POLICY | 2014

Digital economic upgrade

labour.org.nz/digital

LABOUR WILL:

Elevate ICT to the highest level of Government.

By:

- establishing the position of Chief Technology Officer in Government, reporting directly to the Prime Minister and Cabinet
- mandating the Chief Technology Officer to produce an annual 'Digital Technology Roadmap' and a 'National Digital Architecture' for New Zealand
- charging the Chief Technology Officer to undertake a wide-ranging inquiry and stocktake of the way that information technology projects are managed by government agencies

Encourage ingenuity and creativity in the ICT sector.

By:

- establishing 'Garage Grants' to support entrepreneurs in taking the first step in transforming a big idea into a successful business
- mandating the Chief Science Advisor and the Chief Technology Officer to develop 'X prizes' to encourage "radical breakthroughs" in technology

Enhance and strengthen New Zealand's digital workforce.

By:

- establishing a clearer pathway for careers in the Information Technology field by funding 1,200 ICT apprenticeships
- reviewing the points system of the migration skills shortage list, to more accurately recognise the value of Information Technology work experience
- working with industry to establish a new industry-governed body to oversee Information Technology training

Reduce costs and increase the transparency of government ICT procurement.

By:

- supporting Open Software standards
- implementing a whole-of-Government approach to Open Software
- reforming ICT project management across Government departments
- creating a government 'App Store'
- aspiring to wider use of open software

Boost growth in New Zealand ICT jobs and businesses.

By:

- supporting ICT manufacturing with an accelerated depreciation regime
- strengthening innovation with research and development tax credits
- backing Kiwi businesses, ensuring that government agencies buy more Kiwi-made products, keeping thousands of jobs in New Zealand
- improving access to capital for businesses by increasing the national savings pool
- directing more capital investment into the productive economy, rather than speculation in housing by changing tax settings
- containing or reducing structural costs to businesses, starting with electricity prices
- working to lower unnecessary compliance costs for businesses

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The challenge we face

Our economy and our country have no direction. We have no roadmap for where we want to be in 2020. We have not created a picture of the next generation for our children.

As the NZ Technology Industry Association states:

> *The technology industry is New Zealand's fastest growing sector. Exports have doubled over the past six years and at more than $7 billion it's the country's third largest export earner behind dairy and tourism. Technology touches on every other major market segment and is the highest per-capita earning industry for the country. On the domestic front, ICT contributes nearly $20 billion to New Zealand's economy and employs more than 62,000 people.*[1]

Yet information and communications technology (ICT) faces what has been officiallly declared a long term skills shortage. A recent NZTech member survey suggested there was a deficit in NZ of around 10,000 jobs. These are creative thinkers and business analysts who can help transform our businesses and institutions and make us a digital tech savvy nation.

Almost every decade there is a transformational change in technology. For example, by 2022 when 5G mobile hits New Zealand, many of our population will have the capability of 1 Gbps of personal bandwidth in their pockets.

China, South Korea and the European Union already have 5G agendas. New Zealand does not even have a digital strategy. This has to change.

We need a nationwide strategy for New Zealand that will make us a highly prized boutique nation of tech-savvy businesses, a joined up and efficient public sector with a tech-savvy workforce where there is no such thing as a digital divide. Where everyone, no matter their background, their age, ethnicity or geographical location, has access to technology and opportunities to develop and realise their potential and access important services to allow us to live fulfilling and long lives.

This requires a hands-on government that knows what it takes to get us there and which isn't afraid to lead, take risks and enable people.

At the moment, there is no roadmap for our digital future. Our kids are leaving school not well equipped for the digital environment or aware of career options. Our nation's small businesses are too busy keeping their heads above water to take advantage of the immediate productivity gains from an online presence, gains which could be worth an extra $54 billion to our economy if businesses with low use of Internet services were as productive as high Internet-using firms.

A Labour Government will put a stake in the ground and make New Zealand a tech-savvy nation. Technology is a game changer. We can become a prosperous nation supported by a vibrant technology industry. A nation where everyone benefits and where our kids can aspire to well paid jobs in a thriving export tech sector - no matter what the economic status of their parents is, or where they live.

