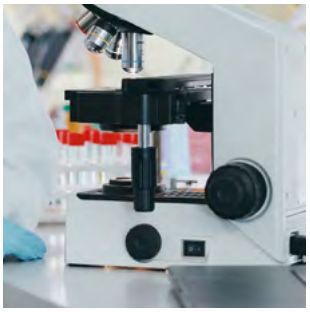
NEXT Frontier: NEXTDC's AI in Education Series

AI Infrastructure in Education: Powering the Next Generation of Research and Innovation

Supercharging Research. Securing Grants.
Elevating Institutional Prestige.

NEXTDC
where AI lives™




Why AI infrastructure is now essential to **winning grants and building reputation**

For university Vice-Presidents, Chancellors, and budget decision-makers, every investment must be weighed against its potential return. In the era of Artificial Intelligence, the question is no longer whether to invest in AI infrastructure, but how strategic investments can directly translate into tangible gains: a surge in research grants, enhanced institutional prestige, and a strengthened competitive position.

The truth is, cutting-edge AI infrastructure isn't just an expense; it's a powerful financial and reputational accelerant. Universities that strategically allocate resources to modern, robust AI computing environments are finding themselves at the forefront of a virtuous cycle, where advanced capabilities attract more funding, elevate research output, and ultimately, solidify their standing among the world's leading institutions.

Research impact depends on compute power — and universities know it

In the highly competitive landscape of academic funding, the ability to execute ambitious, data-intensive research projects is paramount. Granting bodies – whether government agencies, private foundations, or industry partners – are increasingly scrutinising a university's computational capabilities.

Demonstrating capacity

Modern AI initiatives from training large language models to running complex, real-time simulations, rely on access to scalable, high-performance compute environments. Universities equipped with dense, AI-ready infrastructure signal their ability to deliver advanced research at pace and scale. This level of capability is a compelling advantage in competitive grant assessments, where technical readiness and research velocity increasingly shape funding decisions.

Faster milestones, stronger renewals

With superior infrastructure, research teams can hit milestones faster, produce preliminary results more rapidly, and iterate on models more efficiently. This speed directly contributes to meeting grant deliverables, which in turn strengthens the case for grant renewals and secures future funding rounds. Delays due to insufficient compute, as observed across various institutions, directly jeopardise project continuity and future financial support.

Attracting larger, more complex grants

Leading-edge infrastructure enables universities to pursue larger, more complex, and often more lucrative grants that require massive computational resources. These are the "moonshot" projects that can fundamentally redefine fields, and they exclusively gravitate towards institutions with the proven ability to deliver on such scale.

Industry collaboration

Corporate partners seeking academic expertise for AI development are explicitly looking for institutions with commercial-grade compute capabilities. Partnerships with industry often come with substantial research funding, and the presence of a robust AI infrastructure is a non-negotiable prerequisite.

Investing in an AI research powerhouse isn't just about facilitating research; it's about actively cultivating an environment where grant applications are more competitive and successful.

How AI infrastructure is reshaping university **rankings and reputation**

Beyond direct funding, strategic AI infrastructure investments wield significant influence over a university's overall reputation, global standing, and crucially, its position in international rankings.

Direct impact on ranking methodologies

Major global university rankings like the QS World University Rankings, Times Higher Education (THE) World University Rankings, and the Academic Ranking of World Universities (ARWU/ ShanghaiRanking) all place significant weight on research output and impact. Strong performance in AI, driven by cutting-edge infrastructure, directly contributes to these metrics:

Citations per faculty/paper

Faster, more innovative AI research leads to a higher volume of impactful publications, which in turn drives up citation counts – a core component of most ranking methodologies.

Academic reputation

Enabled by groundbreaking research, a university's academic reputation, assessed through global surveys of academics, improves when it's seen as a leader in emerging fields like AI.

Research productivity

The sheer volume and quality of research papers, especially those indexed in prestigious databases like Scopus and Web of Science, directly contribute to ranking scores.

Research income

Successful grant acquisition, directly tied to infrastructure, contributes to the "Research Income" metrics in rankings like THE.

Attracting and retaining elite talent

World-class AI researchers and promising doctoral candidates are drawn to environments where they can truly excel. Access to state-of-the-art accelerated computing, including high-density GPU clusters and infrastructure purpose-built for AI and scientific workloads, is no longer a perk; it's a prerequisite for groundbreaking research. Universities that offer such environments become magnets for the brightest minds, creating a powerful feedback loop that drives research excellence and strengthens academic prestige.

Driving innovation and commercialisation

An AI-powered university is a hotbed of innovation. This infrastructure facilitates the development of patents, spin-off companies, and commercial applications of AI, contributing to economic development and further boosting the university's profile as a leader in technological advancement.

