



**ACT**  
Government

# What We Heard Report

## Skilled to Succeed Implementation

Technology Industry Round Table

8 December 2022

Chief Minister, Treasury and Economic Development Directorate

## Consultation purpose

Launched in 2022, *Skilled to Succeed* is the ACT Government's skills and workforce agenda that strives to ensure Canberrans have the right skills for in-demand jobs now and into the future. This agenda focuses on four priorities:

- Delivering skills inclusively to provide all Canberrans with a foundation for lifelong learning
- Build a more responsive, flexible, and future-focussed skills system
- Assisting employers to build, attract and retain the right workforce
- Strengthening skills sector foundations

To deliver this agenda, the ACT Government is developing Industry Plans for the Care, Technology, Construction, Experience, and Renewables and Sustainability sectors. These Plans will identify actions that both government and industry can take to ensure that the training and skills system supports Canberra's future workforce.

To underpin the development of these plans, the ACT Government has been hosting roundtables with industry stakeholders to hear their views on how the skills sector can support the growth of their industry and develop the workforce that they need going into the future.

On 8 December 2022, the Chief Minister, Treasury and Economic Development Directorate hosted an ACT Technology Industry Roundtable with providers, industry associations, Registered Training Organisations (RTOs), Group Training Organisations (GTOs) and advocacy groups. A list of those participants who attended the Roundtable is provided at Attachment C.

Yellow Edge, a Canberra-based leadership and performance development company was engaged by the ACT Government to facilitate the Roundtable and to prepare the following Listening Report.

This paper captures the key themes and perspectives of attendees.

## What we heard

Participants from the technology industry engaged in a discussion on the opportunities and challenges facing the workforce and on ideas to address the issues. The views recorded in this report were captured from participants on the day.

Five key themes emerged over the course of the discussion. They included:

1. Collaboration between Industry and the Vocational Education and Training (VET) Sector.
2. Upskilling training organisations delivering technology related courses.
3. Attracting the future workforce.
4. Enhancing training opportunities.
5. Recognition of prior learning (RPL) and upskilling the existing workforce.

These themes are interconnected and together provide a picture of what the industry is currently experiencing as well as opportunities for improvement in the future. This report also includes possible solutions and courses of action for the industry proposed by Roundtable participants.

# What are the opportunities and challenges facing the technology workforce now and into the future?

## Theme 1: Collaboration between Industry and the Vocational Education and Training (VET) Sector

- The VET sector would benefit from being actively involved with industry and able to embed and model the driving technological skills and systems. Industry support managers within the Canberra Institute of Technology (CIT), for example, could be a conduit to the technology industry.
- Participants noted Industry's and employer's role in informing VET providers about workplace requirements, technology trends and training / skill requirements so that Registered Training Organisations (RTOs) are able to keep pace with industry needs.
- Engagement and collaboration needs to be guided by a framework and supported by a community of practitioners. Technical and IT work, including cybersecurity, cuts across all industries and there is a need to ensure engagement with a range of employers and subject matter experts.
- Provision of funding for a variety of initiatives which would benefit multiple industries would be beneficial.

## Theme 2: Upskilling training organisations delivering technology related courses

- Finding ways to allow subject matter experts across industry and government to teach and train the future workforce may assist in improving training quality and training outcomes.
- Explore opportunities and incentives for current IT trainers / teachers to retrain and upskill / broaden their knowledge base in a fast-paced, quickly evolving environment.
- Provide VET trainers / teachers to experience short-term placements within industry so they can experience the IT workplace.
- There is inconsistency between the teaching requirements of VET sector and University based IT educators. Trainers and educators in the VET sector require a Certificate IV in Workplace Training and Assessment.

## Theme 3: Attracting the future workforce

- Technology is a broad church and it is important to think about and promote the diversity in careers and sectors including like disciplines such as IT project management and change / transformation.
- Participants discussed the importance of marketing the unique attributes of the technology industry and Canberra in general. Secure, affordable housing was viewed as a potential attractor for individuals joining the ACT's workforce.
- There is a need to address foundational digital skills and bridge the gap in knowledge and skills for new employees.