It will only happen with a government that leads by example. A Labour Government will. There are many levers to economically upgrade the tech industry. We will use all of those levers in consultation with the industry to deliver the best outcomes.

Labour's Digital Economic Upgrade is the first of two announcements for the ICT sector. A second policy package including initiatives on connectivity, digital inclusion, content and copyright will be announced closer to the election.

[1] http://www.ict.org.nz/Category?Action=View&Category_id=40

ELEVATING ICT TO THE HIGHEST LEVEL OF GOVERNMENT

Create the position of Chief Technology Officer

One of the first steps of the 'Digital Economic Upgrade' will be to create a Government 'Chief Technology Officer', reporting directly to the Prime Minister and Cabinet.

The Chief Technology Officer (CTO) will be the public and trusted face for New Zealanders on digital issues. The CTO will be accountable to the Prime Minister and the wider public, rather than beholden to any part of the industry.

Labour will mandate the CTO to produce and present an annual 'Digital Technology Roadmap' and a 'National Digital Architecture' for New Zealand.

As an urgent task upon taking up the position, the CTO will undertake a wide-ranging inquiry into how information technology projects are managed by government agencies, and ensure systems work better and more efficiently in future.

Cost: approximately $300,000 per annum (plus some resources transferred from associated functions).

ENCOURAGING INGENUITY AND CREATIVITY IN THE ICT SECTOR

Introduce Tech 'X Prizes'

Together with the Chief Science Advisor, the Chief Technology Officer will develop & run the equivalent of 'X prizes' for New Zealand.

X Prizes are public competitions intended to encourage "radical breakthroughs" in technology that could benefit humankind. They are designed and managed by the X Prize Foundation, a US non-profit organisation.

Cost: $3 million over ten years.

Back tech start-ups with 'Garage Grants'

Many of the biggest tech companies in the world, including Apple, Microsoft and Facebook were born in garages, basements and student dormitories.

The variety of grants available from MBIE and NZTE as well as Labour's R&D tax credits are generally not accessible to those with a creative idea that are just starting out.

'Garage Grants' will enable and support entrepreneurs in transforming their clever idea into something big.

Successful applicants will receive individual training, mentoring and support from successful entrepreneurs, with up to $10,000 to build the first product and start the business.

The fund will be administered through the Ministry of Business, Innovation and Employment and via existing accelerator programmes.

Cost: $3.2 million contestable fund over four years.

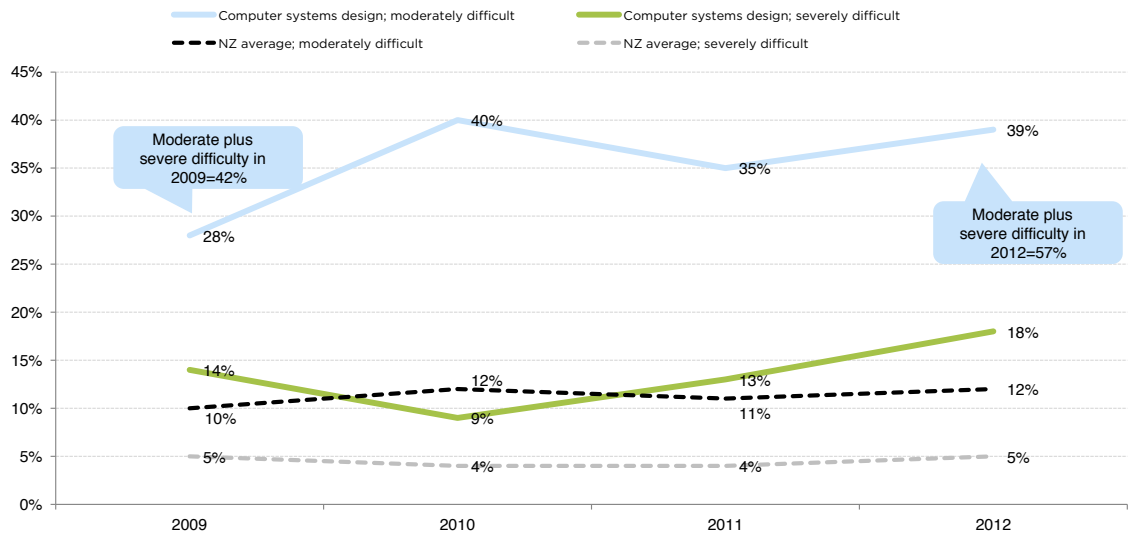
ENHANCE AND STRENGTHEN NEW ZEALAND'S DIGITAL WORKFORCE

According to government reports, one of the main challenges facing the ICT sector is the international shortage of skilled IT professionals. This shortage is evident in New Zealand and is a potential impediment to the industry's growth.

