Cisco 2023 Education Summit

Cisco's 2023 Education Summit, anchored by Cisco Live Melbourne, explored how digital technology and collaboration between industry and higher education is reshaping learning and teaching, research and operations in 2023. The summit started at La Trobe University's recently opened Digital Innovation Hub at Bundoora, followed by executive briefings at Cisco Melbourne. The importance of partnerships was a major theme running through the summit. These partnerships – mostly between industry, TAFEs and universities – take many forms including:

- **Education infrastructure:** Boosting cyber resilience on and off campus and partnering to meet Net Zero targets
- **Skills:** Addressing the IT skills gap and creating effective talent pipelines for students
- **Research and innovation:** Co-development of ideas, prototypes, proof of concepts and products that leverage digital technologies.

The importance of partnerships is embodied in the National Industry Innovation Network (NIIN), which was established by Cisco to ensure digital collaboration was both focused and designed for scale. Through the NIIN, Cisco looks forward to continuing to work alongside Australia's higher education sector to contribute to our region's development, and fast-track adoption of digital technologies.

Reg Johnson
Director of Education &
Strategic Industries, Cisco Australia

Greg Sawyer
Chief Executive Officer
CAUDIT

Attendees:

Digital Challenges and Opportunities in Education

Australia's education sector faces major challenges in being able to fulfil its obligations to students, government, industry and other stakeholders. While digital technologies form many of the solutions, they also create challenges of themselves. Specifically they are creating:

Increased operational and technical complexity: 92% of Australian IT leaders surveyed by Cisco say they value simplicity in technology management. However, today's networks are hard to interact with. The continuing advancement of network functionality has created complexity at all levels – from Users & Things and the Access Domain, to the Connectivity and Cloud Domains and Applications & Data.

Cyber security vulnerabilities: Australia is the most cyber-attacked country in the world per capita. The education sector is one of the largest targets, having borne the most ransomware incidents in 2021-2022.[1] The sector's open and collaborative environments, coupled with the presence of a high number of personal devices, makes it particularly vulnerable. Without a step change in security, the frequency, scale and severity of attacks will most likely continue to intensify, as will the sophistication and resourcing of attackers.

Opportunities presented to education institutions that relate to digital:

- **A leadership position on cyber security:** The Australian Government's 2023-2030 Cyber Security Strategy commits over $586 million to cyber defence initiatives. This is an opportunity for education institutions, who have the chance to be at the forefront of cyber research, skill development, collaboration, and innovation.
- **Closing the digital skills gap and creating enrolment growth**: With the demand for IT skills – particularly in security, analytics and networking – outpacing supply, there is an opportunity for institutions to form triple-helix partnerships with industry and government to grow talent pipelines. For example, by leveraging programs such as Cisco's Networking Academy (which has trained over 20.5 million students), there is potential for mass-scale upskilling that carries global recognition.
- **Powering Smart Zero innovation:** The Australian education sector has some of the world's most ambitious Net Zero targets. Institutions are uniquely positioned to capitalise on their campuses as 'living labs' for researching and innovating Net Zero solutions. Given that 20% of energy-related emissions originate from real estate, opportunities exist in monitoring and automating emissions sources such as HVAC systems to be more responsive to occupancy.

La Trobe University's new Digital Innovation Hub
The recently opened DIH at La Trobe University is an environment built to pursue the most important digital opportunities in education. The DIH provides businesses, students and community access to advanced facilities in Artificial intelligence and Internet of Things, software development, data analytics and networking – all through the co-location of three leading digital labs in the one facility: Cisco Innovation Central Melbourne, Cisco-La Trobe Centre for AI and IoT, and the Optus 5G Lab.

▲ La Trobe piloted a virtual ED to provide patients with access to virtual nursing and medical care, enabling a patient's condition to be managed at home, in an aged care facility or at the roadside (in the case of an ambulance attending). The project was made possible by Innovation Central Melbourne.

1. https://www.cyber.gov.au/sites/default/files/2023-03/ACSC-Annual-Cyber-Threat-Report-2022_0.pdf

How Education Institution Technology Needs to Evolve

While Australia's higher education institutions have a major role to play in harnessing digital to tackle challenges and seize new opportunities, they need to continually evolve their solutions including:

Evolving networks to be more advanced, yet simpler to manage: Networks must advance to handle increased data, device connectivity and sophisticated cyber threats, while offering simpler management. Industry developments are steering network design towards being software-defined. Software-defined networks prioritise automation to reduce the burden on IT teams and efficiently enable the network to operate at scale. Tasks such as monitoring, troubleshooting and policy configuration can seamlessly self-execute without continual administrative upkeep. Automation capabilities are being accelerated with artificial intelligence and machine learning.

Cisco, already a pioneer in software-defined networking, is developing new capabilities in Full Stack Observability for holistic network insights, alongside Cisco Security Cloud and Cisco Networking Cloud, which is enabling multiple tools and dashboards to be consolidated.

"Cisco is focused on reducing complexity and providing full stack observability."

- **Carl Solder,** CTO, Cisco ANZ

Responding to a more sophisticated cyber threat environment: The dynamic nature of cyber threats necessitates a proactive and sophisticated approach to security. The network is the first line of defence in protecting against threats. The network acts as the gateway through which data enters and exits an institution's systems. It plays a crucial role in monitoring, detecting and preventing cyber threats before they can infiltrate deeper into an institution's infrastructure. Increasingly vendors such as Cisco – which announced it intends to acquire Splunk – are designing networks with artificial intelligence embedded. AI enables more intelligent and accurate identification of anomalies and threats at machine scale.

