Growing Australia's digital workforce

Summary

June 2023

DIGITAL SKILLS ORGANISATION

About the Digital Skills Organisation

The Digital Skills Organisation (DSO) was established in 2020 by the Department of Employment and Workplace Relations (DEWR; formerly Department of Education, Skills and Employment) as one of three industry-led Skills Organisation Pilots, alongside Human Services and Mining.

Its establishment was as a result of the Australian Government's 'Strengthening Skills: Expert Review of Australia's Vocational Education and Training System' 2019 report. This recognised emerging evidence of a growing supply and demand gap for workers with digital skills, and system barriers to closing this gap.

DEWR described DSO's remit to "shape the national training system, testing innovative solutions to ensure digital training meets the skills needs of employers and builds Australia's digital workforce".

The funding period was for three years to June 2023. Subsequently, the introduction of ten Jobs and Skills Councils (JSCs) from June 2023 provides the opportunity to consider how learnings from the DSO trials can inform work priorities for the Finance, Technology and Business (FTB) JSC.

DSO DIGITAL SKILLS ORGANISATION

Acknowledgements

The DSO acknowledges the collaboration and input to the work of the DSO of the Tech Council of Australia (TCA), Australian Computer Society (ACS), Australian Information Industry Association (AIIA), Digital Employment Forum (DEF), VET (Vocational Education and Training) peak associations, including the TAFE Working Group, the Australian Government departments and agencies, state and territory governments, training providers, community groups and schools. The DSO also acknowledges the range of organisations and individuals who have contributed to, or participated in, the trials undertaken as part of the DSO's work.

About this report

This report summarises the DSO's full report, 'Growing Australia's digital workforce'. This work is a contribution to fulfilling the DSO's remit. Specifically, it seeks to:

- Define Australia's current and future digital skilling needs, including assessing supply and demand gaps
- Synthesise the activities and progress the DSO has made to address Australia's digital skilling needs, and the potential to close the skilling gap
- Subsequently, the introduction of ten Jobs and Skills Councils (JSCs) from June 2023 provides the opportunity to consider how learnings from the DSO trials can inform work priorities for the Finance, Technology and Business (FTB) JSC.

Surging demand for digital skills is pushing Australia towards a critical shortage of over 370,000 digital expert and digitally enabled workers by 2026.

Technological advancements have revolutionised how we work, live and learn, making digital skills increasingly necessary across various job roles and industries. Today, all workers are expected to be digitally informed, at a minimum.

Over the last five years, the workforce has transformed with rapid increases in demand for digital skills.

This trend shows no signs of slowing down. There is a projected **47 percent growth in the digital expert workforce** (over 420,000 additional workers) in five years to 2026. See Exhibit i.

There has also been increasing expectations of workers to be digitally enabled to perform their job functions effectively and efficiently.

However, Australia's supply of digitally skilled workers by 2026 will fall short by **130,000 digital experts and 242,000 digitally enabled workers.**

Australia's ability to meet this demand is limited by three challenges

The three challenges facing Australia's future digital workforce are:

- there aren't enough people training to become digital workers
- learners are not being taught the skills that industry demands, resulting in suboptimal training and employment outcomes
- the training system isn't flexible enough to quickly adjust to what industries need.

130k

Australia falling short of digital expert workers

242k

Australia falling short of digitally enabled workers

Digital worker definitions

The Digital workforce comprises:

- **Digital expert workers** – those requiring specific digital skills as central functional skills
- **Digitally enabled workers** – those relying on digital skills to augment their functional skills

