

# Waikato digital action plan

June 2018



## Context and Objectives

Wollemi Consulting was engaged in January 2018 by Waikato Means Business in partnership with CultivateIT and UltraFast Fibre to provide an evidence base for developing a programme of work to increase the uptake of digital technologies in the region.

An initial “*Regional Digital Stocktake & State of Play*” report was tabled for review by the CultivateIT board in April 2018, describing the Waikato region’s current digital assets, projects and challenges.

Following on from the stocktake recommendations were summarised in this “Digital Action Plan”, which -

- Describes a framework for understanding the linkages and value layers within the tech sector and the industries it serves.
- Lists possible initiatives and recommendations on the way forward for the region, as well as suggesting dependencies for these to succeed and key parties who may lead implementation.

The two pieces of work were then referred to in developing the Digital Waikato 2025 in collaboration between CultivateIT, Te Waka and a Digital Stakeholder Group.

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## Executive Summary

- As described in the Stocktake, the Waikato region typically rates 4<sup>th</sup> behind Auckland, Wellington and Canterbury on a range of ICT measures.
- Narrowing the gap between Waikato and these more populous regions would be highly beneficial in terms of jobs and economic value.
- The region's tech sector is stronger in High Tech Manufacturing than ICT, but ICT nationwide is growing faster.
- A "digital divide" is evident, largely between urban areas and those with higher incomes on one hand, and poorer, more rural districts on the other.
- Local governments have a wide variety of disparate plans in place to build community ICT awareness and uptake.

The Digital Action Plan has several key themes:

- Increasing the rate of growth of the ICT sector via promotion, business development and community-building
- Promoting growth of the High-Tech Manufacturing sector with a supply chain focus
- Engaging businesses to improve uptake of ICT and capability to use it effectively, especially at a sectoral level (e.g. dairy/ agriculture, tourism, Maori economy)
- Measuring the apparent ICT skills gap, and then working to address it
- Making a comprehensive effort to close the digital divide



