DIGITAL SKILLS ORGANISATION

Closing the Digital Skills Gap

TAFETalks

March 2023

THE DSO at a glance…

Our purpose is to strengthen the pool of digital talent

Three years since the *Joyce Report*

33rd month of a 36th month pilot, culminating in June '23

2,650 contacts, across 935 companies

Four goals:

- Set the foundations for a skills based approach
- Support RTOs
- Act as stewards to our core customers
- Undertake trials

TechCouncil of Australia

ACS AUSTRALIAN COMPUTER SOCIETY

aiia australian information industry association

Australian Government
Australian Public Service Commission

Infosys

myob

ADIA Australian Digital Inclusion Alliance

DRAFT

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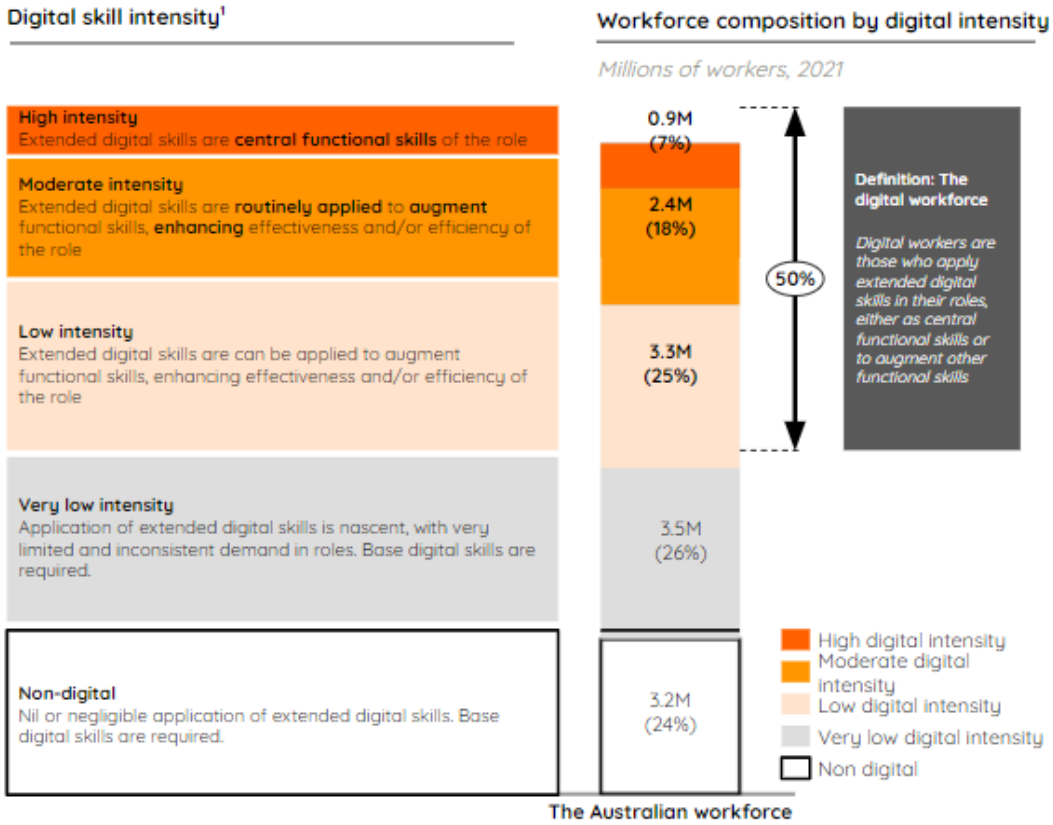
The **digital workforce** has grown over the last 5 years, now includes **50% of Australian workers**

Most of the digital workforce **growth** has occurred in roles **outside the tech sector**

Australia will need **7.2M digital workers** by 2026 with an expected **shortfall** of **0.5M**

The national training system is **unlikely to close the gap without intervention**