Around half of New Zealand's computer system design firms report moderate or severe difficulty in recruiting managers and professionals, and more than half report moderate or severe difficulty in recruiting technicians and associated professionals.

Recruitment: technicians and associated professionals
Computer system design firms report increasing difficulty recruiting technicians and associated professionals

Computer system design firms reporting severe or moderate difficulty in recruiting technicians and associated professionals*
% firms; 2012



*Note: Total survey sample is 35,976 firms with six or more employees; 600 of these firms are in computer system design.
Source: *Statistics New Zealand, Business Operations Survey (2011 & 2012)*

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Source: MBIE New Zealand Sectors Report 2013 – Information and Communication Technology

"The best guesstimate is that we will need twice as many people working in the technology industry – broadly defined – as we have today. The biggest bottleneck is the scarcity of people.

These are not just IT occupations, but a whole range of skills such as project managers, marketers, sales people, administrators and business analysts. These people don't all need a degree in computer science. They can come from any industry, from insurance or banking."[2]

- CE, industry body

The labour market for telecommunications is not currently as tight with no employment growth between 2008 and 2011. But as the ultrafast broadband roll-out gains pace, demand for skilled workers is expected to grow.[3]

Reform the skill shortage criteria to make it easier to bring in people with needed skills

The large number of ICT related occupations on the Long Term Skilled Shortage list suggests the immigration system is trying to attract adequate overseas talent to fill New Zealand ICT skill shortages.

There is room for improvement. In almost all cases, Immigration New Zealand considers only whether an applicant has a degree in the particular area to ascertain whether they meet the skilled shortage list requirements.

This means that often highly skilled individuals with long-term experience in areas of greatest need in New Zealand don't qualify, whereas others with fewer actual practical skills do, just because they have a degree.

For example, using the Immigration New Zealand points indicator (in which 100 points are required):

- If you have a degree in ICT, but no experience at all, the indicative points = 110 (pass)
- If you have no degree but 6+ years of ICT experience, the indicative points = 65 (fail)

And yet, most ICT employers feel that 6+ years of experience is more likely to meet skill needs than a degree and no experience.

Labour will review the points system for the skills shortage list, with a view to more accurately recognising the value of work experience in Information Technology.

Cost: Review to be carried out within Immigration New Zealand's baselines; no additional fiscal costs from a revised points system.

Establish 1,200 digital apprenticeships

While apprenticeships in telecommunications, engineering and technician skills are already offered there is currently no apprenticeship for Information Technology. The industry already undertakes some apprenticeship-style training, with a particular emphasis on internships.

However, this does not provide people with a clear career pathway that is transferable between employers and between industries. As a result, it is less useful in helping workers gain a sustained foothold in the job market.

The only places where people can currently get a formal qualification in the Information Technology field are outside the workplace, at a PTE, Polytechnic or University. In many other industries people can opt to gain a tertiary Certificate or Diploma via a mix of on-job and off-job learning through an apprenticeship.

Labour will establish a clearer pathway for ICT careers for people to gain a nationally-recognised Diploma or Certificate qualification in the Information Technology field.

We will fund additional tertiary training places, to enable 400 apprentices to be recruited

[2]MBIE New Zealand Sectors Report 2013 – Information and Communication Technology, July 2013, pg.50
[3]MBIE New Zealand Sectors Report 2013 - Information and Communication Technology, July 2013, pg.73

each year once the new apprenticeship pathway has been established. After around three years this will mean around 1,200 ICT workers in workplace training.

This will help to encourage more people into the industry who were previously put off by the prospect of having to undertake training off-job and in their own time, and prefer the option of 'learning while earning'.