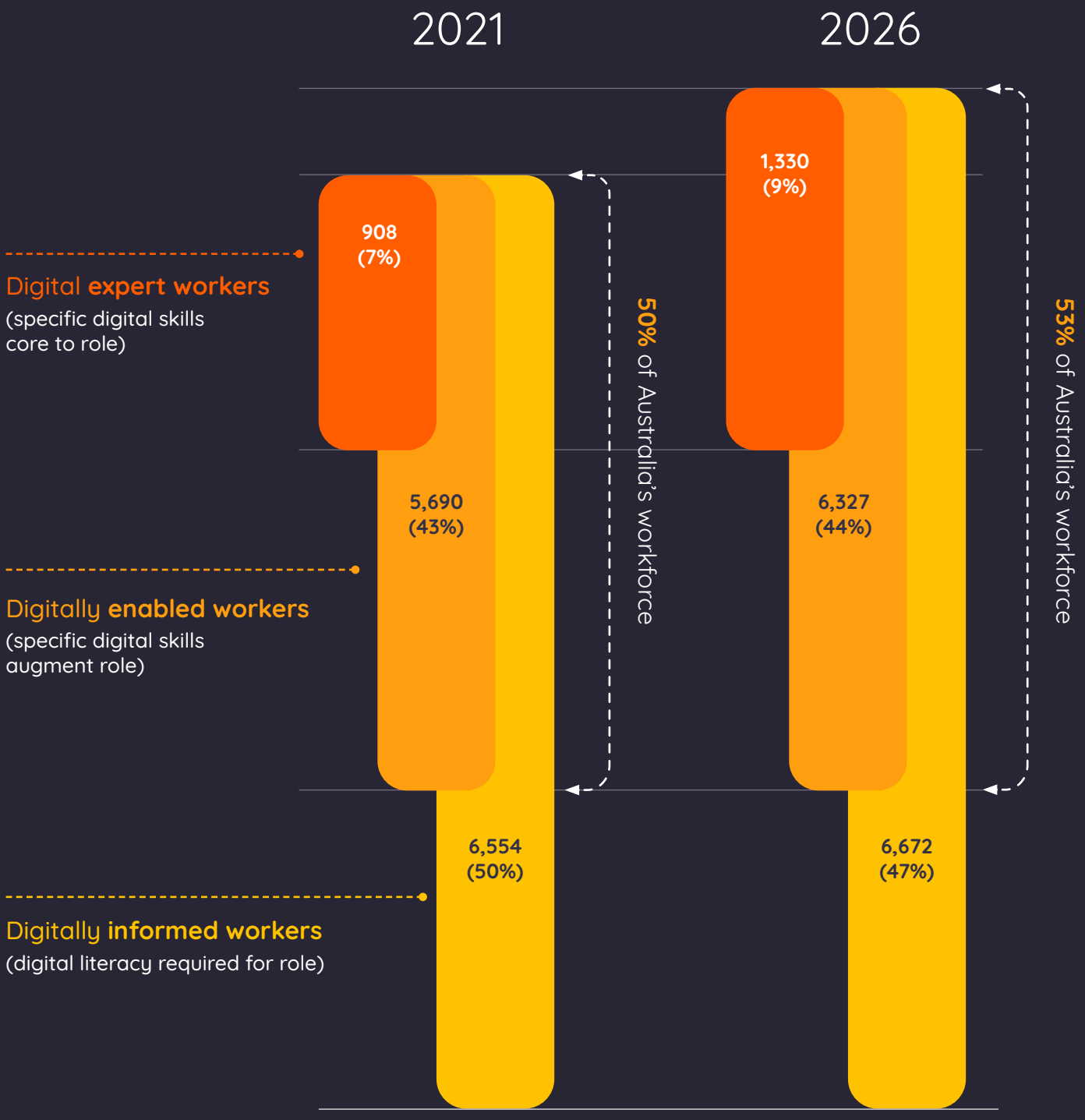
The remainder of the workforce are considered digitally informed workers, requiring digital literacy, but negligible need for specific digital skills.

47%

growth in the size of the digital expert workforce

Exhibit i: The growing size of Australia's digital workforce by segment*

Digital workers by segment ('000 [% of whole workforce])



Source: Nous analysis; Lightcast, ABS
*See Appendix A in Full Report for methodology

There aren't enough people training to become digital workers.