Digital workforce by digital skills intensity

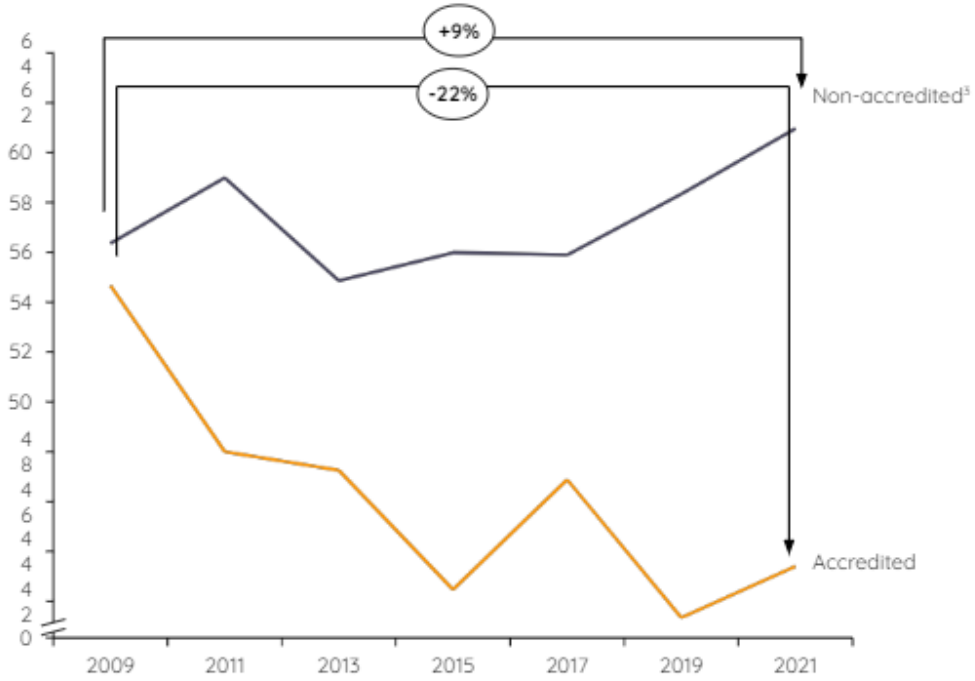


Source: Nous digital skills taxonomy; Nous analysis Lightcast, ABS
1. Digital intensity thresholds calculated as extended digital skill mentions as a proportion of total skill mentions in ANZSCO 4-digit occupation groups: High (>20%); Moderate (5% to 20%); Low (2% to 5%); Very low (1% to 2%); Non-digital (<1%)

- **High digital intensity** workers are those where extended digital skills are central functional skills of the role. In 2021 they **comprised 7%** of the workforce
- **Moderate digital intensity** workers are those where extended digital skills are routinely applied to augment functional skills, enhancing effectiveness and/or efficiency of the role. In 2021 they **comprised 18%** of the workforce.
- **Low digital intensity** workers are those where extended digital skills are applied to augment functional skills, enhancing effectiveness and/or efficiency of the role. In 2021 they **comprised 25%** of the total workforce,
- **Another 26%** of the workforce are those in **very -low intensity** . For these workers, application of extended digital skills is still nascent. Historical trends indicate a number of these occupation groups will likely become low intensity in the near future.

Employer use of VET accredited and non -accredited training [2]