Labour has already indicated that, instead of paying young people to go on the dole, we intend to use it to subsidise businesses to take on apprentices. This policy would be available to the Information Technology industry as well.

This new apprenticeship pathway also provides the industry with an opportunity to develop workers who meet their needs. Apprenticeships will provide the kind of flexible, open-minded and innovative approach to training that the IT industry wants to foster.

Cost: $2.1 million in the first year after the new apprenticeship pathway has been established, increasing to $6.3 million annually by the third year

Establish an industry-governed body to oversee ICT training

This career pathway will be supported by inviting a proposal from the Information Technology Qualifications Developer (formalised through the Mandatory Review of Qualifications that is currently in progress) for a body or group to work with NZQA to:

- set the standards apprentices are expected to meet to gain credits,
- arrange the apprentice's training, and
- assess credit attainment.

This body, which could be a new or existing organisation (and may be the IT Qualifications Developer) would work in a similar fashion to the Industry Training Organisations that operate in other industries, but might have specific characteristics that meet the particular needs of the Information Technology industry. We would investigate, in response to the industry proposal, whether the functions can be established under existing Industry Training legislation, or if it may require amendments or a stand-alone legislative basis.

Cost: Initial funding from within departmental baselines

REDUCE COSTS AND INCREASE THE TRANSPARENCY OF GOVERNMENT ICT PROCUREMENT

Support Open Standards and Open software

There are many huge, costly IT projects inside government, and these often go badly and lead to vast sums of money going offshore. Departments are secretive about their technology projects, and don't share them, even with other departments.

Proprietary software tends to create "lock-in" by employing closed standards for protocols and file formats rather than contributing towards and adopting vendor-independent "open standards". Historically, governments' willingness to adopt proprietary software has enabled various vendor monopolies within government IT,

with excessive ongoing license costs due to the "monopoly rents" those proprietary vendors can charge, and substantially inflated migration costs due to the lock-in tactics employed by those vendors.

Citizens, businesses and delivery partners, such as charities and voluntary groups, need to be able to interact with government without having costs imposed upon them due to the format in which editable government information is shared or requested.

When government departments purchase software, ICT infrastructure, security and other ICT goods and services, they should select software which adheres to vendor-independent open standards. In domains where no suitable open standards exist, the government should work with vendors to establish one. Under Labour, government will only work with vendors who commit to full support of open standards and interoperability.

Government agencies will be encouraged to adopt open software in preference to proprietary software where appropriate. In addition to substantially reducing costs, this will, for example, result in a larger proportion of support work and customisation opportunities going to the local ICT industry rather than foreign vendors.

Government assets should be interoperable and open for re-use in order to maximise return on investment, avoid technological lock-in, reduce operational risk in ICT projects and provide responsive services for citizens and businesses.

The UK government's definition of "open standards" is that standards are thoroughly documented and made publicly available at no cost. They should have "intellectual property made irrevocably available on a royalty free basis"; and as a whole can be implemented and shared under different development approaches and on a number of platforms. Labour agrees with this definition but accepts that many popular ICT products are likely to find it difficult to conform to such stipulations.

Labour recognises that the software delivery is increasingly moving to a services model and is a high growth area for New Zealand companies. Part of our strategy in government will be a move to the cloud and procurement of services from NZ ICT companies. We will take a balanced approach with careful interventions. Our focus will be to open up innovation for ICT in government in how it uses and procures services.

This includes a move to cloud computing, which will include large-scale datacentre, network, software and asset consolidation, with careful attention to jurisdictional considerations and maintaining the privacy, integrity and sovereignty of data we hold in trust for our citizens.

Labour believes that smarter government means departments sharing their technology. This will save money inside government, and provide a competitive advantage for New Zealand businesses.

Labour will issue a binding instruction to government agencies to implement a whole of government approach to open software.

The instruction will include the following components:

- **Prevent vendors double-dipping.** Require that when the Government pays for software to be created, copyright will be held by the government, and will be shared within government and with the public using an open software license.
- **Stop the secrecy.** Investigate obliging agencies to disclose on their websites the cost and usage of each software product used (where doing so does not increase costs).

