Digital Technologies

FutureNow is the Western Australian Training Council for the creative, leisure and technology industries. The Council is a skills advisory body that represents the voice of industry, advising the State Government on the training and workforce development needs of our industry sectors.

Workers of the future across all industries will need to marry technological skills with interpersonal communications savvy, and the digital technologies sector is leading the charge in delivering the multi-skilled workforce that will underpin our diversified economy. The Western Australian digital technologies, or IT industry, is diverse, with its 53,000 workers[1] distributed across a growing range of occupations. Technological evolution and the iterative, project-based nature of sector activity drives a rapidly shifting skills and labour demand landscape. More than half of the IT workforce is embedded in non-IT industries, so any consideration of sector labour needs should also consider the IT workforce needs of the broader economy.

A significant and growing global skills and labour shortage is well documented, as evidenced by 2019 industry advice in support of the West Australian State Priority Occupation List.[2] This is further supported by research published by lead industry peak bodies the Australian Computer Society[3] and the Australian Information Industry Association.[4] Against this backdrop of now decades-long, year-on-year growth, Covid-19 has emerged as a tempering force, driving documented if temporary contraction in some segments of the industry.

The sector is characterised by a high-degree of reskilling and self-directed learning. Industry workers are expected to pro-actively engage in the broad range of industry-recognised micro credentials and digital badges which assist to demonstrate their competency and keep them work-ready. While analysts are approaching workforce predictions cautiously for now, the sector is broadly positive about its future, and the Western Australian IT workforce is still projected to grow at a higher rate than the broader workforce, at 2.9%, to around 63,000 workers by 2025.[5]

Current environment and emerging trends

Covid-19 impacts

The largest negative impacts from the pandemic reported by the Western Australian digital technology industries have been on export services and medium-to-large infrastructure projects. Early in the quarantine period, industry reported that projects with a growth focus had commonly been put on hold in favour of improved cloud-based capacities and security protocols. This led to a temporary downturn in demand for data-related roles- a phenomenon which has since reversed.

Increased capital investment, including in the private, business, and public spheres, had been contributing to a growing demand for IT consulting and design services prior to the pandemic, however these types of projects saw temporary contraction through the middle of the year. Western Australian industry reported a significant spike in demand for cloud-based solutions in the first half of 2020- in line with working-from-home practices in response to quarantine measures.

Remote working brings increased cyber security risks and a demand for more structured security protocols, and these trends drove expanded demand for IT security specialist services. In addition, security threats growing at the international level[67] continue to act as a catalyst for government investment in the Australian cyber security workforce.[8] Federal government ICT solutions have also faced challenges recently that highlight their visibility and

vulnerability. Issues such as failing Centrelink and ATO interfaces, security problems related to the COVID-Safe app, and the so-called 'Robodebt' or Online Compliance Intervention program, are anticipated to drive demand for a sophisticated industry response.

This high degree of fluctuation and uncertainty makes for an uncertain future labour market in WA, however strong performance across the state's broader economy is an early indicator that the downturn will have a minimal impact on IT labour market demand in 2021 and beyond.

Industry and government initiatives

Key industry bodies for the ICT sector, the Australian Computer Society and Australian Information Industry Association, have both developed a set of COVID-19 response resources for the sector and IT workers.[9] The ACS recently launched a Career Platform which provides a tailored jobs board to members.[10] They have also developed a Professional Standards Scheme[11] which confers on members certified professional (CP) status, and is governed by a nationally recognised framework. The aim of the scheme is to improve professional standards and recognition across the workforce, supporting member employability.

The Australian Information Industry Association released the white paper Building Australia's Digital Future in a Post-COVID World, in June 2020. The paper makes a number of recommendations including around skills development. The AIIA advocate for a less siloed approach to education and training, that higher education providers need better collaboration with industry, and that ICT trainer roles should be easier to access and more attractive for ICT industry experts.[12]

Government initiatives launched in response to the COVID-19 pandemic have centred on providing support to small business to develop their capacity to use technology for operations and to innovate.

The state government recently launched a new regional innovation fund, GroundSwell, intended to assist small regional businesses accelerate their growth, create jobs, become more globally competitive and ride out the effects of COVID-19. The program will provide grants of up to $200,000 to deliver targeted entrepreneurship and technology training and support programs in regional Western Australia.[13] Similarly, Lanchpad[14] is a new program intended to support innovation, which will upskill small businesses in the Pilbara through a series of free online learning programs. Last year the state government launched X-TEND WA as part of the $16.7m New Industries Fund. This project is also delivering education programs to investors and innovators to develop their entrepreneurial capacity and ability to build scalable product.