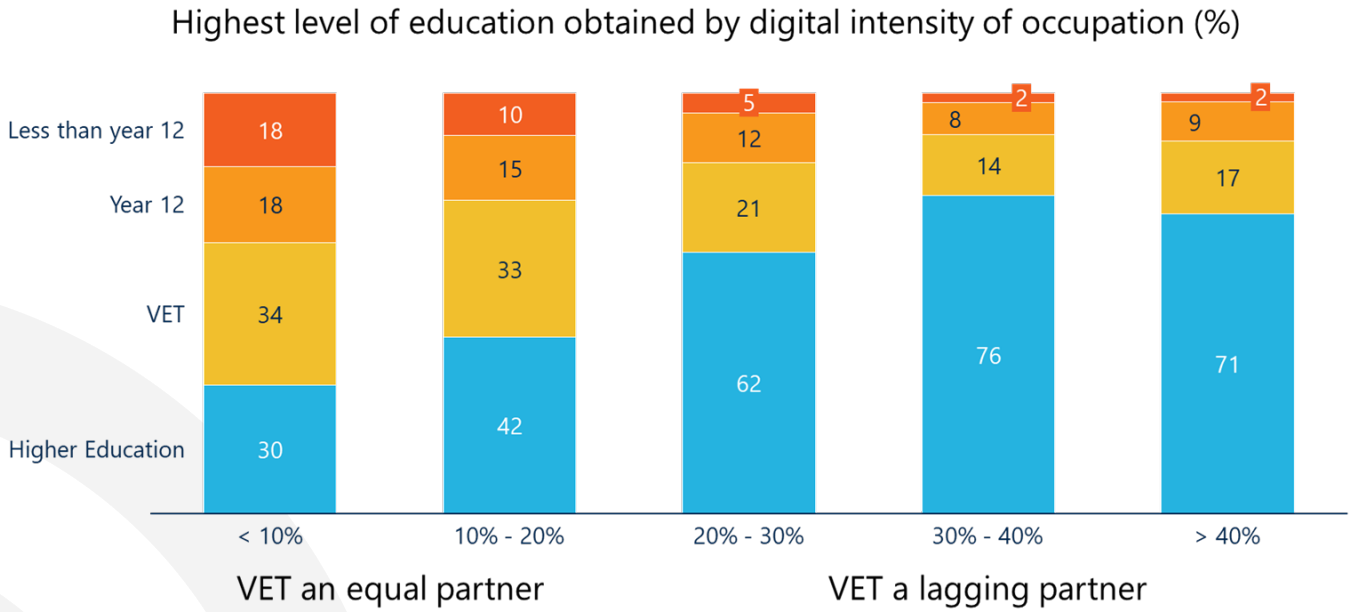
% of employers surveyed, 2009 - 2021



1 Data for employers in the professional, scientific and technical services industries used as a proxy for satisfaction for digital skill learning as it is one of the most digitally intense industries.
2 Non-accredited training includes any training that does not lead to recognised qualifications or an award.
Source: VOCEDplus NCVER Employers' use and views of the VET system survey data table 2021; Accenture analysis;

- There has been a **trend away** from employer **use of accredited** VET training over the last 10 years, with a **22% relative decrease** over this period.
- During the same period, use of **non-accredited** training has i **ncreased by 9%.**
- **VET graduate outcomes** are likely to be contributing to this shift, if employers are not achieving skilling uplifts from training investments.

VET is a lagging partner for more digitally advanced roles



Currently job roles with a greater percentage of technical digital skills are met more through higher education than through VET.

There are **two significant challenges for VET** :

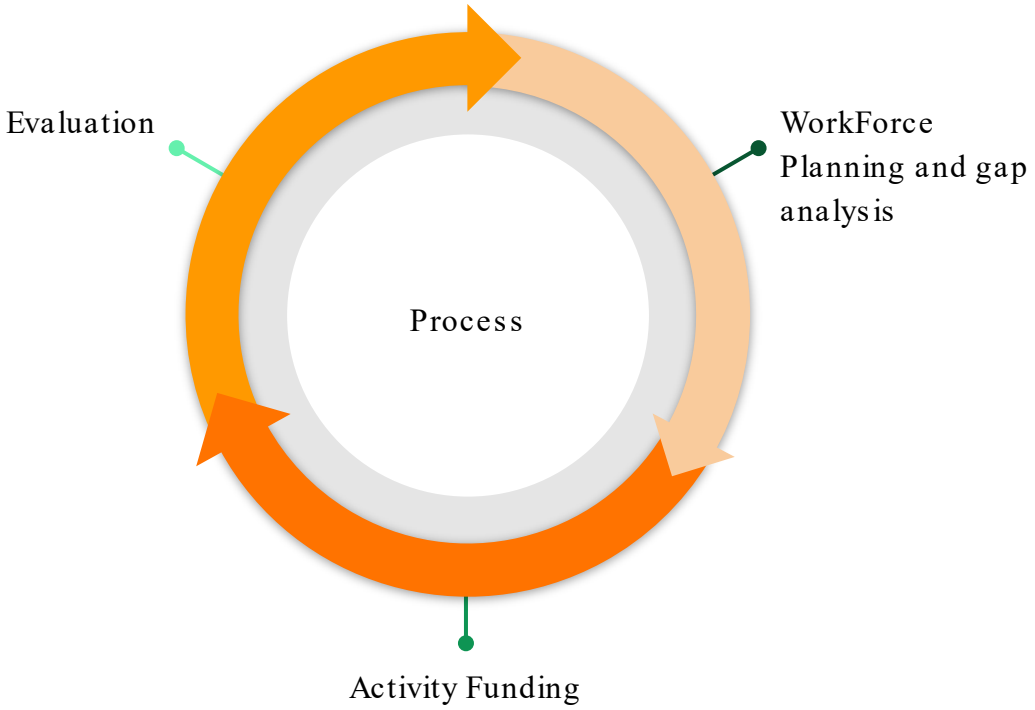
- Delivery of **digital literacy at scale** across RTOs and all training packages to ensure all have the skills needed in the economy
- How can **VET better contribute to the upskilling of entry level digital/tech** professionals roles given the training delivered by private trainers and universities.