- **Stop silo thinking.** Require that agencies evaluate the costs at a whole-of-government level when deciding whether to develop and freely share software or to license it.
- **Free the code.** Require all software developed under Crown Copyright to be made available to the public under an open software license.
- **Allow systems to join up.** Require that new agencies only purchase new computer applications that can demonstrate interoperability using published, vendor independent open standards.
- **Encourage smarter decisions.** Require agencies considering new technology purchases over $2 million to first evaluate whether existing publicly available technology substantially meets their business requirements, and the cost of changing their processes to adapt to the existing technology.
- **Avoid conflicts of interest.** Government departments will be required to declare a register of interests to avoid conflict of interest in vendor decision-making processes.

Other Open software initiatives

Labour will create a government 'App store'

A government-run 'app store' could provide a short circuit for fledgling NZ software developers to get to market. The 'app store' would be open for any local developers to submit their software where it could be purchased and used by government agencies.

Labour will ensure "Informed Neutrality" in software purchasing

Purchasers in government agencies and their suppliers must consider all types of available software (open, mixed and proprietary) during procurement procedures.

Aspire to wider use of open software

Labour will set an aspirational target for government agencies to be using open software for a reasonable proportion of their software needs by 2017.

Greater diversity in suppliers

Labour will actively engage with the local open software community to devise ICT solutions rather than just talking to the large, dominant suppliers.

Open Source Software Centre of Excellence

Labour will work with New Zealand tertiary education institutions to establish a 'centre of excellence' for open source software development. Based upon the 2006 initiative of the French Government, such a centre would be designed to help develop a strong export-creating software industry for New Zealand.

Cost: Funded from within baselines

BOOST GROWTH IN NEW ZEALAND ICT JOBS AND BUSINESSES

Upgrading investment in ICT manufacturing

Many countries provide a tax incentive to businesses investing in plant and equipment. This is done through a mechanism called accelerated depreciation.

Labour has announced our intention to introduce a targeted accelerated depreciation regime, with one of the first industry areas covered being advanced manufacturing.

This industry group includes the ICT Manufacturing industry, including the manufacture of physical devices or components that contain a software component, typically embedded in the device or product. The sector also encompasses computer and electronic office equipment, electric cables and wires, communication equipment and other electronic, professional and scientific equipment.[4]

The Ministry of Business, Innovation and Employment (MBIE) estimates there are around 400 firms in the ICT manufacturing grouping, employing nearly 5,000 workers. Effectively, this tax change will mean that these companies will be able to reduce their tax payments for the first few years after investing in these assets (by 'front-loading' their tax deductions for depreciation), which are offset by greater tax payments in the medium term (due to lower depreciation deductions in later years).

Without such deferrals, the tax system can actually act to discourage long term investment. Long-term projects cannot utilise income tax deduction in the start-up years before projects produce income. Long-term investments require higher before-tax rates of return than short-term investments because their pay-back periods are longer, which makes them more risky.

New Zealand did have a modest accelerated deferral regime in place ('depreciation loading'), but this was abolished by the current government in 2010.

New Zealand manufacturing is increasingly high tech across all sectors. Examples of successful high technology New Zealand ICT manufacturers include: Smartrak, General Cable Superconductors, Rakon and Tait Communications.

Under Labour, development of this sector will be encouraged, as the competitive environment for future manufacturing success will depend not on cost, but by exploiting our high tech advantages.

Within a decade it is anticipated that part of the construction industry will be carried out via 3D concept printers. Medical technology is another example of fast development in 3D technology that New Zealand can take advantage of.

[4] 'ICT High Technology manufacturing' is specifically defined in the MBIE ICT sector report available here: http://www.mbie.govt.nz/pdf-library/what-we-do/business-growth-agenda/sectors-reports-series/sector-report-information-communication-technology.pdf

To support this, Labour believes 3D design skills and basic programming code skills should be embedded in the school curriculum and in tertiary training

Under Labour, NZTE will work closely with Kiwi manufacturers to establish opportunities from the rise of 3D technology

Cost: Accounted for within Labour's Manufacturing Economic Upgrade.

