# FutureNow.
# Digital Technology

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.

### A global shift to a virtual world

Lockdown and social distancing measures that began in early 2020 as a response to the Covid-19 pandemic crisis have fundamentally changed the way people across the globe work, socialise, and engage in recreational activities. The capacity of the digital technologies industries to provide solutions to the unprecedented needs of the broader economy have underpinned Australia's relatively strong fiscal performance over the course of the Covid-19 pandemic.

Demand for the products and services of the digital technology industries continue to expand as people seek to engage for work and leisure remotely. Peak body the Australian Computer Society identified in their annual Digital Pulse report that demand for IT workers grew at three times the rate of the general workforce in 2020, with the Western Australian workforce predicted to grow at an above average rate of 5.6% to 72,179 workers by 2026.[1] The 2020-2021 National Skills Commission Annual Report identified that the eight fastest-growing areas of skills demand were all in the digital arena, including AI, automation and machine learning; data science, analytics and engineering; and online marketing and social media.[2]

The Western Australian digital technologies, or IT industry, is diverse, with its 52,084 workers[3] distributed across a growing range of occupations, and with more than half of the IT workforce embedded in non-IT industries. 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.

The Western Australian IT industry is facing growing labour and skills shortages, with enrolments in IT-related training programs steadily declining since 2016, and higher education enrolments increasing only marginally.[4] [5]

## Current environment and emerging trends

### Covid-19 impacts

Demand for the products and services of the digital technology industries has expanded significantly as people seek to engage for work and other pursuits remotely. These market disruptions are in addition to the rapid pace of technology-driven change already present in the skills and labour market landscape for the digital technologies industries. Areas of labour demand which were growing rapidly prior to Covid-19, have continued to grow- some in relation to global events, such as cybersecurity workers, and others, such as data analysts, in relation to an appetite for expansion in

the general Western Australian economy.

Covid-19 has led some companies to realise that their existing infrastructure cannot provide the flexibility and security necessary for a mobile, remote workforce, and while there are still businesses in the market that are not adapting as they could be, much of the previous hesitancy to adopt solutions such as cloud storage have now dissipated. This has driven a surge in demand related to digital infrastructure reviews. In particular, high commodity prices have driven significant capital expenditure investment from the resources sector. The work initiates a project cycle which drives demand for IT roles that flow from business analysts, to project managers, systems architects, network engineers, and administrators.

While these reviews drive demand in the short-term, ongoing maintenance of service contracts to support new digital infrastructure will settle at a higher level than previously. This will likely see a growth in the size of the labour force for roles including network professionals, security specialists, cloud specialists, and software engineers.

Demand for IT products and services is putting strain on IT solutions and service providers, who report that escalating salary expectations make it difficult to service existing contracts within agreed budgets, and a nationally competitive labour market means that everyone is competing for talent in the same small pool.

Industry therefore advocates for training solutions to assist with labour gaps in occupations related to programming, networking, security, data management, and cloud solutions.

## Workforce development strategies

### Global workforce, local skills

As organisations become accustomed to managing employees working at home, previous industry hesitation to recruit international workers to local positions on a remote-working basis is fading, and 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, the potential of attracting a highly skilled immigrant workforce on a permanent basis is of increasing interest to industry.

### 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 fast, impacts from Covid-19 have accelerated that trend, 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.

### Review of vocational training to meet industry needs

In late 2020, a new *ICT Information Communications Technology* training package was released, with fewer qualifications, but a broader range of embedded industry-current specialisations.[6]

For instance, seven specialisations have been built into the Diploma of Information Technology in areas of identified demand. This qualification is on the *Lower fees, local skills*, half-price qualifications list, as of January 2021.[7]

### Industry advocate for a full suite of industry current traineeships for the WA digital technologies industry

In September 2021, peak industry body the Australian Information Industry Association[8] submitted a Notice of Intent to the WA State Training Board[9], proposing that a full suite of traineeships be developed that reflect the newly reviewed suite of qualifications available in the ICT Information Communication Technology training package. Industry Training Council FutureNow conducted broad industry consultation which found in support of the proposal, and a report was submitted to the Board in November 2021. At the time of writing, the report is under review with the State training authority.[10]

Progress of the proposal may be followed at https://www.stb.wa.gov.au/evac and if endorsed, the following traineeships are expected to be made available to industry from mid-2022:

| Traineeship name | Qualification | Note |
|---|---|---|
| *Information Technology (Level 3)* | *ICT30120 Certificate III in Information Technology* | Already available but now to be endorsed for delivery to secondary students |
| *Cyber Security (Level 4)* | *22334VIC Certificate IV in Cyber Security* | Industry-preferred cyber security vocational qualification |
| *Information Technology (Level 4)* | *ICT40120 Certificate IV in Information Technology* | Includes the following specialisations:<br>• Database development<br>• Database maintenance<br>• Gaming development<br>• Networking<br>• Programming<br>• Systems administration support<br>• Web development |

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|---|---|---|
| *Information Technology (Level 5)* | *ICT50220 Diploma of Information Technology* | Includes the following specialisations:<br>• Advanced networking<br>• Advanced programming<br>• Back-end web development<br>• Business analysis<br>• Cloud architecture<br>• Cloud engineering<br>• Cyber security<br>• Database and data management<br>• Front end web development<br>• Game art and design<br>• Game programming<br>• Systems administration<br>• Systems analysis<br>• Telecommunications network engineering |
| *Information Technology (Level 6)* | *ICT60220 Advanced Diploma of Information Technology* | Includes the following specialisations:<br>• Advanced data management information<br>• Cyber security<br>• Full stack web development<br>• Further programming<br>• IT strategy and organisational development<br>• Systems development and analysis<br>• Telecommunications network engineering |

### 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[11], 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.[12] The plan identifies that VET qualified workers make up 68% of ICT workers, while only 9% of those are women.

### Communicating careers pathways

Industry and training and education stakeholders recognise an urgent need for a clear and concise narrative around education, training and career pathways for prospective students, parents, employers, 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 difficult to navigate. An accessible source of formal advice on pathways to digital technologies careers in Western Australia may also serve to draw more people to the vocational education sector, which can provide accessible training entry points to the broadest possible cohort of prospective students. FutureNow will develop a set of career pathway and case study flyers for publication in early 2022, and will work with the State training authority to build an awareness strategy for the digital technologies sector following endorsement of the new suite of ICT traineeships.

## Please get in touch

FutureNow is continually seeking input from stakeholders and representatives in the Western Australian Information Communication Technology sector. If you are interested in providing further information about the workforce in this sector, please get in touch with the Industry Development Manager:

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## References

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