How to get VET to play its part in the digital skills challenge?

Source: Nous analysis, ABS

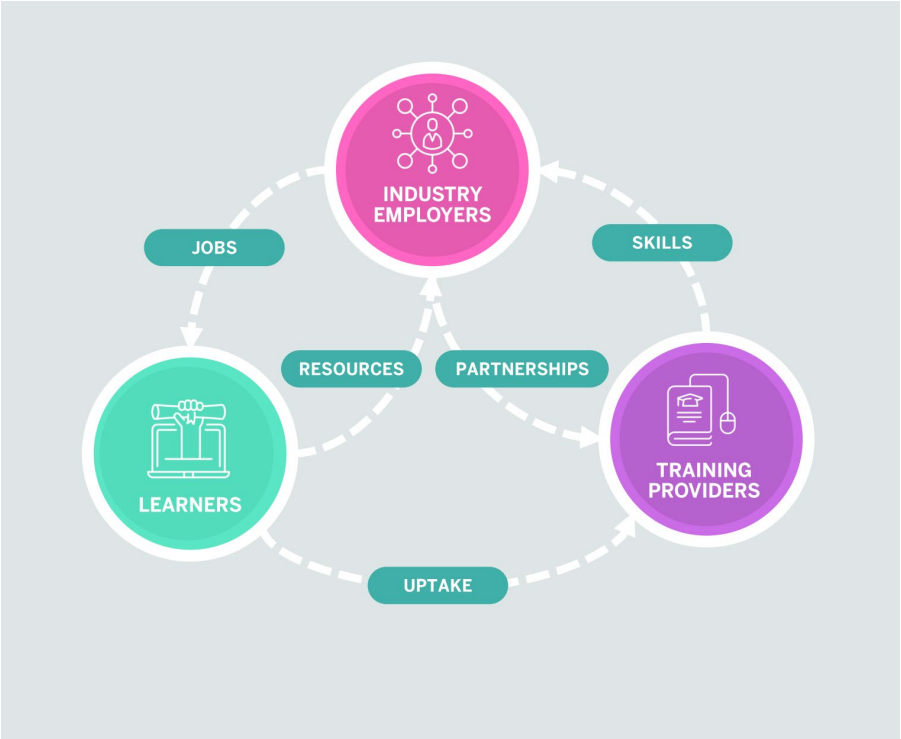
The Jobs and Skills Councils

The Opportunity



The Training Ecosytem

Moving towards a cyclical value chain



Accessible Digital/Technology Career Pathways

The 'Underground' Map of Digital Careers - Draft

- There are many ways to enter a digital career. This picture shows **different points of entry** based on acquired knowledge and skills, aptitude, desire and interest.
- **Digital and tech jobs are for everybody** irrespective of education or qualification. You can be, for example, creative, analytical or innovative and find an entry to digital careers.
- Once you determine your entry point, there are **many options** to pursue a digital/ technology career depending on your goals.
- While many of the skills in technology roles are common across multiple **job families** there are certain **core skills** and attributes which everybody should have.
- By focusing only on the training employers need, it is possible to build a workforce who can **incrementally upskill over time to become more qualified for more roles.**

Source: DSO Networks of Excellence Strawman; Accenture analysis.

Digital Literacy

A single definition for digital literacy which can be used to measure Australia's Digital Literacy index and guide training.

Agree on approach and establish the Working Group	Design the description	Gain feedback on the description	Endorse the description	*Develop tools and approach to undertake measurement*
February		**March**		**Future work**

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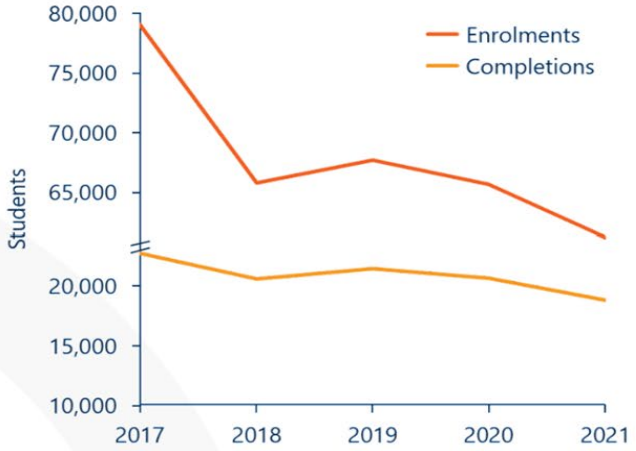
Thank You