- Outreach and promotion activities are important to attracting potential employees to the technology industry.
- Participants acknowledged the tech industry's need to elevate its purpose and values to the wider community. This may help engage potential employees, i.e., students / graduates looking for greater meaning, a values connection and the opportunity to deliver positive outcomes for their communities. It may be useful to provide individuals with pre-training / employment self-evaluation and assessment tools to help in this process.
- Participants recognised greater flexibility was required within the industry, including training systems and workplaces, i.e., flexible hours, part-time arrangements.
- Participants felt stakeholders, including government, industry and employers, could do more to promote the industry to school age students, including showcasing the variety of careers on offer across the technology industry and its importance to the economy and society.
- Micro-credentialling in key domains may be attractive to both new and existing staff within the IT industry.
- Participants recommended greater transferability and portability of tech skills across and within government jurisdictions, sectors and regions.
- Participants discussed options for dedicated programs for re-training people for new or changing roles. Mentoring programs would help ensure that gurus and experts were able to 'give back' and share their knowledge to the next generation.
- Participants discussed opportunities for industry to hire and bring in skilled workers through temporary skilled visas, and recommended the Federal Government update national skills list in a responsive manner. Furthermore, with a potential increase in skilled migration, participants recommended industry and government monitor workers' rights and entitlements and have a robust system in place to validate and translate overseas qualifications. Permanent citizenship pathways need streamlining.
- Some participants felt consideration should be given to removing time limits on bachelor degree qualifications, e.g., students must have completed their degree within last ten years to apply for particular jobs.
- Industry has an opportunity to think broadly about diversity. This includes increasing the number of women in technology roles, as well as recruiting more neurodiverse individuals, First Nations people etc. An industry recruitment strategy could target specific cohorts / demographics.
- Some positions do not require standard security clearances. Participants recognised the need to have a more nuanced and differentiated security clearance scheme where possible.

#### **Theme 4. Enhancing training opportunities**

- Participants discussed the benefits of apprentices and trainees working on real-life industry projects. Generalised training through VET could be complimented by industry based assessments.
- Pre-traineeship and pathways can commence from entry level roles.

- The industry would benefit from more targeted focus on key domains. The ACT is too small a jurisdiction to be specialising in all technologies.
- Better alignment of VET training material & methodologies with industry requirements.
- Participants recommended a variety of new methods for delivering content be deployed, including virtual guided training, simulations, learner cafes, hubs, webinars, roleplays, hackathons, and gamification technology.
- Participants felt that “just in time” content delivery was not always leading to quality outcomes for learners, employers, and the industry. Just in time training was, in some cases, over-simplifying, complex issues, and challenges.
- Participants recommended Industry and employers work together to design real-life projects and challenges which can be solved by students.
- Employers would benefit from a better understanding of the incentives for taking on apprentices and to actively support the development of the local tech industry. There is significant opportunity within large companies to take on more apprentices. Building private capability / industry experience is important. Not everyone needs to be degree-qualified.

#### **Theme 5. RPL and upskilling existing workforce**

- Participants recommended industry bodies who accredit skills and training review processes and parameters to recognise international qualifications.
- Participants also recommended universities broaden recognition of cross-institutional courses to recognise prior learning.
- There was a further need to recognise the knowledge, skills and experiences of mid-career changers, including other skills and qualifications which individuals bring to the industry.
- Participants discussed cross-jurisdictional consistency and portability when it comes to technology skills and qualifications.