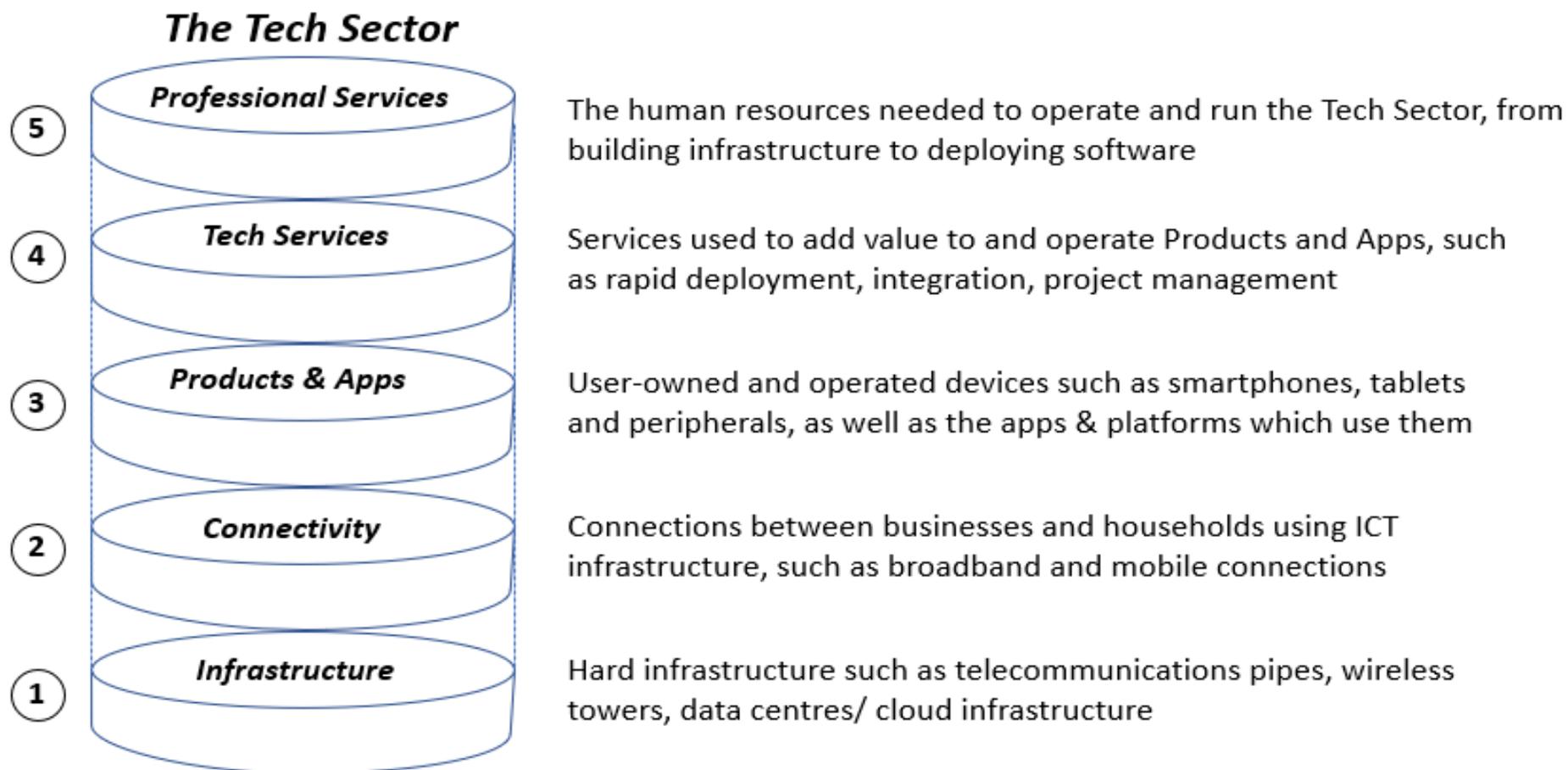
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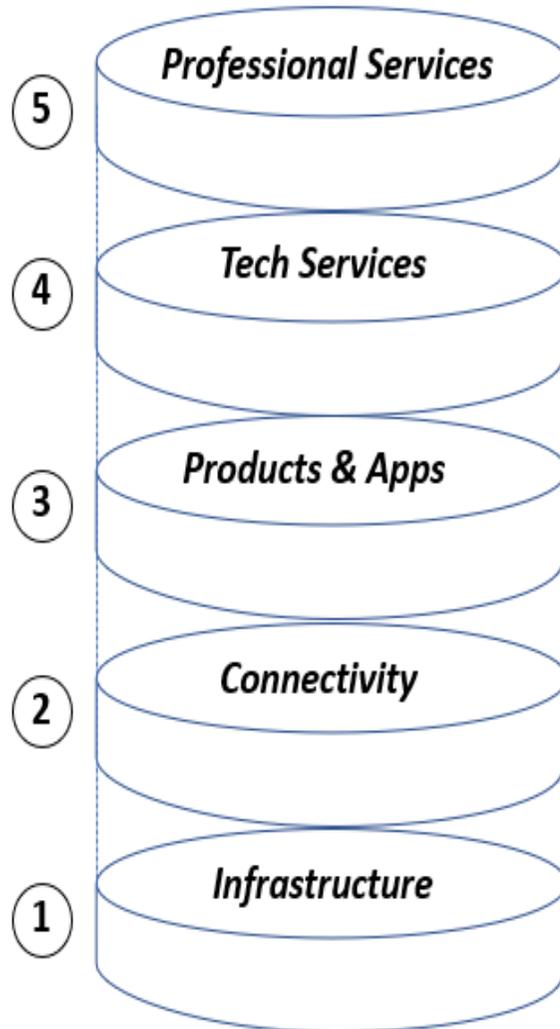


## Framework & structure of the Digital Action Plan

The Digital Action Plan for Waikato covers several layers of ICT capability & value



## The Tech Sector



## Characteristics

- People focus – hire and retain
  - Continuous professional development
  - May be capital or operating expenditure
- Modular/ project-based focus
  - Operating expenditure
- Wide variety of vendors and apps
  - Some key platforms/ eco-systems (e.g. GAFAM\*)
  - May be capex or opex
- Uptake/ usage focus
  - Operating expenditure
- Focus on successful completion of long term projects
  - Capital expenditure