School leavers and people returning to the workforce, or transitioning from other roles or industries are important workforce supply sources, alongside migration. However, almost half of school students report not being taught about digital careers. Many other Australians don't understand what tech jobs are, or the pathways to pursue them.[1]

Considering the contribution of VET to the pipeline of workers, this is observed in the number of people enrolling in IT related programs in VET over the recent past, 2017 to 2021. Despite the growth of the technology sector and increasing demand for digital expert workers over this period, enrolments have declined. **See Exhibit ii.** Completion rates have also remained less than 50 percent for the last three recorded years.[2]

1. Tech Council of Australia, 'Getting to 1.2 million. Our roadmap to create a thriving Australian tech workforce', 2022
2. NCVER 2022, VET qualification completion rates 2021, NCVER, Adelaide (Data available for 2017, 2018 and 2019)
3. NCVER 2022, VET student outcomes 2022, NCVER, Adelaide

Learners are not being taught the skills that industry demand, resulting in suboptimal training and employment outcomes.

Overall satisfaction and achievement of training goals are high for VET IT qualification completers. However, they have consistently ranked among the poorest in training and employment outcomes compared to other VET fields of education for the last few years.[3] **See Exhibit iii.**

> "Enrolments in VET IT programs have decreased by 19 percent between 2017 and 2021 despite growth of the technology sector and increasing demand for digital skills."
>
> NCVER 2022, Total VET students and courses 2021, NCVER, Adelaide

Exhibit ii: VET IT programs enrolments and completions*

Enrolments and completions ('000) (2017–2021)

Source: NCVER 2022, Total VET students and courses 2021, NCVER, Adelaide.
* Notes:
a. VET programs with field of education "02 - Information technology".
b. 2021 completions are preliminary and will be revised upwards in 2023 to include completions that were advised after the reporting deadline.
c. Program enrolments and program completions cannot be used to derive a completion rate.

Despite 62 percent of people completing VET IT qualifications for employment reasons in 2021[4]:

- 1 in 2 learners reported the skills are not relevant to their current job
- less than 1 in 10 reported to be employed in an occupation aligned to the training
- less than 1 in 3 reported improved skills from training
- less than 1 in 2 reported an improved employment status after training.

All of these student outcomes are lower than the VET average.[4] These outcomes also indicate that employers are not valuing the people coming through the VET system relative to other training pathways.

Poor articulation and recognition of digital skills and proficiencies is one factor contributing to this misalignment for learners, employers and for the training sector.

This includes both formal and informal recognition of skills acquired through both accredited and non-accredited means.

The training system isn't flexible enough to quickly adjust to what industries need.

Broad consultation and research across sectors found that industry doesn't have enough say in how qualifications are created. Contributing factors include ineffective industry input and ineffective collaboration in determining training content and approaches.[5]