## What actions can industry stakeholders take towards greater success in the next 10 years?

<b>Government</b>	<b>Industry</b>
<ul style="list-style-type: none"> <li>• More funding and investment including tax benefits for the industry.</li> <li>• Promote the diverse career opportunities within the tech industry.</li> <li>• Faster processing of skilled migration applications / visas.</li> <li>• Improve procurement processes.</li> <li>• Promote Canberra as an awesome place to live and work.</li> <li>• Investment in workforce demand planning.</li> <li>• Highlight successful Canberra tech organisations.</li> </ul>	<ul style="list-style-type: none"> <li>• Partner with Government, Skills Sector, Think Tanks to inform VET and TAFE priorities.</li> <li>• Educate learners on the diversity of opportunities and careers.</li> <li>• Take on students under work integrated learning (WIL) initiatives.</li> <li>• Embrace VET &amp; micro-credentials.</li> <li>• Support cross functional experience.</li> <li>• Share intelligence, workforce requirements etc with stakeholders.</li> <li>• Allow subject matter experts to be released to train students.</li> <li>• Industry to lead career pathway forming</li> <li>• More traineeships on offer</li> <li>• Create more industry placements to grow the pool &amp; grow expertise.</li> <li>• Build a skills framework and identify target domains and skills.</li> <li>• Seek out venture capital input and identify initiatives that all industries benefit from.</li> </ul>
<b>RTO / GTO (Training Org)</b>	<b>Learners</b>
<ul style="list-style-type: none"> <li>• Work closely with industry and become more responsive to industry needs.</li> <li>• Explore different training methods and delivery options.</li> <li>• Promote the pipeline of graduates.</li> <li>• Establish a train the trainer program for tech educators.</li> <li>• Integrate training programs with industry requirements and place an onus on practical learning.</li> </ul>	<ul style="list-style-type: none"> <li>• Students recognise and leverage the diversity they bring to the industry.</li> <li>• More flexible, open, and experimental workforce.</li> </ul>

## What does success look like for the industry?

Participants identified the following desired outcomes for the industry.

- A common skills language / framework which is understood across the industry.
- Portability of skills across sectors and disciplines. There is seamless movement of workers across sectors and the training industry.
- The ACT is a leading jurisdiction for the technology industry and nationally recognised in key domains.
- The ACT is a great place for IT and technology professionals to work and live.
- Work Integrated Learning (WIL) is widespread across the tech industry.
- The technology industry employs a diverse, healthy, and representative workforce.
- The number of technology/computing professionals grows by 13,500.
- The VET and tertiary education sector has a pool of highly knowledgeable, qualified, and experienced educators.

## Next steps

The insights from this roundtable will inform the development of a Technology industry action plan. The ACT Government will stay connected with stakeholders as it progresses the development of the action plan. The plan is expected to be released in 2023.