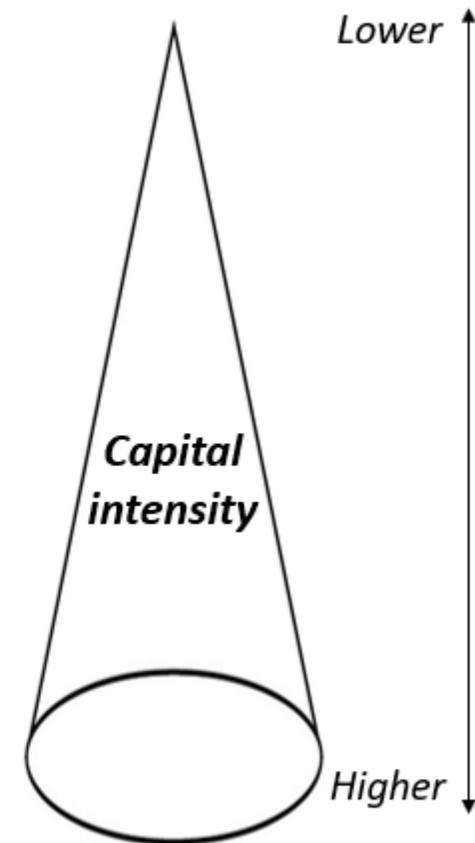
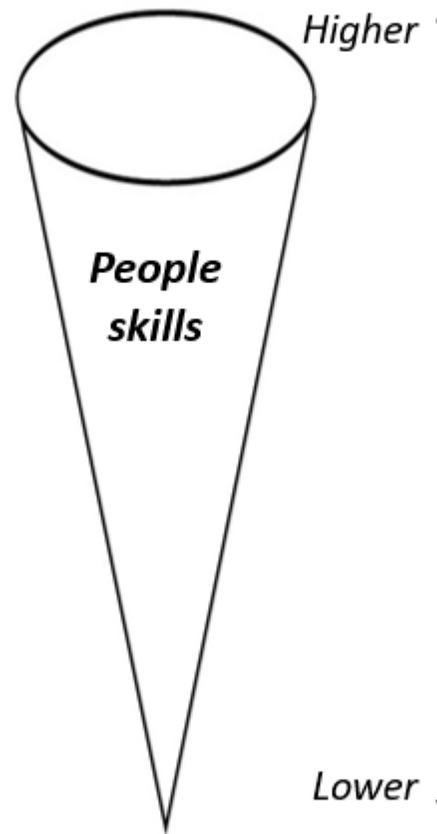
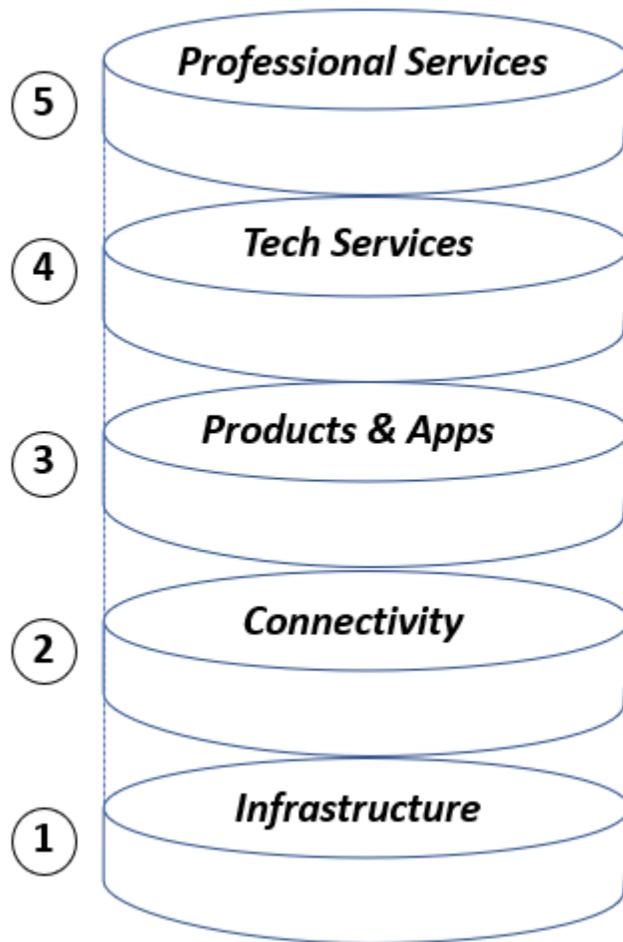
## Challenges

- Skills shortage
  - Constantly changing industry/ customer needs
- Rapid deployment
  - Constantly changing industry/ customer needs
- Effective and productive usage
  - Cross-platform integration
- Affordability
  - Customer utility of offering
- Future-proofing
  - Hard to reach locations
  - Resilience

