AI

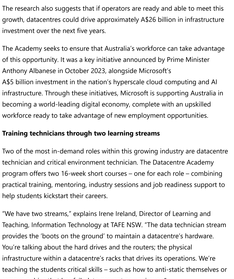
Microsoft and TAFE NSW's Datacentre Academy: Preparing Australian workers for the cloud computing and AI boom

AI | Community partnerships | Education

As Veni Pankajakshan and K. M. Anamul Hossain assess their employment prospects for the year ahead, both feel a surge of optimism and a sense of opportunity. It's warranted, too, given the suite of critical skills they've just gained as members of the first cohort of graduates from the new Datacentre Academy at TAFE NSW.

"When I moved to Australia, I started working as a mechanical technician, but was looking for new career opportunities," says Hossain. "During my search, I found that datacentres are booming and companies like Microsoft are investing heavily in Australia's digital infrastructure. Those factors drew me towards the Academy."

It's a similar story for Pankajakshan. "I was working as a support coordinator and case manager within the community services sector," she says. "When I did some research, I found that there are a lot of new datacentres in Australia and a drive towards cloud services and products."



(L to R) The Hon. Stephen Whan MP, NSW Minister for Skills, TAFE and Tertiary Education, K. M. Anamul Hossain and Steven Worrall

Preparing for increasing demand

Datacentres store and process data for various digital services, including websites, email and social media. As the engine rooms for corporations' digital infrastructure, they power critical applications for everyday Australians – from online banking to telehealth and streaming services.

Co-designed by TAFE NSW and Microsoft, the Datacentre Academy provides students like Veni and Anamul with a clear career path within Australia's surging datacentre industry. And these skills are in high demand: 2024 research from Mandala indicates that domestic datacentre operators will need an additional 8,300 workers by 2030 to account for the growth in cloud computing and AI.

The research also suggests that if operators are ready and able to meet this growth, datacentres could drive approximately A$26 billion in infrastructure investment over the next five years.

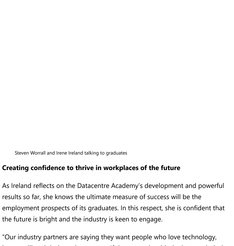
The Academy seeks to ensure that Australia's workforce can take advantage of this opportunity. It was a key initiative announced by Prime Minister Anthony Albanese in October 2023, alongside Microsoft's A$5 billion investment in the nation's hyperscale cloud computing and AI infrastructure. Through these initiatives, Microsoft is supporting Australia in becoming a world-leading digital economy, complete with an upskilled workforce ready to take advantage of new employment opportunities.

Training technicians through two learning streams

Two of the most in-demand roles within this growing industry are datacentre technician and critical environment technician. The Datacentre Academy program offers two 16-week short courses – one for each role – combining practical training, mentoring, industry sessions and job readiness support to help students kickstart their careers.

"We have two streams," explains Irene Ireland, Director of Learning and Teaching, Information Technology at TAFE NSW. "The data technician stream provides the 'boots on the ground' to maintain a datacentre's hardware. You're talking about the hard drives and the routers; the physical infrastructure within a datacentre's racks that drives its operations. We're teaching the students critical skills – such as how to anti-static themselves or remove a drive that has failed, to prevent power issues."

By contrast, the critical environment stream focuses on keeping a datacentre's environment in equilibrium to maintain functionality. "Air conditioning, fire suppression, power supply – all of these factors need to be managed and maintained to a point where you achieve a symbiotic, balanced environment with minimal chance of something failing," Ireland says.



Balancing theory with practical experience

Both courses combine theory with practical learning. For example, datacentre technician students benefit from a simulated datacentre laboratory at TAFE NSW Meadowbank. This lab has two racks complete with several hard drives and routers, giving course participants access to real-world experience.

"You have to understand the basic ideas, like the fact that a server is really heavy – you have to use a lifting aid if you want to put it on the rack!" says Pankajakshan, who recently graduated from the datacentre technician stream. "Our teachers were there with us throughout the experience, giving us multiple sources of information to help troubleshoot different problems."

"After learning the basics, your journey can truly begin. You start building a server, then clusters of several servers. Before long, you're building a full network and learning how to explain the actions you've taken to meet your client's expectations."

Students from the critical environment stream also complete practical learning with cutting-edge systems to gain expertise in power management, cooling systems and environmental controls. Hossain, who graduated from this stream, agrees that the balance between theory and hands-on training has helped him to develop the confidence required to flourish within this industry.

"Our teacher gave us various practical datacentre scenarios to work through, such as what we need to do during a power outage, or how to handle disruptions to cooling and air flow," he says. "We've also been able to visit working datacentres operated by companies like NEXTDC, to look into how the generators operate and see how the servers work."

For Ireland, the initial success of the Academy's education model is the result of extensive consultation with stakeholders from Microsoft and the datacentre industry throughout the development and launch process.

"One of the most exciting parts of this initiative is the engagement and collaboration we've received from across the industry. Their input means that students are developing the industry-relevant skills that employers need to grow their workforce," she says.

Steven Worrall and Irene Ireland talking to graduates

Creating confidence to thrive in workplaces of the future

As Ireland reflects on the Datacentre Academy's development and powerful results so far, she knows the ultimate measure of success will be the employment prospects of its graduates. In this respect, she is confident that the future is bright and the industry is keen to engage.

"Our industry partners are saying they want people who love technology, have a will and desire to learn more. If they come in with the base technical skills, the employer can help them take the next steps and provide more in-depth, organisation-specific training," she says. "These organisations are asking whether we need four-year degrees to get the right person into the job, especially as the nature of these jobs can change so quickly."

"Our team at TAFE NSW have developed the courses to teach the exact skills that are needed. We want those within the industry to say 'You've given these students real-world skills, we've employed them, and they can do precisely what you said they could do'."

Demand is also picking up on the student side. The Academy already has a waiting list for the next cohort, and Ireland has begun to explore additional learning streams it could offer over time.

As the Academy expands, Tianji Dickens, APAC and ANZ Datacentre Community Affairs Manager at Microsoft, is excited by its growing potential to democratise industry opportunities. "The heart of the Datacentre Academy is about providing alternative employment pathways into the sector. It also supports inclusivity and fosters diversity within the tech industry," she says.

"We welcome women, Aboriginal and Torres Strait Islander peoples and other underrepresented groups to apply. These learning pathways have been designed to provide opportunities for people with no previous experience."

For those still considering their participation, both Hossain and Pankajakshan are unequivocal in their encouragement.

"This is a great opportunity for those who want a professional role in this industry," says Hossain. "Within these courses, there are so many things to learn, and once you finish, you can interview with companies like Microsoft. This industry is booming, so I encourage them all."

Pankajakshan agrees. "I'd like those people who are interested to make a start. Once you start, you'll find climbing the ladder becomes an easier prospect. It's not that hard; it just requires your determination. That's all," she says.

"You shouldn't stop yourself. You should just go for it."