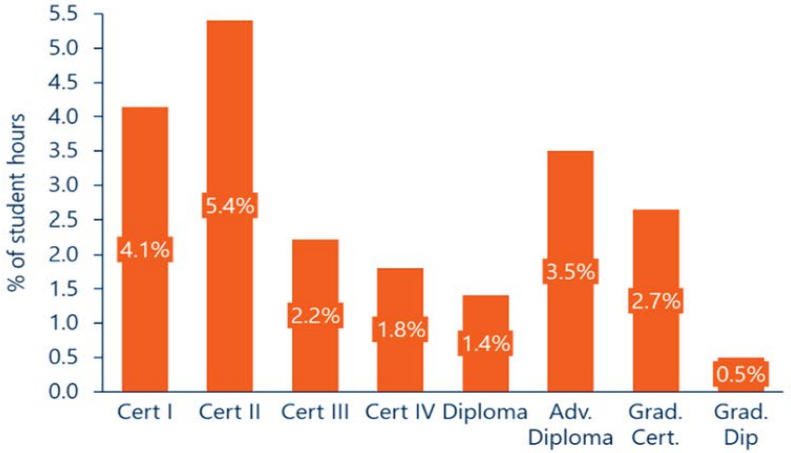
The Challenge for VET

Enrolments and completions in ICT and Cyber specific qualifications.



Source: Nous Analysis, NCVER total VET activity, Training.gov.au

Estimated share of time on digital focused subjects by level of education for all other* VET students.



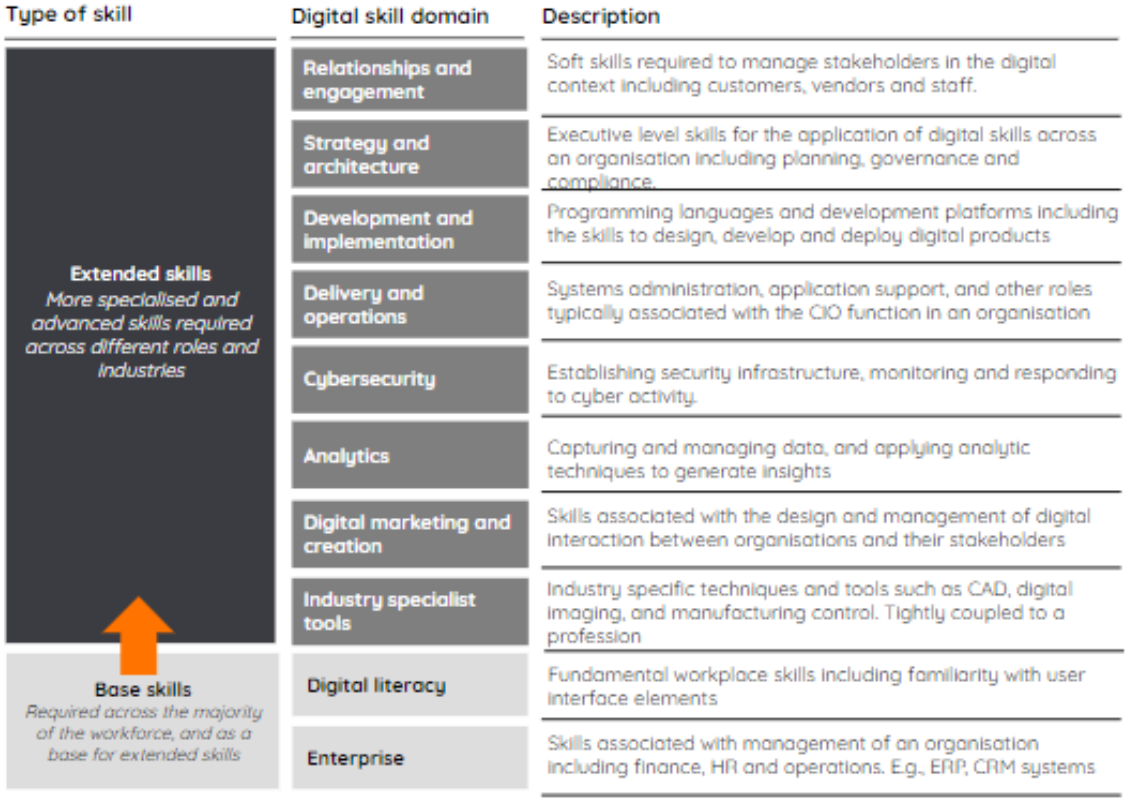
*Other refers to student enrolled in a course not covered under the ICT training package or Cyber related qualifications