Note: \* Google, Apple, Facebook, Amazon, Microsoft



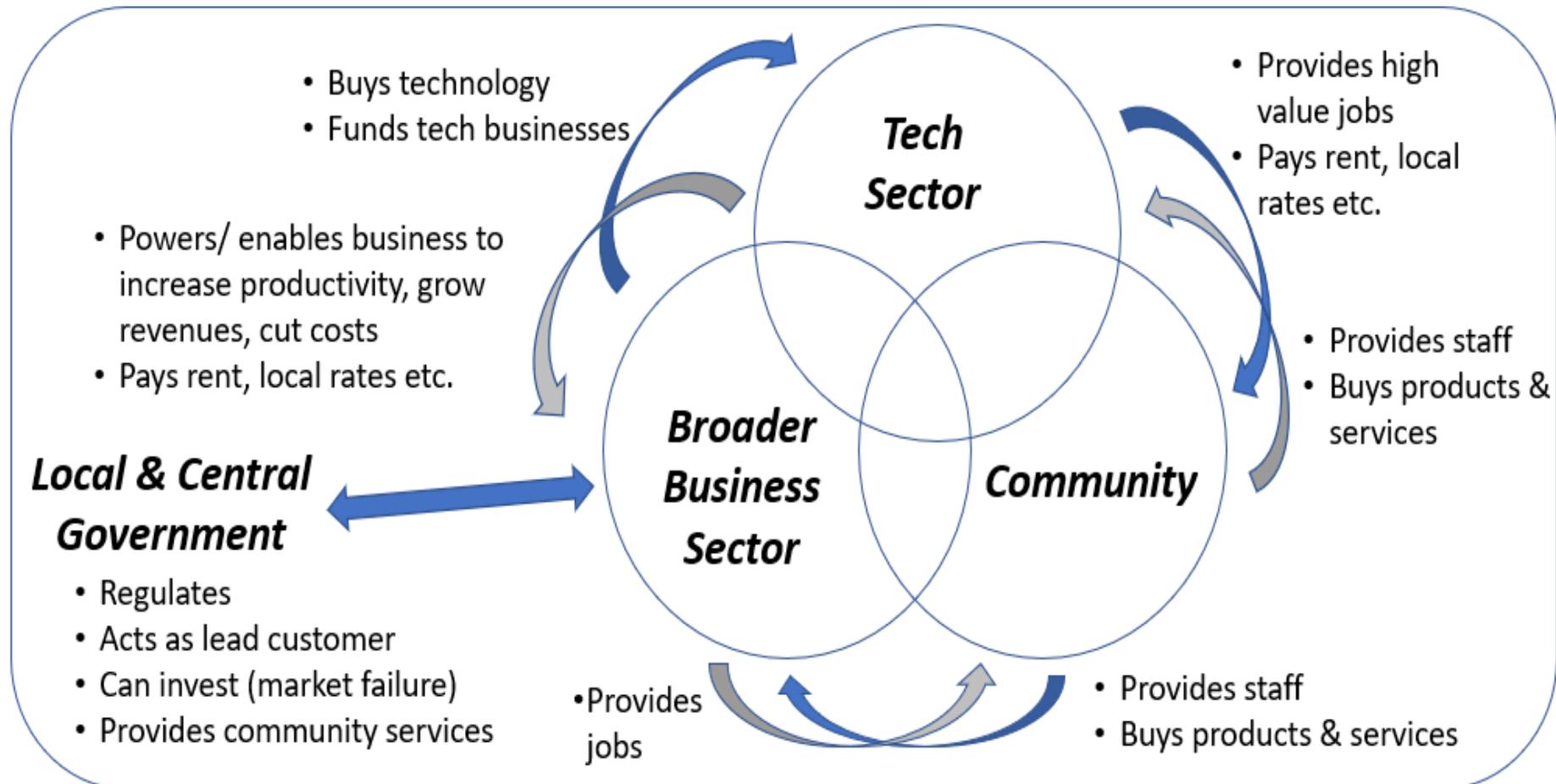
## The Tech Sector





## A connected ICT eco-system

The success of the Tech Sector in the Waikato region depends on the broader business sector and the community, as well as Govt



## Digital Action Plan

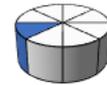
The draft Digital Action Plan lays out a range of initiatives as well as costs, benefits and dependencies for each layer & industry

For each value “layer” and each industry “slice” the following was considered in summarising possible initiatives -

- Strengths of the current situation
- Comparative weaknesses of the current situation
- Possible Digital Action Plan initiatives
- Exemplars to learn from
- Potential costs
- Potential benefits
- Likely dependencies
- Risks & mitigation



*ICT value “layers”*



*Industry “slices”*



*Geographic areas*

A summary was also provided for each geographic area.