Back Kiwi businesses by ensuring that government agencies buy more Kiwi-made products, keeping thousands of jobs in New Zealand

The "one size fits all" approach to public sector procurement and build processes is fundamentally flawed. It is costing the country millions every year in failed software projects and robbing New Zealand of the chance to be a world leader in the development of innovative public sector software systems. Novopay was botched by Australian company Talent2 and much of the $1.5 billion IRD project has been handed to multinationals Capgemini and Accenture.

New Zealand is a small country, with a huge public sector presence in the same city that has produced Weta and Xero. Bold public sector procurement reform can help NZ transform in to a world leading knowledge driven economy.

By applying agile thinking and breaking large high risk projects in to smaller lower risk projects we open up the possibility of more New Zealand based companies winning work (who are often effectively excluded). This will have many downstream benefits to the wider NZ economy.

Tenders should ask for capacity and capability, not solutions. IT projects are ongoing investments that deliver ongoing returns. Two-thirds of the cost of an IT project actually occur after launch.

A fundamental change to the project risk management is required. Labour will move away from the flawed idea that Government agencies can reduce risk just by outsourcing it. Alternative ways of managing risk are needed, such as reducing project size, avoiding vendor lock-in and sharing risk payment options that encourage value for money.

Labour will adopt a target of keeping $200 million a year of contracting in New Zealand across all areas of government procurement, rather than sending that work overseas. This alone will create around 2,000 jobs.

To achieve this, while ensuring that we get value for taxpayer's money, Labour will require government bodies take a holistic cost-benefit approach when tendering major contracts.

Rather than merely considering the effect on their own bottom lines, government bodies will have to consider the wider economic and fiscal impacts when choosing suppliers. This will be done in a way that is consistent with World Trade Organisation rules.

Cost: Accounted for within Labour's Manufacturing Economic Upgrade.

Strengthen innovation through research and development tax credits

Labour in government will re-introduce an R&D tax credit to make investing in innovation more affordable and less risky for businesses. That was cut by the current government and replaced by a system of R&D grants that are bureaucratic and rely on the government 'picking winners'.

Labour will introduce an R&D tax credit at the rate of 12.5%. It aims to lift New Zealand's lagging R&D expenditure by encouraging businesses to research and innovate.

International evidence shows that well-designed R&D tax credits increase productivity and growth. The rate of return to society from R&D activities is typically in the order of 90-100%, well above the private return of 20-30%.[5]

Cost: Accounted for within Labour's Research and Development policy

Improve access to capital for businesses by increasing the national savings pool

Growing our domestic savings pool will help to make more capital available for investment in our manufacturing sector. That's one of the reasons that Labour is committed to universal KiwiSaver.

Labour's advanced KiwiSaver plan will lift New Zealand's savings rate and improve capital conditions for New Zealand industry.

Cost: Accounted for within Labour's Universal KiwiSaver plan

Change tax settings to direct more capital investment into the productive economy

New Zealand's tax system currently favours investment in property over investment in productive enterprises. Capital gains are untaxed, making housing speculation the preferred investment for many Kiwis. As a result, the pool of capital available for business investment is smaller than it should be and borrowing is more expensive.

Labour will introduce a forward-looking, realisation-based capital gains tax on investment properties to level the playing field. It will not apply to the family home. This will help to make it easier for businesses to access capital for growth.

Revenue: Accounted for within Labour's CGT and fiscal policies

[5] The Treasury, 'Putting Productivity First'

Contain or reduce structural costs to businesses, starting with electricity prices

The New Zealand economy is marked by high and rapidly rising prices in the non-tradable sector, which place a burden on the productive economy and exporters. The electricity market is a prime example, and one that Labour intends to fix.

While electricity price rises since the 'Bradford reforms' of the 1990s have been lower for large industrial users compared to residential users, manufacturers are still paying 84% more for power today than they were 15 years ago.

Labour's NZ Power plan will change that. It will break the market power of the generator/retailer oligopoly, stop over-charging for our low-cost hydro power, and reduce power costs to businesses.

Cost: Accounted for within Labour's NZPower plan

Work to lower unnecessary compliance costs for businesses where consistent with workers' rights, environmental standards and quality assurance

More details on Labour's plans to lower compliance costs, especially for small businesses, will be announced prior to the election.

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