Meeting future demand requires **stronger digital career pathways** and more time allocated in digital upskilling

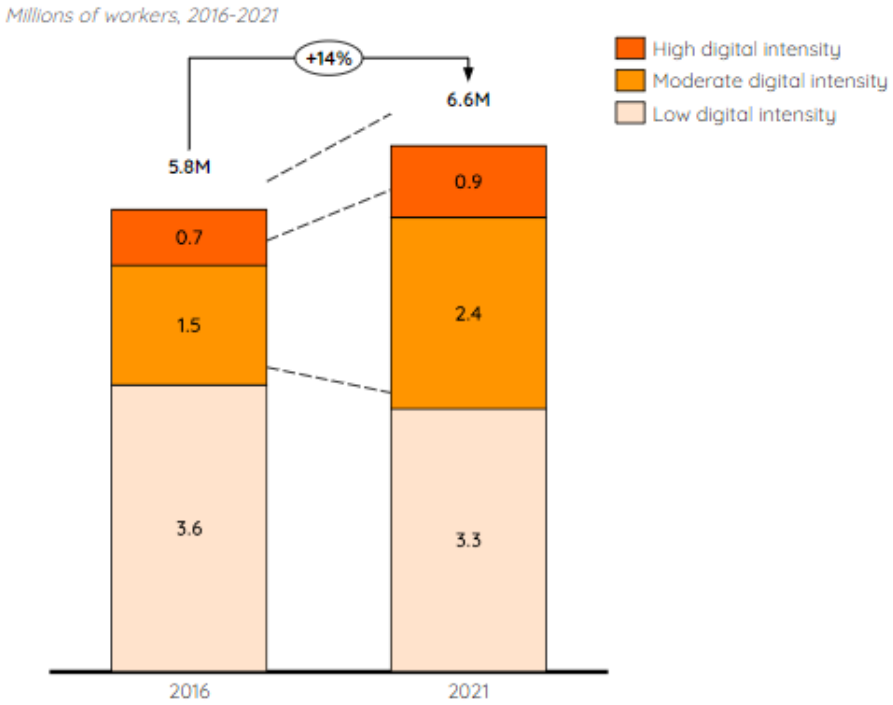
Digital Literacy is a national imperative

Digital Literacy is needed to be able to engage in building technical digital skills.

With the embedding of digital tools and platforms across all facets of life, the expectation for **base digital skills** is ever advancing. These skills include **digital literacy** and other base **enterprise skills** (including fluency in digital solutions, collaboration tools, data and cyber) to be able work in a digital context. Many of these skills are key to digitally participating in society and also form the **foundation of technical digital** skills.



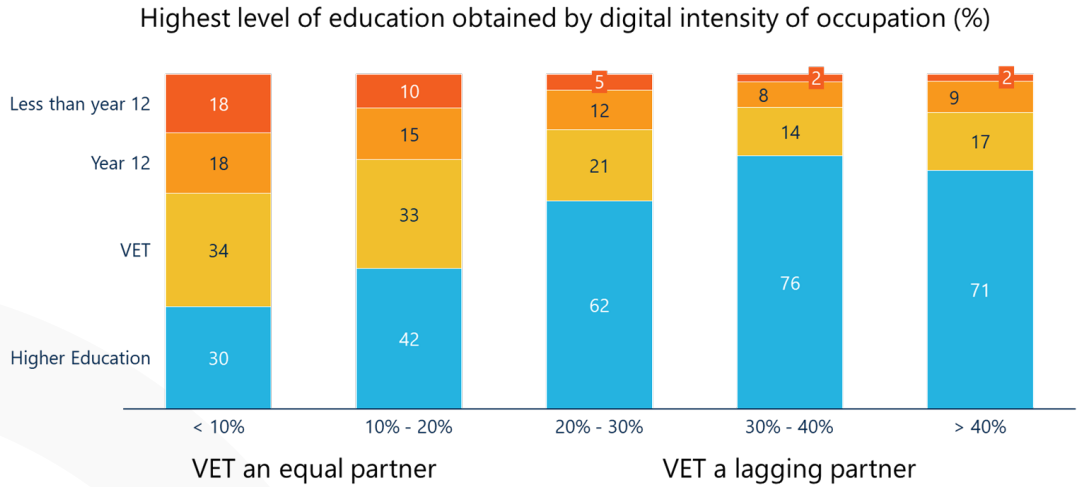
Number of digital workers up by 14% over past 5 years .