By layer of the tech sector

	Possible initiatives	Exemplars
<b>1. Infrastructure</b>	<ul style="list-style-type: none"> <li>• Optimise and accelerate UFB2/2+ deployment:               <ul style="list-style-type: none"> <li>○ UFF have already committed to an accelerated rollout timetable</li> </ul> </li> <li>• Trial fibre extensions outside the current and proposed UFB footprint:               <ul style="list-style-type: none"> <li>○ “Fibre To The Farm”</li> <li>○ “Fibre To The Marae”</li> </ul> </li> <li>• Optimise and accelerate wireless deployment:               <ul style="list-style-type: none"> <li>○ Districts to coordinate regionally and work with the RCG (Spark, Vodafone, 2Degrees) on RBI2 &amp; Mobile Blackspots rollout: e.g. site acquisition, community engagement.</li> <li>○ Offer to partner with cellular companies for 5G trials.</li> </ul> </li> </ul>	Canterbury region engagement with Spark 2015-16
<b>2. Connectivity</b>	<p><b>Improve Small and Medium Business connectivity</b> by engaging, enabling and advocating for uptake:</p> <ul style="list-style-type: none"> <li>• Promote awareness of connectivity options, including rollouts underway such as UFB2/2+ &amp; RBI2.</li> <li>• Direct SMEs to the Broadband Map* and comparison sites such as BroadbandCompare and Glimp</li> <li>• One option would be to offer a targeted subsidy (e.g. voucher) towards the costs of initial installs, conversion of IT equipment, training, Website upgrades etc.</li> <li>• In conjunction with <i>5 People/ Skills</i> (upskilling initiatives)</li> </ul> <p>Sources: * <a href="http://www.broadbandmap.nz">www.broadbandmap.nz</a> ** <a href="https://ec.europa.eu/digital-single-market/en/ict-innovation-vouchers-scheme-regions">https://ec.europa.eu/digital-single-market/en/ict-innovation-vouchers-scheme-regions</a></p>	<b>Europe:</b> An EU programme commenced in 2014 to offer SMEs “innovation vouchers”**, with regions implementing the scheme on a local, decentralised basis:



	Possible initiatives	Exemplars
	<p>Comprehensive <b>Digital Divide programme</b>, trialling multiple methods to “close the divide”, including:</p> <ul style="list-style-type: none"> <li>• Community Wireless from local fibre e.g. to schools, libraries, cabinets</li> <li>• Low income household connection, potential in conjunction with Housing NZ and/ or iwi</li> <li>• Enhanced support for NGOs working to address the digital divide, for example OMGtech (youth), WAW Trust (families), SeniorNet (seniors)</li> <li>• Working with Spark to promote Spark Jump with NGOs</li> <li>• In conjunction with 5 People/ Skills (upskilling initiatives)</li> <li>• See also 12Education, as school devices for E-learning are a key means of bringing connectivity into the home.</li> </ul>	<p><b>Singapore:</b> dedicated Digital Inclusion Fund subsidises connections for seniors &amp; low income households</p>
<b>3. Products/ Apps</b>	<ul style="list-style-type: none"> <li>• Promote cloud uptake especially amongst SMEs and to less technology-literate businesses in sectors like agriculture, tourism and health <ul style="list-style-type: none"> <li>○ Could extend existing Business Support initiatives offered by Waikato Innovation Park</li> </ul> </li> <li>• Educate Waikato businesses on benefits of offering remote working and improved mobility solutions for staff</li> <li>• Promote remote working and Waikato lifestyle in Auckland, Wgtn, Chch: <ul style="list-style-type: none"> <li>○ E.g. “Why not work from here?” (photo of Raglan beach etc.)</li> </ul> </li> </ul>	
<b>4. Tech Services</b>	<ul style="list-style-type: none"> <li>• Build and promote case studies of tech services innovation for local businesses</li> <li>• Fund &amp; support local ICT groups (including MeetUps) with interests in key services areas/ technology communities, such as: <ul style="list-style-type: none"> <li>○ Agile &amp; development methodologies</li> <li>○ Data science</li> <li>○ Robotics</li> <li>○ AI/ Machine Learning</li> <li>○ Internet of Things</li> </ul> </li> </ul>	