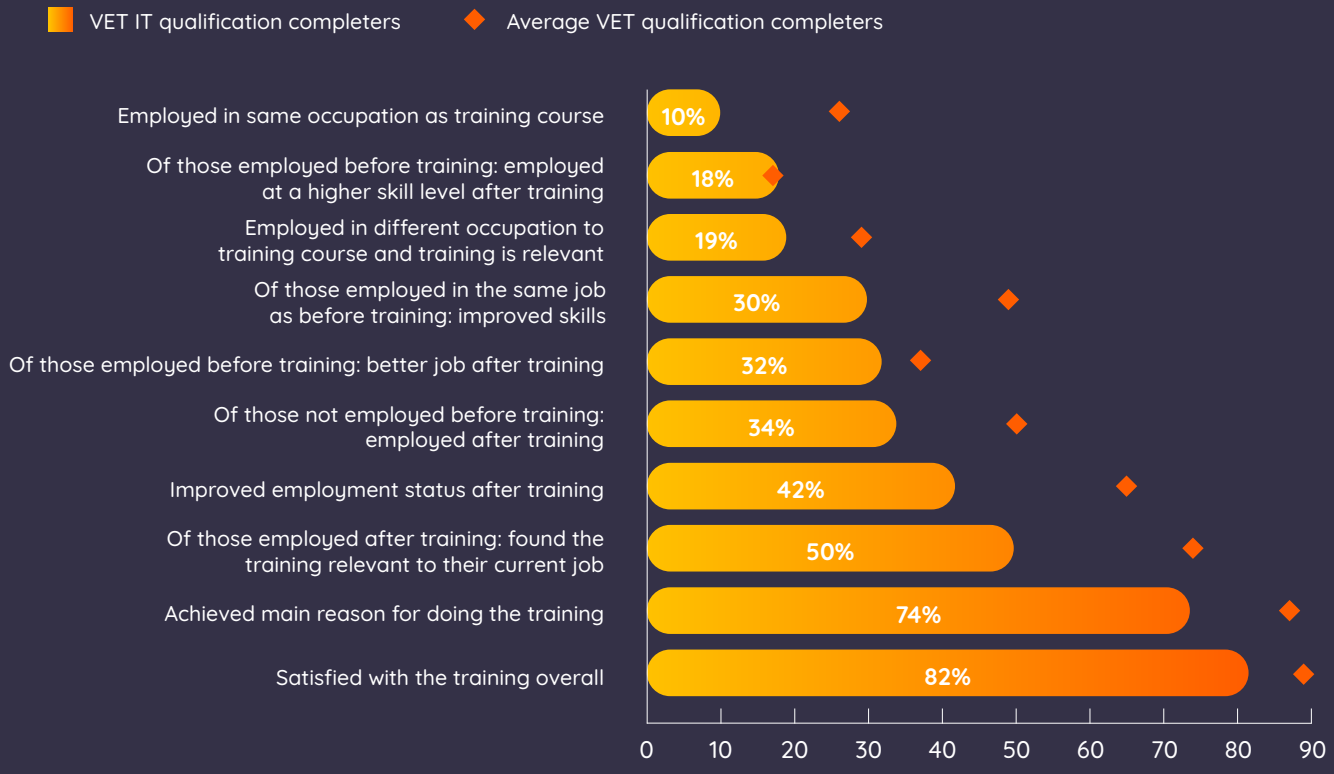
The regulatory and policy environment for VET has contributed to challenges of rigidity, outdated qualifications and inconsistencies in quality resulting from inconsistent application of standards.

In the context of digital skills, these limitations are especially problematic given the dynamic and rapid pace of change. These issues are also more pronounced in the formal training sector compared to providers of non-accredited training with more flexibility to respond and adapt to changing demands.

4. NCVER 2022, VET student outcomes 2022, NCVER, Adelaide
5. Joyce, S., 'Strengthening Skills. Expert Review of Australia's Vocational Education and Training System', 2019

Exhibit iii: VET Student outcomes for IT qualification completers*

% of qualification completers, 2021



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The DSO undertook research and consultation to establish a hypothesis that was tested through trials and initiatives.

It is evident that demand for digital skills is evolving, dynamic and increasingly ubiquitous. It is also evident that current approaches to accredited qualification-centric skilling is not meeting the needs of learners or industry.

In an economy with on-going skill shortages the focus needs to be on what skills people have, less so on how they acquired them. Accordingly, the DSO sought to trial approaches to test the following hypotheses:

- Re-orientating training from a qualification to a skills focus enables more responsive and adaptable skilling.
- Employer-led approaches to identifying digital skilling needs and collaborating on skilling responses increases training effectiveness and impact, and improves learner outcomes.
- Digital Skill Standards describing skills and levels of proficiency helps align industry, learners and the training sector on skills and skilling expectations.

Overall, this approach seeks to create a framework that can underpin a more adaptable and outcome focused skilling ecosystem.

The DSO worked with industry to develop and test different approaches to increase the supply of workers with the right digital skills for Australia's future.