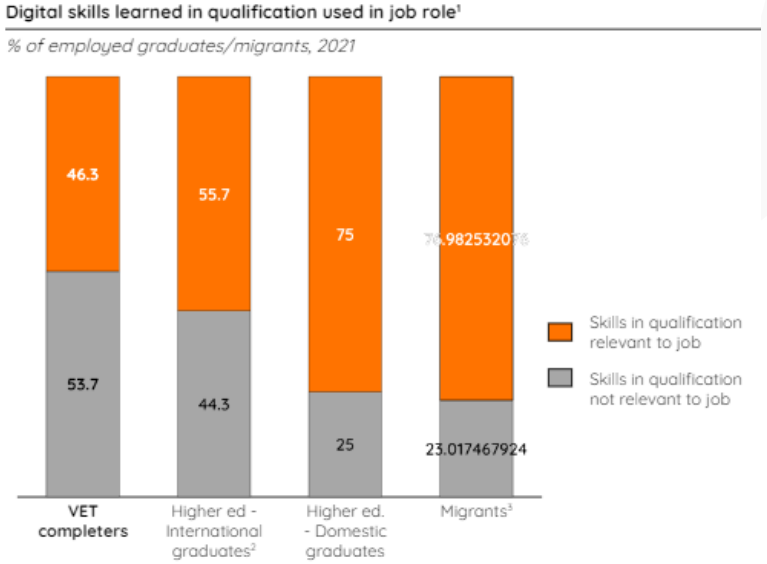


1 See Appendix B for methodology.
2 Note: Totals may not add due to rounding.
Source: Nous analysis; Lightcast, ABS

- Australia's digital workforce **grown by 14%** over the last 5 years, outpacing growth of the Australian workforce overall.
- Growth a function of both **increase in demand** for tech sector occupations (including many high digital intensity roles), and **more occupations becoming part of the digital workforce** as the application of digital skills increases across the economy.
- **Moderate digital intensity** workers **account for 82% of the growth** (0.92M workers; 63% relative growth), accounted for mainly by **new occupation groups entering this category,** with 0.9M moderate intensity workers in 2021 being in occupation groups that were low digital intensity in 2016.
- **High digital intensity** occupation group have **remained stable** over the last 5 years, but with **significant growth in volume of workers** in these occupation groups. Relative growth rates between 20% and 83% from 2016 and 2021 has resulted in an increase of 0.2M workers in this category.
- Despite **net decrease in the low digital intensity** workforce, many have advanced into the moderate intensity workforce, and there were over **0.35M workers entering this group in 2021 whose digital intensity was very low in 2016** .

VET a lagging partner for digital intensive roles





There is great potential for **VET sector to play a more substantial role** in meeting the economy's growing demand for digital workers, both in high digital intensity roles, and in enabling access to agile and responsive skilling for most roles across the econo my.

Evidence indicates VET completers in Information Technology (IT) fields of study have the second lowest levels of job relevan t compared to other VET fields of study, and **lowest levels of skill relevance for jobs compared to higher education graduates and migrants** .

For those completing courses to upskill in existing roles, only 30% of completers in IT fields of study report that training imp roved their skills, with **suboptimal rates across all fields of study ranging from 25% and 58%** .