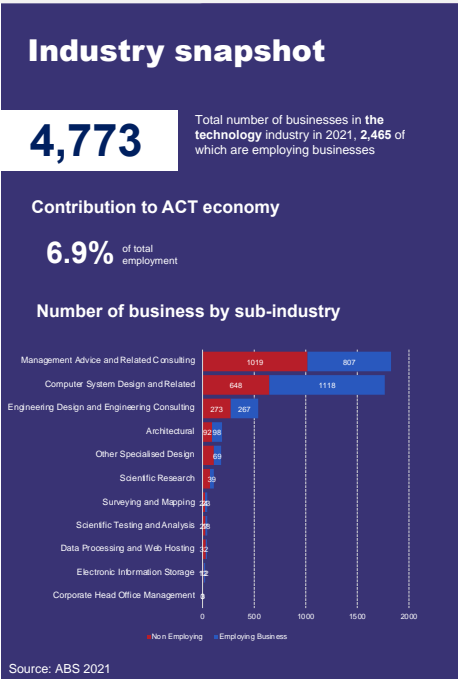
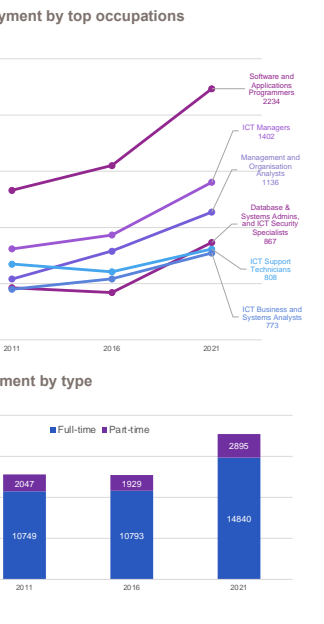
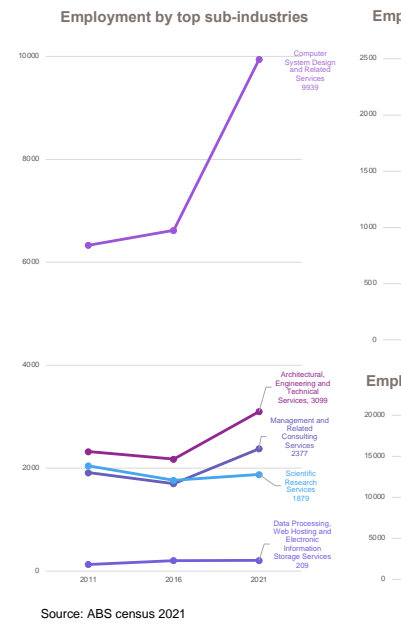
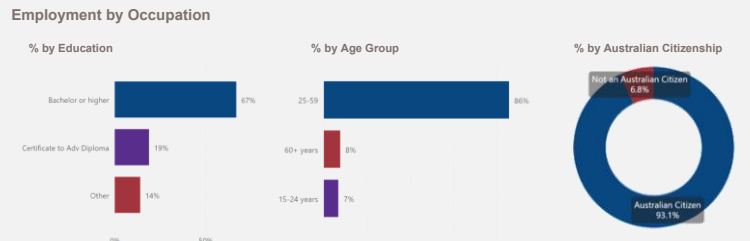
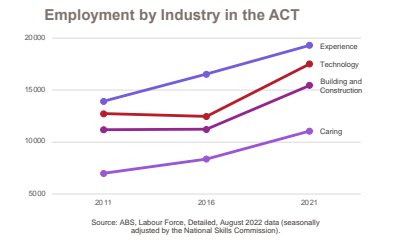
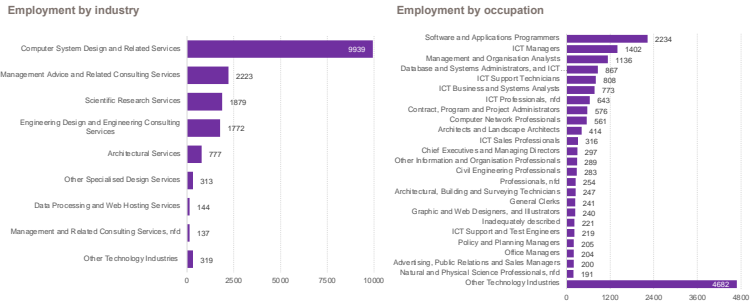
In the meantime, if you or others from your organisation would like to provide a further submission, please write to [skills@act.gov.au](mailto:skills@act.gov.au) by **Tuesday 28 February 2023**. All input is greatly valued, and we thank you for your participation in this forum.

# Attachments

## Attachment A. Key slides from discussion paper referenced in session



### Technology Industries - Employment Snapshot (2021 census)





# Online Vacancies September 2022

**1,808**

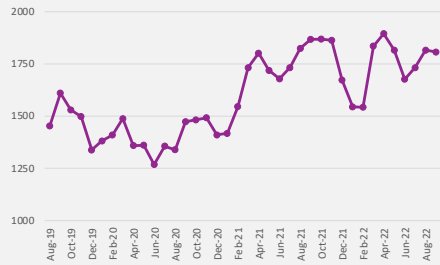
Online job vacancies in occupations related to the technology industry

**8,155**

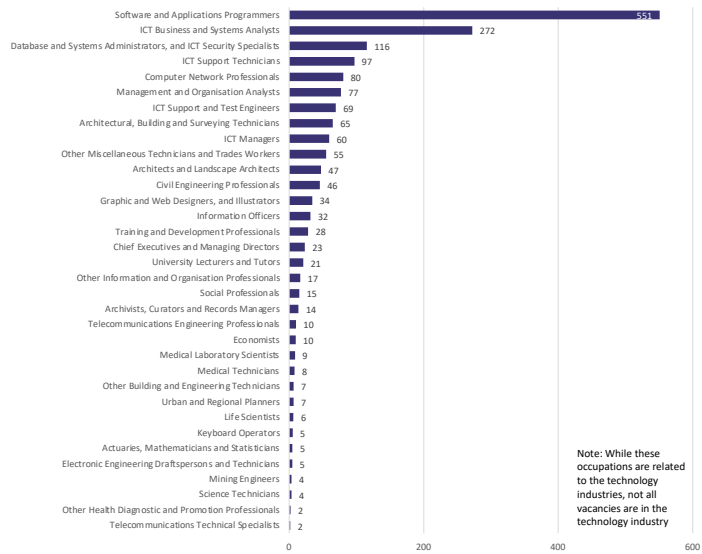
Total online job vacancies in all occupations in the ACT

