

Briefing for the Incoming Minister for the Digital Economy and Communications

Prepared by Catalyst

November 2020

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expert open source solutions

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Overview

Congratulations on your appointment to the portfolio. This briefing provides you with information about the opportunities for New Zealand's digital sector and how your government can support the sector's contribution to the sustainability and development of the New Zealand economy and society, as well adapt to the challenges presented by Covid-19, Climate Change, and ongoing volatility in the global environment.

We have recommended **five actions** that your government could take in the first hundred days that would have an immediately beneficial impact on our sector's ability to contribute more to the economic recovery. The rationale for these actions is expanded upon in the paper.

1. Establish a working group of ISPs, local cloud providers, NCSC, InternetNZ and officials to complete a feasibility study for a New Zealand "cyber border".
2. Commission a review of the IT all-of-government panels to assess their actual benefits, and the opportunities for local firms to participate.
3. Terminate the Infrastructure as a Service panel and open the government market up to all New Zealand cloud providers.
4. Work with the Minister of Economic and Regional Development to amend the government's Procurement Rules to include evaluation of the benefit of responses to the New Zealand economy.
5. Work with the Minister of Internal Affairs to adopt the principles of digital development around open source and open standards that New Zealand committed to as part of the D7 Charter.

Catalyst has also developed a *Digital Strategy for New Zealand*, that sets out a broader context in which our sector could expand its local and international footprint. We would be keen to share this strategy with you when we have an opportunity to discuss this briefing paper in more detail.

About Catalyst

Catalyst was founded in Wellington in 1997, and since then has grown to employ over three hundred staff in New Zealand, Australia, Europe, and North America. We have also spun off seven other companies over that period, all of them based in New Zealand. Catalyst has held a unique place in the digital sector, we were the first—and continue to be—open source software company. As a New Zealander, you would have used Catalyst built and maintained systems when you voted, connected to the Internet, or listened to Spotify on your Spark mobile phone. As a Minister, you will also have used CabNet, the system we built for DPMC to manage all aspects of the Cabinet process.

Catalyst is also a foundation member of NZRise, a non-profit incorporated society that represents the interests of NZ-owned digital technology businesses. For the last decade, we have advocated for, and on behalf of, New Zealand owned digital companies that have helped grow our IT sector to be one of the key planks in our economy. This briefing continues that advocacy.

Communications networks and technologies are critical for economic growth, social, and regional connectedness

As Minister for the Digital Economy and Communications, you have the opportunity to improve New Zealand's economic performance and, given the ubiquity of technology in the lives of all New Zealanders, make a significant impact upon the broader social, cultural, and environmental landscape. This can be done by ensuring we have a sovereign, open, and resilient sector.

A New Strategy for a Changed Environment

Rebuilding New Zealand's economy in the aftermath of the Covid-19 pandemic, and under the shadow of climate change, is the sort of policy challenge that we have not seen since the end of World War II. The decisions that we collectively make now have the potential to impact, positively or negatively, generations of Kiwis to come.

The positioning of New Zealand's IT sector is a critical plank in the rebuild strategy. The sector contributes more than NZD 15 billion per annum to our GDP, and more than a third of that in export revenues.

The challenges of the last few months, where international travel and trade has been severely impacted by the pandemic, has afforded us some insight into the longer term challenges we will all face in dealing with climate change. National resilience must be a key strategy as we rebuild our economy and reshape it to be fit-for-purpose for the coming decades.

Information Technology is now as essential to our economy and our society as electricity; software is in everything from our homes to our workplaces, and the vehicles we travel in between them. Ensuring that we recognise this, and are actively working to create and capitalise on the opportunities it presents, is critical to our success in the coming decades. Planning for that now, as we re-engineer our economy in a post-pandemic world, is a matter of urgency.

How do we then engineer a digital economy that is more sovereign, open, and resilient?

- We recognise the value of critical digital infrastructure and platforms, and we invest in their development.
- We reduce our reliance on overseas suppliers.
- We recycle more of our IT spend through the local economy.
- And, we apply a higher level duty of care to our fellow citizens.

These interventions will not just benefit the technology sector. Re-engineering our economy along these lines will invariably drive step changes in more traditional industries. To take just one example: agriculture. One of our other significant contributors to GDP, and a key resource in terms of our national resilience, is poised to reap the rewards of large scale investment in IT and data sciences.

Recent developments in sensors, semi-autonomous mobile platforms, communications, and large-scale computing are converging to make possible multi-scale collection and integration of massive datasets. New

Zealand can—and must—leverage these to remain competitive and to actively restructure our approach to environmental management.

Land based environmental, climate and marine management data is being critically underexploited. We should invest in developing software and processes to combine state-of-the-art edge computing infrastructure with large-scale data management and machine learning to provide real-time interpreted data to primary producers and the rest of the sector.

This would allow us, for example, to aggregate soil and atmospheric data across the country, providing significant value to farmers, meteorologists, environmental scientists, and others. To do this, however, the key opportunities and challenges revolve around digesting data at the local scale, using it to update regional and nationwide scale models, and using this modelling to have a complex and comprehensive understanding of our production environment. Partnerships between the IT and agriculture sectors could be turbo charged with government investment and policy leadership.

If we don't not seize the initiative, overseas firms will move in at scale, and exfiltrate the profits, IP, and data. That would be a setback from which we would not recover.