	Possible initiatives	Exemplars
	<ul style="list-style-type: none"> <li>Take a supply chain and sectoral approach - see 6 to 13</li> </ul>	
5. People/ Skills	<p>Address the <b>ICT sector skills shortage</b> by:</p> <ul style="list-style-type: none"> <li>Specifically engaging Maaori to co-design initiatives to increase Maaori participation in the tech sector</li> <li>Further analysing the skills shortage in Waikato ICT businesses – both tech firms and non-tech: <ul style="list-style-type: none"> <li>Conduct an industry survey via SurveyMonkey or the like</li> <li>Promote survey via WMB, local chambers etc.</li> <li>Support with additional analysis of graduates employment paths from WinTec and Uni of Waikato</li> </ul> </li> <li>Using results as a “call to action” at Waikato Economic Summit in August. This could: <ul style="list-style-type: none"> <li>Seek increased capacity for ICT undergraduate and post-grad programmes at WinTec and Uni of Waikato</li> <li>Build improved matching capability between employers and applicants for tech roles</li> </ul> </li> </ul> <p><b>Source:</b> * <a href="https://idealog.co.nz/workplace/2013/07/youth-unemployment-problem-solved-by-motorcycling-mayor">https://idealog.co.nz/workplace/2013/07/youth-unemployment-problem-solved-by-motorcycling-mayor</a></p>	<p>Otorohanga District Council - “Zero youth unemployment” programme*</p>
	<ul style="list-style-type: none"> <li><b>Improve</b> digital skills &amp; inclusion, by extending programmes which aim to improve the ICT skills of those who use the internet &amp; ICT rarely or not at all</li> <li>Existing programmes such as Waikato Web Access/ Computers In Homes, SeniorNet and OMGtech have struggled for funding and capacity, as described in the Stocktake.</li> <li>This would work in conjunction with 2 <i>Connectivity</i> initiatives</li> </ul>	<p><b>UK:</b> Government has funded Digital Inclusion Strategy to halve % lacking basic digital skills to &lt;10% of the adult population by 2020.</p> <p><b>Australia:</b> Broadband for Seniors &amp; BeConnected programmes have helped 650,000+ seniors since 2008.</p> <p>Many other examples</p>



## By industry sector

Sector	Possible initiatives
<b>6. Dairy/ Agri</b>	<ul style="list-style-type: none"> <li>• Work with Fed Farmers and industry groups to accelerate deployment of “smart”/ “precision” agtech such as IoT, big data, drones, GIS etc.</li> <li>• Benefits include:               <ul style="list-style-type: none"> <li>○ Cost reduction (e.g. less fertiliser &amp; electricity needed, ),</li> <li>○ Productivity improvement (e.g. faster milk cooling),</li> <li>○ Better work-life balance (fewer hours worked for the same output),</li> <li>○ Smaller environmental footprint</li> </ul> </li> <li>• Promote the region &amp; its ICT capabilities to the agri sector:               <ul style="list-style-type: none"> <li>○ Waikato could, for example, sponsor local ICT companies at the innovation tent at Fieldays to give them national exposure.</li> <li>○ Build on Spark IoT trials in Matamata, local start-ups etc.</li> </ul> </li> <li>• Take a supply chain approach, working with Fonterra, Silver Fern Farms etc. to encourage uptake. Partner with local leaders (Gallagher, Simcro, LIC), CRIs (AgResearch, Plant &amp; Food Research) and NGOS (LandWise).</li> </ul>
<b>7. Tourism</b>	<ul style="list-style-type: none"> <li>• Increase use of digital platforms to promote tourism, for example:               <ul style="list-style-type: none"> <li>○ Ensure tourism SMEs without an online presence get online (TripAdvisor, social, Web, eCommerce)</li> <li>○ Promote attractions easily accessible from sites at/ near capacity e.g. Waitomo Caves, Hobbiton</li> <li>○ Target spillover from Auckland &amp; Rotorua</li> <li>○ Work through key supply chains e.g. hotels, travel agents.</li> </ul> </li> <li>• Encourage operators to add value to the tourist experience with digital technology e.g. photos, video, 360° immersive video, VR</li> <li>• Support decentralisation and “off-peak” industry strategy using digital marketing</li> <li>• Support Maori tourism initiatives, promote Maaori worldview in tourism sector via digital means &amp; VR. Could seek partnership with Govt through Te Tāpoi Ararau. (See 8)</li> <li>• Further assist MBIE with its initiative to build better digital training options at tourism events (MBIE/ PwC workshop with Hamilton &amp; Waikato was held on 17 May)</li> </ul>