Source: Internet Vacancy Index (NSC, October 2022)

## Online job vacancies in occupations related to the technology industry – August 2019 to September 2022



## Online job vacancies by occupations related to the technology industry - September 2022

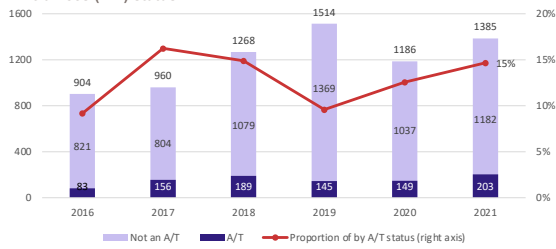


Note: While these occupations are related to the technology industries, not all vacancies are in the technology industry

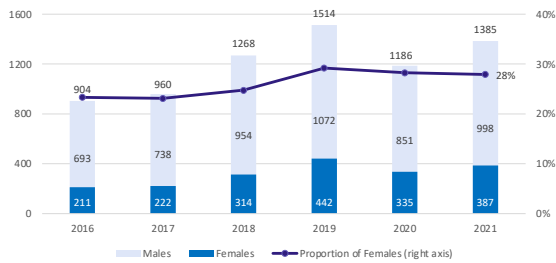
The Internet Vacancy Index (IVI) is a monthly data series measuring online job advertisements, compiled by the National Skills Commission (NSC). IVI data count job advertisements newly lodged on the SEEK, CareerOne and Australian JobSearch online job boards during the reference month.

Source: Internet Vacancy Index (NSC, October 2022) 7

## Government Funded Student Enrolment by apprentices and trainees (A/T) status

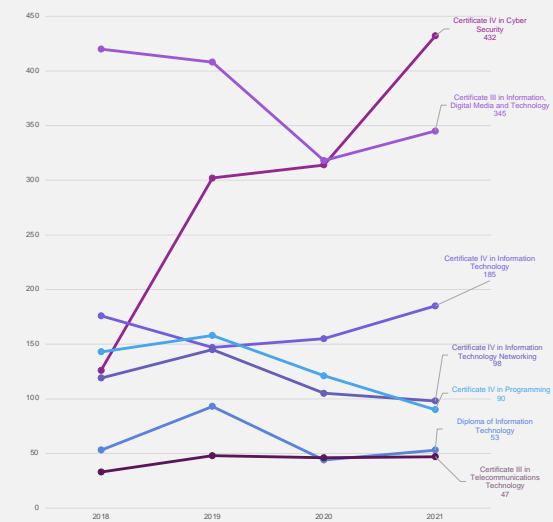


## Government Funded Student Enrolment by gender



Source: VOCSTATS (NCVER, 2022)

## Student Commencement by top 10 qualifications



Source: AVETARS

## Sector's highlights and key issues

Canberra has the **highest levels of security clearances** among the most educated cyber workforce in the country. By 2025, Australia aims to have one of the top 3 digital governments in the world. The Canberra-based Digital Transformation Agency is developing this strategy.

The city is a leading centre of research in information technology with key strengths in cyber security, analytics and machine learning.

The technology workforce had relatively higher levels of cultural and linguistic, and neurodiversity compared with professional services workers.

In the **VET Sector**, new courses are being introduced to upskill workers in the technology industry especially in the field of cyber security.

Nevertheless, in general, the industry is currently facing the following issues;

- **Skill shortages:** High level of technical proficiency and skills shortage and **difficulty in retention** of staff.
- **Gender imbalance** - low participation of Women.
- **Understaffing** at remote and regional areas.
- **Increased demand for IT professionals in the future** which requires specialised skill sets including transition opportunities and improving productivity of current employees.

Sources: ACS Australia's Digital Pulse Unlocking the tech sector: beyond the million 2022, [www.cmetdd.act.gov.au/digital-strategy](http://www.cmetdd.act.gov.au/digital-strategy)

## Megatrends



### Impactful technology

Technological advancement and automation are rapidly changing the lives around the globe. It promotes innovation, learning, and research to address the challenges of modern world. Digitalization and Artificial intelligence (AI) helping to perform more complex tasks to enhance quality of life. People are empowered through smart devices to communicate, learn, interact and manage their lives effectively.