Skills for jobs are changing with a greater level of digital ability

Many **low and moderate intensity** digital occupations have experienced **rapid increases in intensity** over the 5 years to 2021, as the importance of extended digital skills in non-technology occupations grows. Examples include:

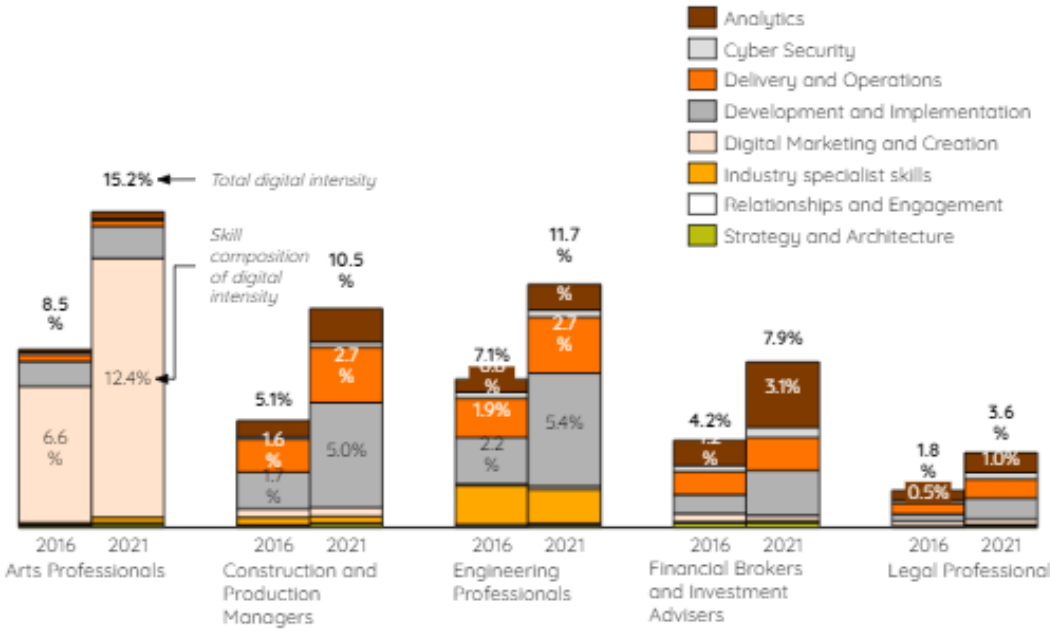
- **Development and implementation skills** (including programming languages and development platforms): **2.9-fold increase** in demand for Construction, Distribution and Production Managers, and **2.5-fold increase** for Engineering Professionals
- **Analytics: 2.6 -fold increase** in demand in Financial Brokers and Dealers, and Investment Advisers, and **2-fold increase** in Engineering and Legal Professionals
- **Digital marketing: 1.9 -fold increase** for Arts Professionals

Changes in the application of extended digital skills across the economy are **likely to continue,** creating a need to ensure:

- new graduates are trained in the right digital skills to meet industry needs
- existing workers have accessible mechanisms to continue acquiring/ advancing their digital skills to meet industry needs.
- Digital skilling happens at pace to meet rapid changes in digital skill needs (e.g. ChatGPT), and delivers skills in the right locations across Australia.

Digital skill composition for occupations with greatest digital intensity increase 2016 to 2021

Digital intensity (%) and skill composition, 2016 and 2021, for top 5 ANZSCO occupations by digital intensity growth



Source: Lightcast 2021; Nous analysis.

To meet the demand for digital skills, four key shifts are needed

Current approach to skilling	Future approach to skilling	Desired outcome
Qualification -focused Learning based on ability to perform tasks required for occupations, usually acquired through predetermined qualifications	**Skills-based** Training based on the development of skills that are transferable across occupations/industries and the ability to recognise skills regardless of how these are acquired	Enough digital workers…
Difficult to navigate Unclear what skills (and qualifications) are required to start a career, and how to upskill to move through a career	**Easy to navigate** Clearly defined skills and proficiencies for jobs, and signposted pathways to upskill / reskill into new jobs	
Industry -informed Employer needs are ineffectively incorporated in training content development	**Industry -led** Employer needs drive training areas and content development process	…with the right skills
Slow to respond A fragmented system with stakeholders in silos and slow translation of training needs into delivery	**Nimble** A connected and coordinated system that can mobilise quickly to respond to changing employer training needs	

accenture DSO

Source: DSO internal materials; Accenture analysis.

Some Conclusions

- Every job is a digital job yet we don’t have a System for VET optimised to deliver the required digital skills
- Job roles are more than ever based on skills not occupational competencies
- Digital skills pathways enable skills to be recognised across industries and the economy - drives labour mobility, innovation and productivity
- Digital literacy is the base on which digital intensive skills are built
- The need to support RTOs to deliver digital and tech training at different levels @ scale