In consultation with industry, the DSO established a multi-channel approach to address the identified digital skilling challenges and test the skilling hypothesis.

DSO focused on seven key responses tested through trials. These trials showed early indicators of success and surfaced constructive learnings. See Exhibit iv.

Industry consultation and collaboration

Engaging with industries through initiatives like the Digital Employment Forum, in partnership with the Tech Council of Australia (TCA), has proven successful in addressing system challenges and finding solutions for skill development.

Most of the DSO's stakeholders have shown active involvement with the industry-led and skill-based training approach the DSO trialed and promoted, as it aligns well with employer needs.

Awareness and pathways

The DSO has seen success in raising awareness of digital careers via expos and pilot programs, conducted in partnership with the school leaver service, Year13.

Relevance and transferability of skills

In collaboration with industry and training providers, the DSO was instrumental in developing a shared digital skills taxonomy and Digital Skills Standards. This shared language has been recognised as a valuable asset among employers, training providers, and learners.

Improving training delivery

The DSO worked with training providers to establish new ways of working and collaborating, through the Networks of Digital Excellence (NoDE approach).

Early trial results suggest NoDEs have the potential to build on best practice to form a network of networks, allowing solutions and strategies from one NoDE to be used in another.

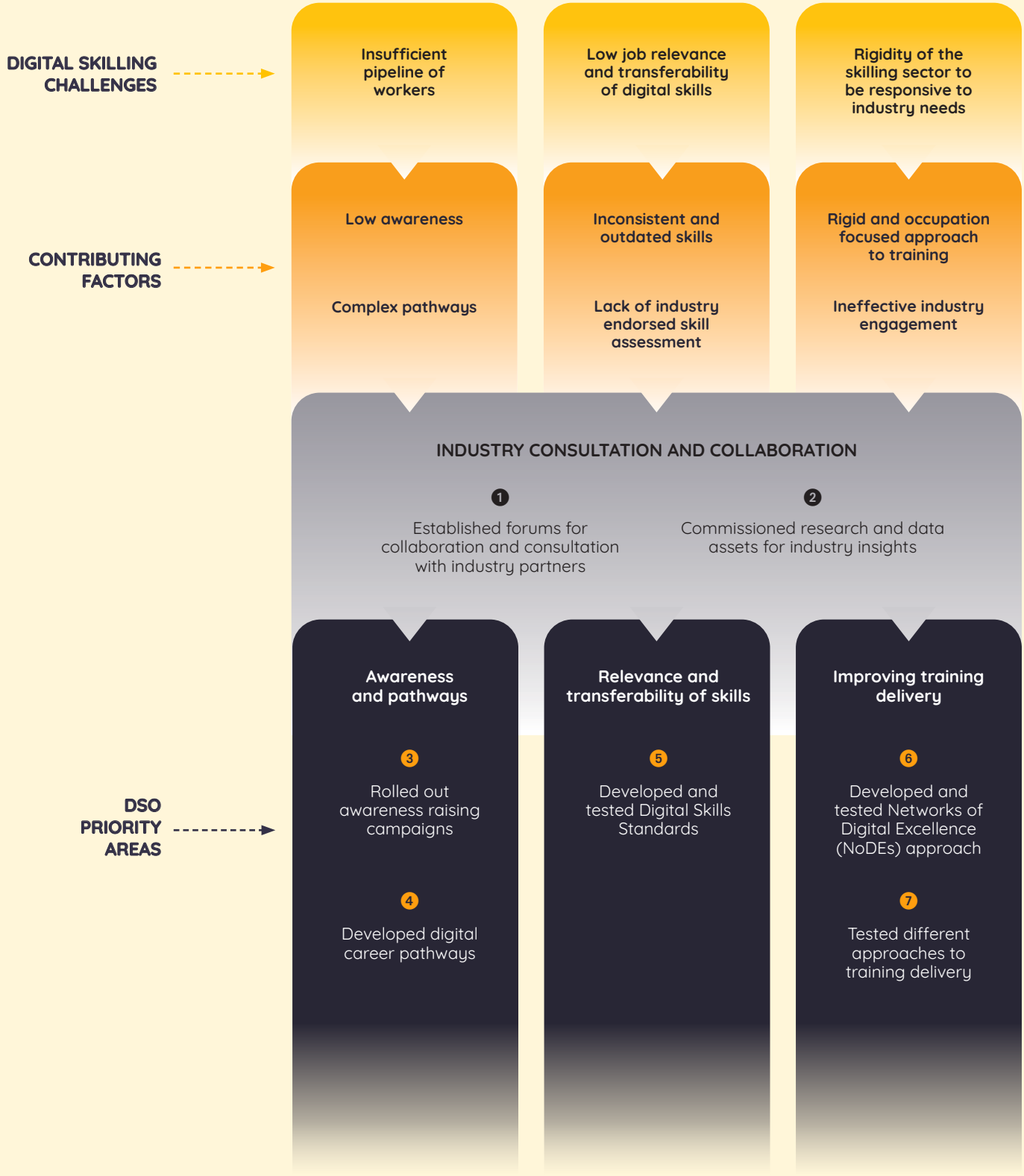
The DSO also tested different approaches to skilling by combining a range of training delivery modalities, including non-accredited and accredited, free and commercial offerings, industry partnerships and utilising the Digital Skills Standards to guide customed skilling options.