Sector	Possible initiatives
<b>8. Maori</b>	<ul style="list-style-type: none"> <li>• Establish* an online presence to disseminate information &amp; business support for Maaori-owned firms</li> <li>• Advertise* to whaanau how to access online material, mentoring, financial literacy tools and other services</li> <li>• Create* a portal &amp; online directory for Maaori businesses in Waikato Region</li> <li>• Extend Tainui’s trial of environmental monitoring on the Waikato River using IoT devices</li> <li>• Seek TPK/ Govt engagement via He Kai Kei Aku Ringa (economic development fund) and Ka Hao (Digital Tech Development Fund)</li> <li>• See also 7 <i>Tourism</i> (promote Maaori worldview in tourism sector via digital means)</li> <li>• See also 2 <i>Connectivity</i> (close digital divide evident in Maaori communities compared with NZ average)</li> </ul> <p><b>Source:</b> * 2018 Waikato Maaori Economic Development plan</p>
<b>9. Local Govt</b>	<ul style="list-style-type: none"> <li>• Rollout out “Smart Hamilton” programme, including: <ul style="list-style-type: none"> <li>○ 10Gbps city network</li> <li>○ Transport operations</li> <li>○ CCTV</li> <li>○ Digital services</li> <li>○ Smart parking</li> <li>○ Supported by open data &amp; innovation framework</li> </ul> </li> <li>• If successful, progressively extend Smart Cities into smaller centres</li> <li>• Extend and optimise Waikato Local Area Shared Services approach to shared ICT capability</li> <li>• Set targets for digital interactions with Local Govt across the region (cf. DIA’s Result Areas 9 &amp; 10) &amp; publish progress reports</li> </ul>
<b>10. Services Sector</b>	<ul style="list-style-type: none"> <li>• Work through industry associations, Chambers to reach into services industries <ul style="list-style-type: none"> <li>○ E.g. lawyers, accountants, architects, planners, real estate etc.</li> <li>○ Target SMEs and those in smaller towns</li> </ul> </li> <li>• Encourage uptake of: <ul style="list-style-type: none"> <li>○ Connectivity such as UFB</li> <li>○ Products/ apps/ platforms including cloud computing, website, social, eCommerce, eGovernment</li> </ul> </li> <li>• Build capability in FinTech by offering to host start-ups participating in the FinTech Accelerator* (Wellington, May 2018) at Waikato venues such as Soda.</li> </ul> <p><b>Source:</b> * <a href="http://www.voxy.co.nz/business/5/310284">http://www.voxy.co.nz/business/5/310284</a></p>

