourism, four of our key export earners.

Innovation is central to realising the potential of the Māori economy, lifting Māori economic outcomes and strengthening New Zealand's economic prospects more generally.

The Māori Economic Development Panel is due to report shortly. Productive enterprises with linkages to the innovation system are part of the Panel's area of focus for realising the potential of the Māori economy. The Government will actively consider the Panel's recommendations on building innovation in partnership with whānau, iwi, Māori businesses and collective ventures.

Greening Growth

A number of actions in the Innovation, Resources and Export Market themes of the BGA reflect the recommendations of the Green Growth Advisory Group. In the Building Innovation theme, they include:

- › Strengthening research institutions – several actions to reposition public education and research institutions to develop more effective links between the business sector and CRIs and universities (recommendations 8 and 24)
- › Public science investment – the action to develop the science investment priorities will consider the potential for green research (recommendation 10)
- › International knowledge transfer – work to establish mutually beneficial science investment opportunities with Singapore and the actions on science that are part of the NZ Inc. strategies will support the transfer, adaptation and adoption of existing and new technologies (recommendation 9).

Regulation

The Government is committed to ensuring smart regulation that is fit for purpose. This will be a lens placed across all of the BGA work to help deliver a more productive and competitive economy. Within the Building Innovation work, particular actions that will help create a smart regulatory environment are:

- › Ensuring an effective consumer law
- › Passing the Patents Bill and modernising our patents regime
- › Creating a single patents examination regime with Australia
- › Reviewing Trade Mark regulations and implementation of the Madrid Protocol
- › Encouraging business competition, collaboration and deterring anti-competitive behaviour
- › Improving the standards infrastructure to support productivity and innovation.

For more information

To provide feedback on this report, please email bgfeedback@mbie.govt.nz
For more information on the Business Growth Agenda see www.mbie.govt.nz/bga



Ministry of Business, Innovation & Employment

www.mbie.govt.nz | 0800 674 4688

- › For firms seeking public investment to support innovation (including Technology Transfer Vouchers and Technology Development Grants)
- › For scientists seeking grants to undertake research (through the Science Investment Rounds and National Science Challenges)
- › For information on the regulatory environment including consumer law, intellectual property, labour regulations, and building regulations
- › For information and programmes on skills
- › For information on the rollout of Ultra-Fast Broadband



NEW ZEALAND
FOREIGN AFFAIRS & TRADE

www.mfat.govt.nz

- › For information on NZ Inc strategies
- › For in-market knowledge and support, including on behind-the-border barriers
- › Free Trade Agreement negotiations and implementation



NEW ZEALAND
TRADE & ENTERPRISE

www.nzte.govt.nz | 0800 555 888

- › For firms seeking support to become investment ready
- › For firms seeking support to export and internationalise

Ministry for Primary Industries Manatū Ahu Matua



www.mpi.govt.nz | 0800 00 83 33

- › For businesses seeking to participate in Primary Growth Partnership scheme
- › For information on innovation in New Zealand's primary sector



Tertiary Education Commission
Te Amorangi Matauranga Matua

www.tec.govt.nz | 0800 601 301

- › For information on tertiary providers and support for teaching and research excellence
- › For information on the Performance-Based Research Fund (PBRF) and the PBRF review
- › For information on Centres of Research Excellence