This government, working constructively with our sector, can help us all rebuild New Zealand as a society and economy for the future. Where our children are in control of their data and their destinies, and our digital sector is vibrant, innovative, and a key platform for our prosperity.

The three areas of focus outlined here together support a range of outcomes, including:

- increasing the value of digital exports,
- the delivery of high value jobs now and for future generations,
- accelerate progress towards a carbon neutral, sustainable economy,
- protecting Tikanga Māori and New Zealand culture,
- promoting efficiencies in the public sector, and
- underpinning innovation in our key industries.

Three areas of focus

Infrastructure

Just as we have taken advantage of our geography to actively manage our border during the pandemic response, so to could we leverage our place on the Internet to develop an advanced “cyber border” that would allow us to better mitigate the increasing levels of threat and malicious activity, and to provide a platform for digital sovereignty for future generations, where their data and privacy will not be traded by corporations domiciled in tax havens.

The recent attacks against New Zealand businesses, most notable the Stock Exchange, highlighted how vulnerable our infrastructure is, and how that the only mitigations involve ceding data sovereignty for enhanced security. This is not a trade off that we should have to make.

It is worth considering that the 27 EU nations have recently established a European Alliance on Industrial Data and Cloud, a key part of the European Commission's data strategy, which aims to create a single market for industrial data. While the EU plans to invest up to €10 billion to develop Europe's cloud and data infrastructures, here in New Zealand a comparative investment would be closer to 30m/year over the same time frame, a fraction of the government's annual spend on offshore cloud providers, and a logical next step to complement the Ultra-Fast Broadband project.

Working with ISPs, local cloud providers, CERT, NCSC, and InternetNZ, your office could lead the planning of the solution and MBIE could fund it.

Open Source and Open Standards

New Zealand is a signatory of the D7 Charter, which records a commitment to Open Source and Open Standards. Unfortunately, since signing the original D5 agreement, New Zealand has done little around open standards, and *nothing* around encouraging the use of open source in government agencies.

Mandating the use of open source would deliver a number of outcomes, including opening up opportunities for local software services companies to work with government, and thereby injecting much needed funds into the local economy (around 30% of which is eventually returned to the Crown by way of taxes).

Open source also provides agencies with more flexibility to adapt the code to local cultural conditions, respecting te ao Māori, and significantly reducing our reliance on offshore providers. As an example, in the case of another lockdown, Cabinet meetings could be conducted securely via BigBlueButton, hosted on Parliamentary Services infrastructure with all of the data remaining in New Zealand, not being routed through China, as is the case with Zoom.

Australia's *Centre for Responsible Technology* has been considering similar challenges. They recently proposed using the ABC's network to develop a social networking platform to reduce Australian's reliance on Google and Facebook. Using open source tools, and open standards, these technologies are not beyond the reach of New Zealanders, any more than is launching a rocket into space from the Mahia peninsula.

Procurement

Placing the responsibility for digital procurement with DIA has proven to be a poor decision.

Procurement is one of the single most powerful levers to shape the economic recovery of the digital, and other, sectors.

DIA's reliance on panel contracts, and funding that part of their business with a percentage of those panels, has created the perverse incentive of focussing on larger, more expensive contracts, almost exclusively with multi-national tax avoiders. Microsoft NZ, for example, is domiciled in Bermuda. Merging that function with MBIE's existing procurement branch, and establishing an expectation on seeking engagements with local providers, would be an intervention that would contribute to an increase in the amount of tax dollars spent

locally. Economics New Zealand has identified that around 30% of money spent on the local IT sector is returned through the Crown through direct or indirect taxation, the so-called multiplier effect.

Similarly, instituting a review of all-of-government panels, such as the Facial Recognition deal that provides access to agencies with no capability around privacy or secure information management to access this controversial technology, to establish where opportunities for New Zealand businesses are being stymied.

One egregious example in this class is the closed panel for Infrastructure as a Service (essentially, cloud computing). Originally established *ten years ago*, government agencies are mandated to procure all of their cloud computing through this panel. DIA is currently considering extending it for five more years. Five more years of an anti-competitive panel in which New Zealand companies (other than Datacom and Revera, the incumbents) are locked out of this deliberately distorted market. Oddly, despite it being a closed panel, DIA managed to shoehorn Microsoft and Amazon onto it five years ago, while continuing to deny other local cloud providers, including the Catalyst Cloud, the opportunity to join the panel.

More generally, working with your colleague the Minister for Economic and Regional Development, we would encourage an amendment to the government's Procurement Rules, to explicitly include provision for consideration of benefits to the local economy as a weighting for all government procurement, as the Australian Federal Government now does:

Broader Benefit to the Australian Economy

In line with Australian Government policy, the Agency seeks to understand the extent to which the Tender provides an economic benefit to the Australian economy. Accordingly, the Tenderer should detail in its response the extent to which the Tender provides a direct economic benefit to the Australian economy.

Conclusion

We are at an inflexion point in history where the challenges of the present, and the immediate future are such that a business as usual approach is not only insufficient, it is negligent. The economic and social costs of the pandemic, and the need for urgency around sustainability and carbon neutrality, mean that we have to act together, as a nation, to drive change. New Zealand has a digital sector that continues to prove its capability and ingenuity. What we need now is a government that is prepared to back the sector and to work with us to build a future for all New Zealanders.

We look forward to the opportunity to meet with you and discuss these ideas in more detail.

Don Christie

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