At the Federal level, the 'Enterprising Community' initiative will see the creation of a website to drive digital capability among small businesses.[15]

Workforce enhancement strategies

Global workforce, local skills

As organisations become accustomed to managing employees working at home, industry report that a previous hesitation to recruit international workers to local positions on a remote-working basis is fading, and that a truly global workforce may emerge. This may mean less reliance on skilled migration, since workers can perform roles from offshore, and will mean that local workers are competing on an international playing field.

Conversely, a renewed focus on career pathways for local graduates and early-career workers is also emerging, with industry conscious that an over-reliance on an internationally mobile workforce poses risks in the current environment. And while temporary skilled migration is falling out of favour, Western Australian industry is keen to explore the potential of attracting a highly skilled immigrant workforce on a permanent basis and note that our relative isolation, safety, and status as a liveable city is highly attractive given current global challenges.

Urgent requirement for cross-sector technical skills

The employer peak body for the ICT sector, the Australian Information Industry Association, cites in their June 2020 white paper Building Australia's Digital Future in a Post-COVID World[16], an Australian Academy of Technology and Engineering (ATSE) report that highlights skills readiness as a key element in equipping Australia for the world of the future. Through ATSE's technology readiness project, they identified urgent technology capabilities were required in several of Australia's core economic drivers including in the manufacturing, health, energy and agriculture sectors. [17]

Addressing gender disparity in the ICT workforce

Projected labour shortages for the ICT sector will need to be addressed by attracting a broader segment of the population to ICT careers. Given the disproportionate unemployment impact on women from the COVID-19 pandemic[18], initiatives aimed at attracting women to the sector stand to address labour shortages and diversity challenges for the sector, as well as supporting employment pathways. The Australian Academy of Science and the Australian Academy of Technology and Engineering launched the Women in STEM Decadal Plan in 2018, which seeks to address the significant under-representation of women in the STEM workforce.[19] The plan identifies that VET qualified workers make up 68% of ICT workers, while only 9% of those are women.

Addressing the rapidly evolving skills demands of the digital technologies sector in WA

Training and education providers face an ongoing challenge to meet industry needs in this rapidly evolving sector. While the pace of change with relation to workforce skills is known to be fast, impacts from Covid-19 have accelerated that trend this year, with remote working practices driving a technology-reliant shift across the global economy. Key skills areas identified by Western Australian industry as of growing importance include: remote operations; change management; digital infrastructure; cloud engineering; cyber security; data analytics; ecommerce; health tech; full stack development; DevOps; user experience (UX); and virtual desktops and remote monitoring tools.

In addition industry note that digital literacy across the entire workforce will need to be supported and bolstered in order to minimise exposure to cyber threats and to nurture innovation. A digitally fluent labour force that is communicative, adaptive and technically skilled, is vital to the success of Western Australia's future diversified economies.

Skill sets

Enterprise training is a permanent feature of the industry owing to constant change around specific technologies, and industry is not seeking accredited solutions in this space. However, industry advise that in order for the vocational education system to remain of use to the sector, it must find ways to be more flexible and responsive to industry needs. Industry are supportive of any model which facilitates rapid development and delivery of ICT skill sets. This type of discrete upskilling will allow existing ICT workers to quickly develop the skills they need to fulfil a specific parcel of work. This may include facilitating the delivery of vendor certifications.

Training, education, and careers pathways

Industry, and training and education stakeholders, recognise an urgent need to deliver a clear and concise narrative around education, training and career pathways for students and workers seeking a career change. A great number of initiatives and large volume of information exist on the subject already, but can be inconsistent and very difficult to navigate. Potential industry entrants need an accessible source of formal advice on pathways to ICT industry careers in Australia, and given the challenges currently facing job-seekers, a coordinated, national initiative in this space would be timely.

Please get in touch with FutureNow

FutureNow is continually seeking broad input from stakeholders and representatives in the Western Australian Digital Technologies sector. If you would be interested in providing your perspective on this snapshot or related workforce matters for your sector, our Digital Technologies Industry Manager would love to hear from you:

Ann-Marie Ryan | Industry Development Manager - Digital Technologies | Creative and Cultural Industries

0412 033 038 | amryan@futurenow.org.au

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Note that unreferenced information in this snapshot is based on direct consultation by FutureNow with WA industry.

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