### Socio-demographic change

The World is experiencing rapid and massive socio-demographic change, such as an ageing population, which accelerating the demand for automation and more reliance on machines.



### Climate change

The megatrend of climate change describe protection of livelihood, infrastructure and people's quality of life. The global objective towards more cleaner and greener approaches to use resources efficiently.



### Datafication

This megatrend emphasises that datafication is transforming everything in our life into data which subsequently holds a value. This leads to high demand of IT professionals, data scientists and AI experts.



### Demand for work-life balance

Work-life balance is of increasing importance to the workforce. Trends such as hybrid working has shifted the nature of work in the post-pandemic workplace. Flexibility in work for frontline workforce such as flexible rostering is an emerging trend.



### Metaverse – extended reality

Technologies that simulate reality, from virtual reality and augmented reality - without any tangible presence is a significant trend. It is getting immense popularity among medical specialists and online gamers.

## Attachment B. Roundtable scenarios

### Scenario 1

Digital technologies such as AI, Machine Learning, the Metaverse and Super apps are now ubiquitous. Employers expect that technology workers evolve their skills alongside the fast paced evolution of the sector.

#### Discussion points:

- What role does the VET system have in building capabilities for digital technologies and innovation that are evolving continually and at speed?
- How can technology training providers help the VET system keep pace with capability needs in cybersecurity and digital technologies?

### Scenario 2

Adjusting to COVID has driven expectations in Australia's workforce, including a desire for flexibility in where, how, and when people work as well as where, how, and when they study and build skills.

#### Discussion points:

- How can vocational education and training be delivered in a way that meets expectations around learner flexibility, sophisticated digital delivery and the just in time building of skills and capability?
- How can the VET sector itself be innovative and flexible in tapping into, leveraging, and deploying technology expertise to build skills and capabilities in a way that meets changing expectations?

### Scenario 3

Apprenticeship programs have been a core feature in the development of a skills pipeline in many industries in the ACT. Building greater support for apprentices has been identified as a positive strategy to improve wellbeing and realise improved retention and an improved skills pipeline.

#### Discussion points

- What role do apprenticeships have in the technology sector?
- What challenges might young technology apprentices in the ACT experience? How can these be addressed?
- What are current and potential future approaches that could be deployed to improve participation of women and other underrepresented groups in apprenticeship training in technology?

### Scenario 4

The level of skilled immigration is expected to continue to rise post COVID with competition for attracting those skills increasing due to unmet demand. Employers are keen to tap into this skills base while workers are likely to expect recognition of their qualifications and experience and the opportunity to continue to broaden their capabilities.