Progress has been made with different approaches, and learnings will be valuable in designing and refining future initiatives.

Overall, stakeholders are supportive of the work to date through trials and testing of pathways, the Digital Skills Standards and collaborative training development approaches.

However, it's important to note there are still components awaiting testing, alongside key considerations for scalability and sustainability to ensure long-term impact and relevance.

Exhibit iv: Digital skill challenges and DSO focus areas



There is an opportunity for the JSC for Finance, Technology and Business to continue progress by learning and building from the DSO's work.

The progressive standing up of ten Jobs and Skills Councils (JSCs) from June 2023 provides an opportunity for continuation and extension of the DSO responses to Australia's digital skilling challenges.

Actions and initiatives with potential for impact have been identified drawing on learnings from the DSO trials. There is an opportunity to extend, continue testing, and scale those showing promise and evidence of impact to date.

These potential future focus areas build on the multichannel approach and include nine key responses:

Industry consultation and collaboration

1. Build and sustain engagement and representation from industry, unions, government and training providers
2. Work with JSA and other JSCs to develop a Digital Workforce Strategy

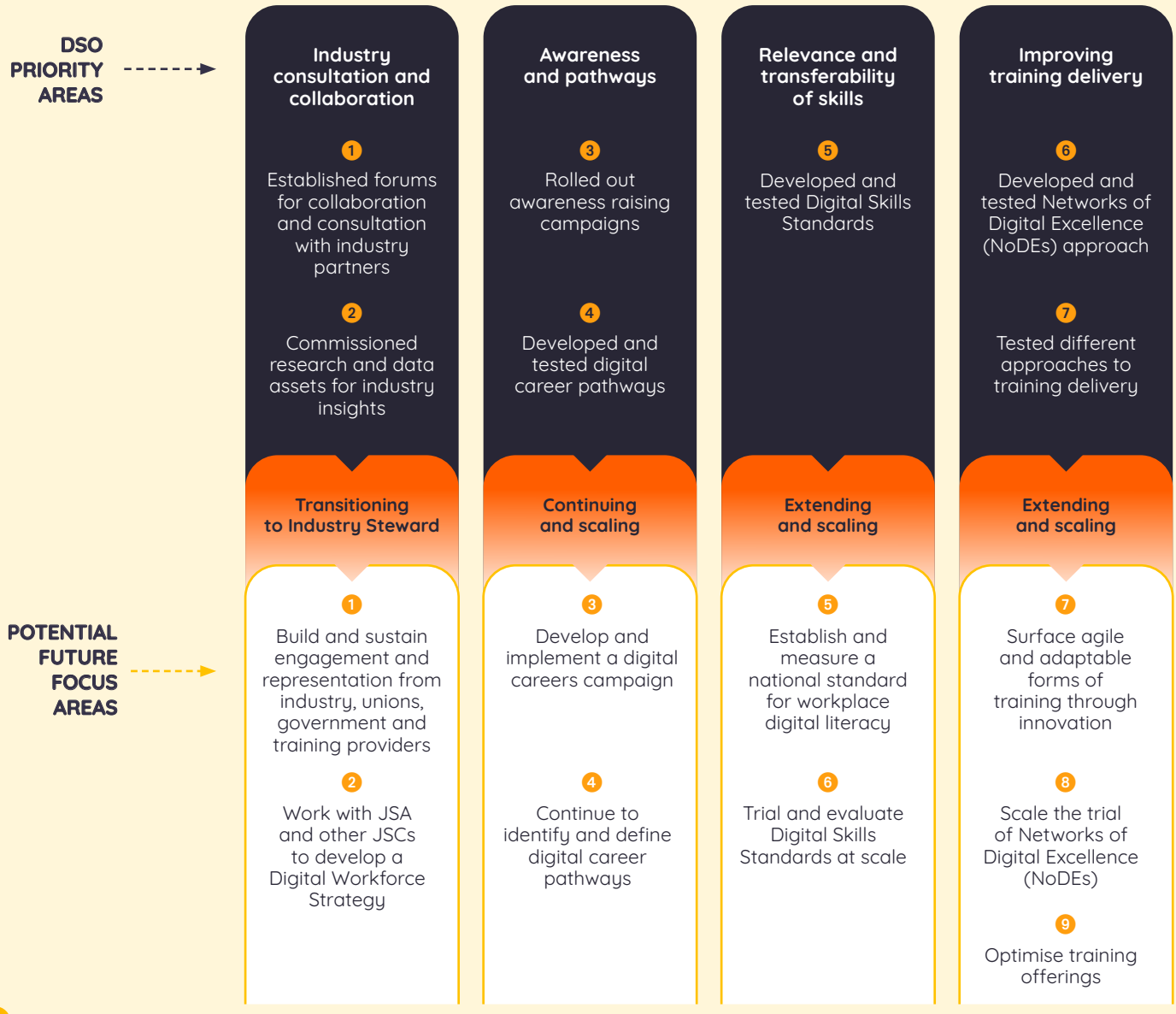
Awareness and pathways

3. Develop and implement a digital careers campaign
4. Continue to identify and define digital career pathways

Relevance and transferability of skills

5. Establish and measure a national standard for workplace digital literacy
6. Trial and evaluate Digital Skills Standards at scale

Exhibit v: Building on DSO priority areas to inform potential future focus areas



Improving training delivery

7. Surface agile and adaptable forms of training through innovation
8. Scale the trial of Networks of Digital Excellence (NoDEs)
9. Optimise training offerings

See Exhibit v.

Importantly, there may be opportunities to share approaches, successes and learnings with the other nine JSCs through the Cross Council CEO network and working with Jobs and Skills Australia (JSA).

