12. Country Report of New Zealand[1]

12.1 Current Status of the ICT Sector of New Zealand

The information and communications technology sector in New Zealand is growing at a rapid rate. ICT service and software exports have doubled from 2008 to 2014 (The Ministry of Business, 2017). A recent report from New Zealand Digital Skills Forum shows that the demand for individuals skilled in the ICT sector is already high, is increasing at significant rate, and is projected to continue to grow (Nation, 2014).

Figure 1. New Zealand's Digital Skills Shortage

Source: Digital Skills for a Digital Nation - NZ Digital Skills Forum

The immediate concern is that the current situation and the forecasted growth presents notable digital and ICT skills shortages. Simply put, the number of ICT jobs is growing at a faster rate than the number of new employees entering the tech sector. Digitalisation continues to spread, and

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entirely new ICT roles are continually being created. ICT roles are now the most commonly posted job at median salary level. Perhaps the most striking figure is that in 2016 alone, there were 14,000 new jobs created within the ICT sector.

Digital Nation lists the ICT sector as the third largest and fastest growing sector in New Zealand, with about 28,000 companies and over 100,000 employees in these fields (Ministry of Business, 2017). Despite these figures, the gender gap is significant: women make up less than a quarter of those currently in ICT roles. Of those studying ICT-related fields in 2016, only 36% were female, and the gender gap in STEM (Science, Technology, Engineering and Mathematics) fields is still significant. The issue traces down even further – only 3% of high school girls surveyed by the report in 2017 considered STEM fields as possible career choices.

There are several groups and companies in New Zealand making notable efforts to both promote the ICT sector and provide education and professional development opportunities to fill skills shortages.

Figure 2. NZTech

Source: nztech.org.nz

NZTech[2] is a non-profit, membership-funded, non-government organisation which represents over 500 ICT organisations and companies in New Zealand, and collectively over 100,000 individuals. Members of NZTech vary, from small startups to multinational ICT firms, from banks and financial institutes to government agencies.

NZTech's aim is to assist economic growth in the ICT sector by promoting and advancing New Zealand's technology ecosystem, and creating an environment where technology can facilitate higher productivity. One of the key ways it does this is by promoting the benefits of technology, and reporting successes and potential opportunities for New Zealand general public, and also the rest of the world.

In May 2017, NZTech, in association with the New Zealand Ministry of Business Innovation and Employment, ran Techweek'17[3], a national programme consisting of a week of technology-

[2] www.nztech.org.nz/

[3] www.techweek.co.nz/who-is-techweek/

inspired events held at various locations across New Zealand. Techweek was initially an Auckland-only event, however previous years saw so much success and popularity that running a national event quickly became feasible, and what was initially TechweekAKL became TechweekNZ, and in 2017 was hosted or run by NZTech partners, government agencies, ICT organisations and smaller networking groups. In total, 287 individual events were held in 24 locations around the nation, with over 20,000 registered attendees.

NZTech has also been involved in efforts to bridge the gender gap in ICT, and in 2017 partnered with New Zealand Ministry of Youth to run ShadowTech Day, a programme allowing high school girls to shadow women in ICT roles in various companies to gain first-hand experience of the ICT industry.

Tech Futures Lab

Figure 3. Tech Futures Lab

Source: www.techfutureslab.com

In January 2016, New Zealand entrepreneur and education innovator Frances Valintine, CNZM, launched Tech Futures Lab[4], a specialised professional development and education facility in Auckland, New Zealand. The primary aim of Tech Futures Lab is to provide organisations and innovators the skills necessary to adapt to the emerging and disruptive technologies that are appearing across multiple industries on a daily basis, and to use these technologies to further their own professional value. Tech Futures Lab primarily focuses on fields such as automation, machine learning, artificial intelligence and cognitive computing – fields which are finding a place in industries not previously envisioned.

Since launching, Tech Futures Lab has worked with organisations from multiple industry sectors. This reflects the organisation's vision to build capability and applied knowledge for organisations from all backgrounds, as the technology wave reshaping business is and will affect everyone and every field. In July 2016, Tech Futures Lab officially partnered with industry giants IBM, Microsoft, IAG, Xero, Air New Zealand, and Datacom.

[4] www.techfutureslab.com/

She Sharp

Figure 4. SHE#

She Sharp[5] is a non-profit networking group for high school girls, female tertiary students and industry professionals that was founded in June 2014 by Dr. Mahsa Mohaghegh. The group's goals are to connect technology students to ICT companies by creating networking events where they can meet, and to promote STEM fields to high school girls, and help them to make contact with female role models in the industry. The events allow high school students to see what it's really like on the inside of a tech company, what kind of people are really there (as opposed to who they think is there by stereotype), and encourages them to think about possible future careers.

There is also mutual benefit between the companies and tertiary students: companies have the chance to promote positions to prospective future employees, and the students have the opportunity to make valuable industry contacts. The motivation for these events lies in the belief that an effective way of addressing the gender imbalance is to create an atmosphere where female high school students can see how exciting and relevant technology is to their lives, and provide them with the opportunity of gaining first-hand insight into the industry, meeting their employees and networking with female role models in the industry.

Being able to draw on experience from women in the field is an advantage that should be utilised as far as possible. Hearing from other women in the field sharing their experiences, challenges and successes presents significant encouragement to students either studying computer science or considering it as a career choice (Margolis & Fisher, 2002)

[5] www.shesharp.co.nz