#### Discussion points:

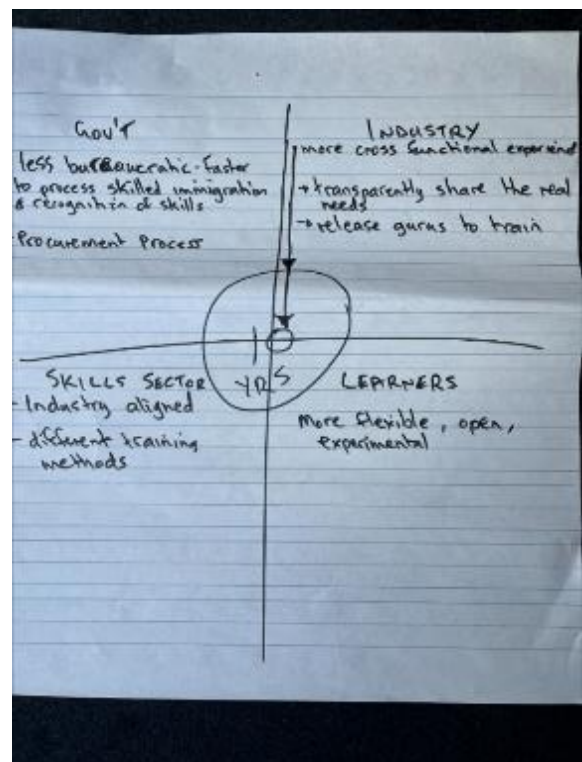
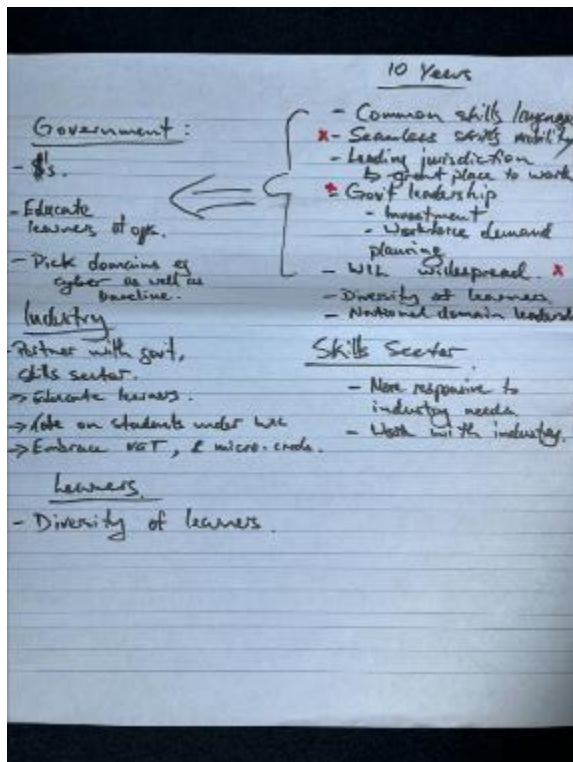
- How can previously acquired technology experiences, capabilities and skills of mid-career people and migrants be recognised by the VET sector and leveraged by employers?

- What career pathways exist or could be developed to attract migrants, women, mid-career workers and underrepresented groups?

## Attachment C. Roundtable attendees

<b>Organisation</b>
Canberra Cyber Hub
University of Canberra
AUKUS Jobs
School of Computing, Australian National University
MMCLD
CyberCX
Australian Computer Society
Australian Information Industry Association
Rubik3
HCL
Canberra Business & Technology College
Tata Consulting Service (TCS)
University of NSW
Minister for Skills
Senior Advisor, Minister for Skills
ACT Government officials from Chief Minister, Treasury and Economic Development Directorate.

## Attachment D. Roundtable notes



**SUCCESS LOOKS LIKE THIS:**

Marketing: Promote Canberra as an awesome place to live and work

Reached 13,500 additional tech/computing professionals we need

ICT workforce in Canberra is representative

Excellent & complete reputation of Canberra (the entire ICT ecosystem is placed here)

Promote pipeline of workers

Team the trainers for ICT in Canberra

Showcase successful organisations that are Canberra

Design of Canberra is Great; packed from design to deployment & development

Industry brought to inform VET/TAIF

**ACTIONS FOR SUCCESS**

- Partnering as a method for everything
- Industry to lead pathway forming
- Gov investment (eg tax benefit) for industry to invest in workforce that will in the end translate into better communities in Canberra
- Traineeships by eg ACS

**Success 2028**

End users have qualified workers to train, rather of current Canberra from their design of

Success is strong, self-led, for local industry, a region

Probability of success is high, government support, success in 2028

Industry relevance of a workforce, training, regional, national, global

How can we... (not a strategy)

What

How to measure... (organisations to measure future products)

Success is a type to find solutions that all relevant people face

The true assessment

How to measure (and) success

**SUCCESS IN 10 YEARS**

- \* Less bureaucracy
- \* Integrated learning
- \* More practical (not just theory)

Busier, dispersed across Canberra

Healthier industry

Seamless movement across sectors and training industry.

Transparent and understood skills & competency

① TRACK ASPIRATION

- Provide flexible training options
- Support working & learning work hours
- Need to be part of a community not just a training provider and not the other way round
- Need to partner with industry to fill the skills gap
- Not the same subject matter experts - how do they get ahead in their & transfer skills skill
- Community connects to the future the best skill
- VET ACTING AS A 'FOLLOWER' ENGAGING WITH INDUSTRY TO INFORM TRAINING
- INDUSTRY NEEDS TO TAKE LEAD TO INFORM VET ABOUT OFFERINGS
- FOUNDATION SKILL BASED LEARN TO BUILD
- ~~EMPOWERED TRAINING~~ THROUGH VET COMPLEMENTED BY INDUSTRY PRACTICAL SKILLS TRAINING
- INDUSTRY SUPPORT MANAGERS IN TAFT SHOULD BE A CONTACT WITH INDUSTRY
- "EMPLOYERS EXPECT..."
- ↳ EMPLOYERS NEED TO CONTRIBUTE

① VET TRAINERS - Don't need GC IV in Quality & Assessment

VET TRAINERS - DO - GC??