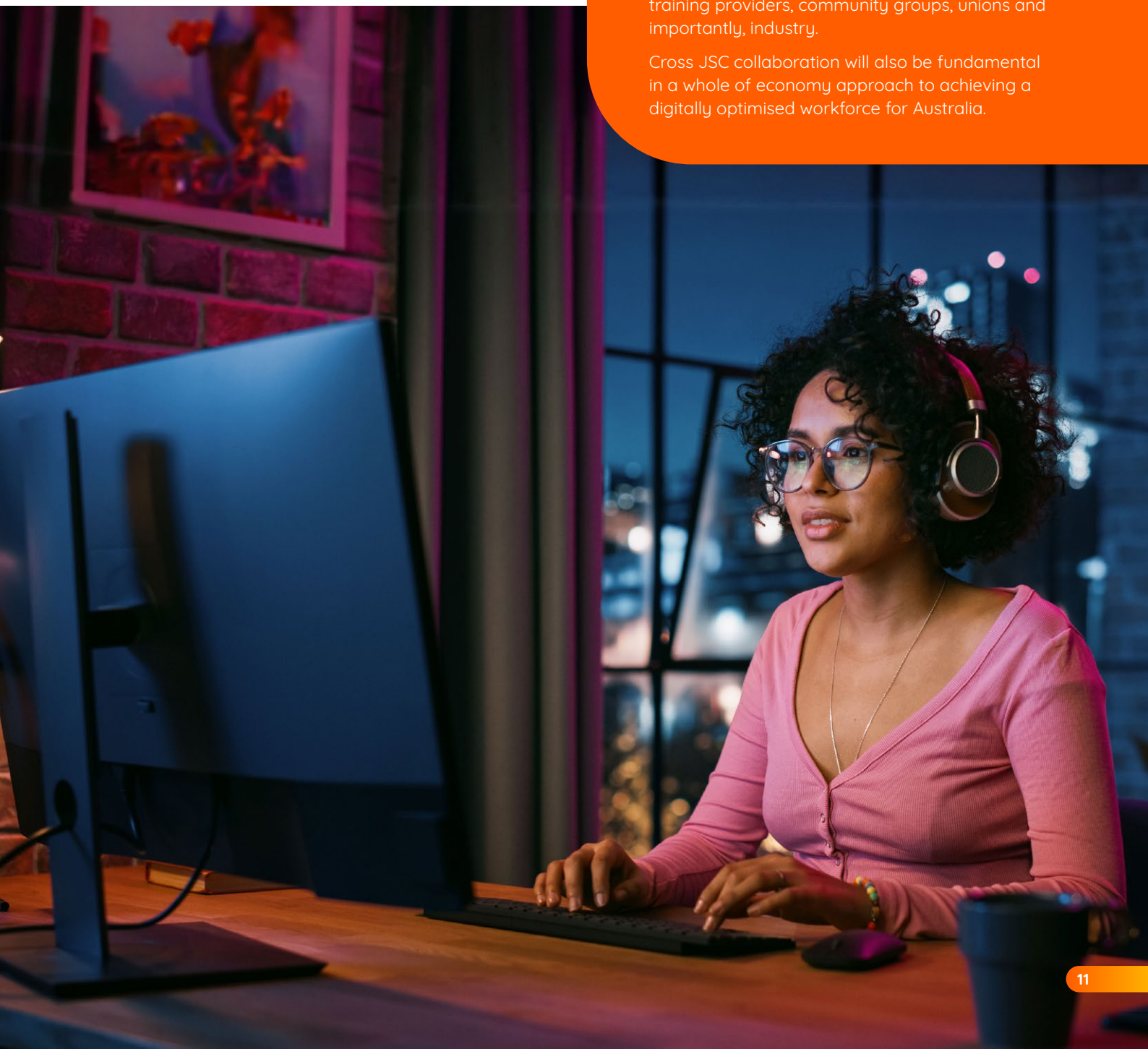
With the ubiquity of digital skills demand across all sectors, collaboration to solve for the economy-wide digital skilling challenges beyond the bounds of Finance, Technology and Business will be paramount.

The path to a digitally optimised workforce for Australia requires continued collaboration, innovation, testing and learning.

There are strong foundations upon which to transition to the JSC for FTB. Focus can be sustained by seeking to scale existing approaches and assets, and to pursue new ground in addressing Australia's digital skilling challenges.

Transitioning to a skills-based approach requires continued close collaboration and cooperation from state, territory, and federal governments, training providers, community groups, unions and importantly, industry.

Cross JSC collaboration will also be fundamental in a whole of economy approach to achieving a digitally optimised workforce for Australia.



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