Sector	Possible initiatives
<b>11. Manufacturing</b>	<ul style="list-style-type: none"> <li>• Waikato’s strength in dairy processing suggests opportunity to showcase local best practice (including ICT) to national and international peers</li> <li>• Work through key supply chains (e.g. Fonterra) to diffuse technical expertise to farmers and other businesses</li> <li>• Continue to grow value-added to outputs with technology, by linking High Tech Manufacturers with ICT leaders in fields such as AI/ machine learning/ robotics, VR/ AR, big data etc.</li> <li>• Given strength of the Waikato in High Tech Manufacturing, there is an opportunity to form a virtual or even physical Centre of Excellence</li> <li>• Promotional opportunity for the region: “NZ’s home of High Tech Manufacturing”</li> <li>• Engage Callaghan Innovation to partner with local manufacturers to improve processes &amp; productivity, reduce costs etc.</li> </ul>
<b>12. Education</b>	<ul style="list-style-type: none"> <li>• Work with key educators and school ICT PD groups to extend e-learning programmes &amp; initiatives.</li> <li>• Actively seek opportunities to trial new approaches and extend rollout of existing capability (e.g. Manaiakalani)</li> <li>• Encourage education stakeholders to adopt specific, ambitious goals, for example:</li> <li>• 100% of school students and [xxxx%] of NEET rangatahi to be eligible for an e-learning programme.</li> <li>• [xxx%] of school students connected via a digital device.</li> <li>• Engage with and learn from exemplars such as Manaiakalani, ConnectED Hamilton etc.</li> <li>• Engage with Govt regarding digital divide policy development and rollout programme.</li> </ul> <p><b>Note:</b> * See <a href="http://www.manaiakalani.org">www.manaiakalani.org</a></p>
<b>13. Health</b>	<ul style="list-style-type: none"> <li>• The DHB is rebuilding at present after some recent governance issues.</li> <li>• The DHB has a solid track record in telehealth.</li> <li>• A trial of 2 “telepresence robots” named Dougie and Daphne is connecting patients to doctors in Waikato and Thames at present.</li> <li>• However, the DHB recently said that use of its “SmartHealth” app will be discontinued in May 2018, after high launch costs (\$25m), low uptake and claims that alternatives offer superior functionality.</li> <li>• While these issues are worked through, the DHB will probably struggle to lead any major new ICT-oriented initiatives.</li> <li>• There is an opportunity for the primary sector (e.g. Pinnacle Midlands Health Network) to take the lead in the meantime and, at the right time, to engage with Govt on telehealth.</li> <li>• For example, the current trial in Hamilton &amp; Waipa of “BetaMe”, a self-management programme for patients with diabetes and pre-diabetes, could lead to a rollout across the region.</li> <li>• The sector can also be a willing participant in 3<sup>rd</sup> party trials &amp; capability-building initiatives.</li> </ul>



By area of the region

	Possible initiatives	Council(s)
<b>14. Central</b>	<ul style="list-style-type: none"> <li>• Key location for Smart Cities initiatives (see 9 Local Govt)</li> <li>• Certain areas with low broadband uptake and poor ICT skills would benefit from 2 Connectivity and 5 Skills respectively.</li> <li>• Strong leadership of Maori economic initiatives</li> <li>• Broad economic base including dairy/ agri, tourism, education, health etc.</li> </ul>	Hamilton City Council Waipa District Council
<b>15. North</b>	<ul style="list-style-type: none"> <li>• Drive 1 <i>Infrastructure</i> rollout, 2 <i>Connectivity</i>/ uptake and 3 <i>Skills</i> development to help deal with the “Auckland spillover” effect</li> <li>• See 3 <i>Products &amp; Apps</i> (e.g. remote working, cloud)</li> <li>• See also 6 <i>Dairy/ Agri</i>; 7 <i>Tourism</i>; 8 <i>Maori Economy</i></li> <li>• See also 9 <i>Local Govt</i></li> </ul>	Waikato District Council
<b>16. East</b>	<ul style="list-style-type: none"> <li>• See 3 <i>Products &amp; Apps</i> (e.g. remote working, cloud)</li> <li>• See also 6 <i>Dairy/ Agri</i>; 7 <i>Tourism</i>; 8 <i>Maori Economy</i></li> <li>• See 9 <i>Local Govt</i> (strong potential benefit due to several small District Councils)</li> </ul>	Matamata Piako District Council Thames Coromandel District Council Hauraki District Council Rotorua Lakes Council
<b>17. South</b>	<ul style="list-style-type: none"> <li>• The strength of forestry/ wood processing sector suggests targeted initiatives to add value with technology. For example: <ul style="list-style-type: none"> <li>• Cloud computing</li> <li>• Supply chain integration</li> <li>• IoT for plantation monitoring, effluent monitoring etc.</li> <li>• Design (Stainless Design but for wood products)</li> </ul> </li> <li>• Work with Scion to improve dissemination of advanced forestry/ nursery technologies across sector as well as Toi-Ohomai Institute of Technology (tertiary education provider with forestry expertise in Rotorua &amp; Taupo)</li> <li>• Work with Trustpower to encourage improved broadband uptake as part of KCE takeover (see 2)</li> <li>• See also 7 <i>Tourism</i> and 8 <i>Maori Economy</i></li> </ul>	South Waikato District Council Otorohanga District Council Great Lake Taupo (Taupo District Council) Waitomo District Council