- VET TRAINERS - Don't need GC IV in Quality & Assessment
- VET TRAINERS - DO - GC??
- VET TRAINERS - Don't need GC IV in Quality & Assessment
- VET TRAINERS - DO - GC??

②

- Just in time for the sector is all wrong
- Just in time = building of skills
- appropriate interventions with time on course
- not just
- need to be equivalent to work but business
- just in time means that workers will be able to
- Combination of learning - online, webinars, learner cases - need interactions, interesting, gamification
- Capstone - reach a level and then do something
- Real industry project training rather than just theory
- \* Know the current situation -> know where to go
- Industry to design real projects for delivery by students. Requires collaboration between industry & training providers.

②

- ADDRESS DIGITAL DIVIDE WHEN ATTRACTING PEOPLE TO TRAIN / SECTOR
- RECOGNISE DIFFERENT TYPES OF LEARNING AS FOR YOUNG PEOPLE / MATURE AGE WORKERS
- BRINGING PEOPLE TOGETHER STILL IMPORTANT
- MORE FOCUS ON SKILL PROOFING SCHEME
- AWARENESS OF PATHWAYS INTO TECH INDUSTRY
- ROLE OF SCHOOLS?
- VALUES AND PURPOSE IMPORTANT ALSO 'CULTURE' 'ETHICALITY'
- BUILDING A COMMUNITY OF PRACTITIONERS
- Virtual guided training for diverse learners
- Simulations virtual labs can be used
- TRACK ASPIRATION
- More Promotions
- Increasing Zerosing Community
- Training providers - need to be part of the industry
- Not a one size fits all - need to be part of the industry
- Need to be part of the industry
- Need to be part of the industry

④

- ACS - Recognition of Overseas IT Degrees
  - rather than towards Group of industry bodies who regulate
- Provide self Evaluation/Assessment Tools.
- Micro Credentials Pathways
- Mid Career Pathways (Women)
  - returning people or women who have been out of the workforce
- Others - Skilled Migration Category
  - increase in number of people who are skilled migrants
  - need National Approval for 4/5 years

④

- Also people in some training should have pathways to complete/post across in Aus/ACT
- To process & progress to actually recognise quite
- Individual security clearance
- Individual issues on their own - look at work rights & work recognition
- Knowledge & understand and five industry led - support
- Technical skills & digital
- Less emphasis
- More flexible to offer mid-career opportunities
- RECOGNISING EXISTING SKILLS OF IMMIGRANTS
- BUILDING FUTURE CAPABILITY / INNOVATION
- DIFFERENT ROLES WITHOUT SECURITY CLEARANCE

③

DP1 - Significant opportunity in Large Companies

- Smaller opportunity for Apprentices in smaller enterprises
- Bid should focus on training in apprenticeship

- INVESTMENT IN 0-5 YEARS TRAINING CLASS/APPROVEMENT REQUIRED BY INDUSTRY
- REQUIREMENT CITIZENSHIP PATHWAYS MORE ORGANIZATIONAL TO ENABLE TRAINING INVESTMENT
- PRE-TRAINING AND PATHWAYS FROM CASE LEVEL ROLES
- GTO MODEL FOR ICT?

**TRACK ASPIRATION**

- HACKATHONS = MAKE TECH A SPORT
- INCENTIVE for Employer

③

- Base qualifications - even fundamentals
- Apprenticeships being practicality to theory
- Alignment of training material & methodology
- Time sensitive industry demands
- Security & liability concerns - risks around leaving OTS
- Mobility - knowledge
- Start in school
- Roleplay

- Focus on the big value of doing well directly now
- be relevant when broadly have

• Tailor the model & delivery to best suit cohort / demographic