At the Education Summit, Cisco unveiled new techniques to identify cyber risks in emails. Rather than looking for keywords, it searches for three things that are present in many scam emails: a financial request, text that implies urgency and a deadline.

"We are eliminating unnecessary decision-making. This requires doing security smarter."

- **Corien Vermaak,** Director of Cyber Security, Cisco Australia

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Making buildings smarter: Recognising 20% of energy-related emissions are from buildings, education institutions are focused on enhancing building efficiency. Institutions are digitising the campus environment to automate functions such as HVAC (heating, ventilation and air conditioning) and lighting as a method for reducing energy usage. Integrating smart building systems that automate responses based on occupancy levels and usage can yield incremental energy savings of 8-18% over basic HVAC and lighting control.[1]

Griffith University demonstrated how it is using Cisco Spaces to create analytics on space occupancy and improve utilisation. Cisco Spaces is enabling Griffith to redesign a space that once housed 60 employees to house over 100, using activity-based working and specialist spaces.

Accelerating hybrid work and learning: The past five years has seen profound changes to the way education institutions teach and how they are administered. While the premium experience remains in-person, and on campus, the modern reality is most meetings and a large number of classes will involve at least one remote participant. The challenge facing technology vendors is to not simply create the mechanism for people to join a meeting or class remotely, but to ensure the remote experience is as close as possible to being in the room (so called 'equity of presence'). Rapid advancements in AI, sustainability, analytics and interoperability are accelerating progress.

A recent global partnership announced between Cisco and Microsoft allows universities to resolve many of the traditional integration issues that existed and limits the number of point solutions required in a classroom or meeting room.

"98% of meetings will have a remote attendee going forward, and we need to be able to bring them in on the fly without even thinking about it."

- **Chris Anderson**, Hybrid Work and Sustainable Real Estate Lead, Cisco APJC

2. Nesler, Clay, Khee Poh Lam, and Bertrand Lasternas. 2021. "How to build smart, zero carbon buildings - and why it matters." The World Economic Forum. https://www.weforum.org/agenda/2021/09/how-tobuild-zero-carbon-buildings/.

The Importance of Industry-University Partnerships

The NIIN as a platform to drive progress

Triple-helix partnerships that involve industry, academia and government are critical to accelerating the adoption and uptake of innovation within higher education – as well as the broader economy. The National Industry Innovation Network (NIIN) was established with this very purpose in mind. The NIIN is a collective of industry and university partners committed to advancing the use of digital technology. Six innovation centres anchor the NIIN, with eight Research Chairs, two specialist labs and a number of specialised technology centres. The NIIN helps industry and government to solve critical challenges using digital innovation in collaboration with researchers and students.

Brisbane QUT
- Innovation Central Brisbane
- Trust, Retail & Logistics Research Chair
- Networking Academy

Sydney UNSW
- Innovation Central Sydney
- Digital Transport and AI Research Chair
- Cisco Proof of Concept Lab (CPOC)
- Networking Academy

Canberra University of Canberra
- Innovation Central Canberra
- Critical Infrastructure Research Chair
- Security and Defence Research Chair

Perth
Curtin University
- Innovation Central Perth
- Future Networks Research Chair
- Center for Advanced Networking
- Networking Academy

Adelaide
Flinders University
- Innovation Central Adelaide
- Digital Health Research Chair
- Cisco–Flinders Digital Health Design Lab
- Networking Academy
- Cyber Range — Australian Cyber Collaboration Centre

Melbourne
RMIT | La Trobe University
- Innovation Central Melbourne
- IoT & AI Research Chair
- Centre for AI and IoT
- RMIT Health Transformation Lab
- Networking Academy

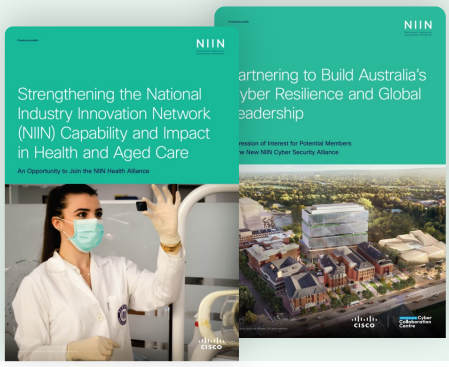
Country Digital Acceleration (CDA)

The CDA program aims to help drive Australia's secure digital transformation, with a focus on inclusive growth, skills development and innovation in industries where Australia is placed to be a global leader in the digital economy. In collaboration with government, industry and academia, CDA actively develops and funds projects across four key priority areas to positively affect the quality of life, help create jobs and support the skills of the emerging workforce, as well as enhancing Australia's global economic competitiveness.

Cisco Country Digital Acceleration

As part of Cisco Live 2023, the NIIN announced the deepening of its capability through the establishment of two industry-specific alliances:

- **NIIN Cyber Security Alliance:** A joint initiative of Cisco and the Australian Cyber Collaboration Centre to extend the NIIN's capabilities and existing cyber security assets by providing a new, dedicated mechanism to collaboratively solve cyber security challenges.
- **NIIN Health Alliance:** A joint initiative of Cisco and the RMIT Transformation Lab to provide a low-risk mechanism for health agencies and hospital operators to engage in innovation activities that use digital technology to address pressing healthcare challenges.



CAUDIT ENGAGEMENT PARTNER

"Cisco represents a strategically important vendor for the Australian and New Zealand education sector. CAUDIT is excited about what the new partnership with Cisco can deliver for our members." – Greg Sawyer, CEO, CAUDIT

Learn more about NIIN at cisco.com/au/niin

Register your interest in joining the NIIN Cyber Security Alliance and NIIN Health Alliance