Why AI infrastructure is critical to Australia's **research competitiveness** and **funding success**

For Australian universities, strategic investment in AI infrastructure presents a unique opportunity to enhance their global standing and secure a greater share of national research funding. While Australian universities consistently rank well, competition from institutions in Asia, North America, and Europe with massive AI investments is intense.

Aligning with Australia's research quality, engagement, and impact frameworks

Australian research funding from bodies like the Australian Research Council (ARC) and the National Health and Medical Research Council (NHMRC) is awarded based on rigorous evaluation of:

Research excellence

Directly enabled by the ability to conduct cutting-edge, high-fidelity AI experiments.

Potential societal or industry impact

AI infrastructure supports the development of solutions with real-world applications, directly aligning with the Engagement and Impact (EI) assessment framework.

Track record of investigators

Researchers with access to superior compute can build stronger publication records and demonstrate greater project feasibility.

Feasibility and alignment with national priorities

Access to advanced AI infrastructure makes projects more feasible and demonstrates a university's capability to contribute to critical national strategic areas. These are precisely the criteria measured by frameworks like the Excellence in Research for Australia (ERA) and the Engagement and Impact (EI) assessments, which underpin national research funding decisions.

National priorities and strategic areas

Programs like the Medical Research Future Fund (MRFF), ARC Linkage grants, or Cooperative Research Centres (CRC) specifically target themes such as AI, medtech, climate action, and Indigenous outcomes. Universities with leading-edge AI capabilities are inherently better positioned to secure funding in these strategically important, often multidisciplinary, areas.

Research income and output

Past success in securing grants and publishing high-impact work, directly enabled by robust AI infrastructure makes Australian institutions more competitive in future funding rounds.

Indirect influence on grant success

While the grant application process is merit-based, rankings do influence grant success indirectly by:

Reputation

High-ranking universities are often perceived as lower-risk or higher-capability institutions.

Talent acquisition

Rankings reflect strong academic staff, infrastructure, and output, factors that positively influence investigator CVs and institutional support sections in grant proposals.

Collaborative advantage

Universities with stronger reputations and capabilities are more likely to be invited into high-profile, multi-institution bids, especially for large ARC Centres of Excellence or NHMRC partnerships.

By proactively building world-class AI research powerhouses, Australian institutions can elevate their research output and citation impact, improve their positions in critical subject-specific and overall global rankings, and attract a greater share of international research grants and collaborative projects, fostering national innovation.

Rethinking the AI infrastructure model: **smarter partnerships, stronger ROI**

Recognising the profound ROI on AI infrastructure, wise university leaders are moving beyond traditional on-premise models that are fraught with high CapEx, operational complexities, and scalability headaches.

The cost and complexity of building infrastructure capable of supporting large-scale AI workloads, including dense GPU clusters and advanced cooling systems, can be prohibitive for individual institutions. Strategic partnerships with specialised data centre providers offer a scalable and efficient alternative, enabling universities to access the high-performance environments needed to drive research breakthroughs. This model also supports institutions in meeting their Environmental, Social, and Governance (ESG) commitments, by leveraging energy-efficient design, renewable power, and responsible growth strategies.

Optimised capital allocation

By leveraging a colocation model, universities can shift massive upfront capital expenditure (CapEx) away from building physical data centres, freeing up crucial funds for research programs, faculty hires, and student scholarships.

Operational efficiency and reduced risk

NEXTDC's facilities are purpose-built to meet the demanding requirements of AI infrastructure, including NVIDIA DGX-Certified environments and the proven capability to support ultra-high-density power and advanced liquid cooling systems. This ensures consistent, high-performance operation for AI workloads without placing additional operational burden on university IT teams reducing downtime risk and allowing internal experts to focus on enablement, innovation, and research outcomes.

Scalability for growth

As research needs evolve, NEXTDC provides the agility to scale compute resources on demand, ensuring universities can quickly expand their AI capabilities without disruptive construction or lengthy procurement delays.

Sustainability as a value driver

With a focus on energy efficiency and a commitment to renewable power sources, NEXTDC helps universities meet their environmental, social, and governance (ESG) targets, an increasingly important factor for institutional reputation and attracting mission-aligned funding.

Interconnection that powers collaboration

NEXTDC's campuses are home to a dense ecosystem of cloud providers, enterprises, research institutions, and government agencies—all interconnected via high-speed, low-latency cross-connects. With direct access to international subsea cable landings, we enable seamless global data exchange while ensuring local control and compliance. Whether supporting multi-institution AI research, connecting universities to sovereign cloud environments, or enabling secure data flows across sectors, our interconnect fabric is designed to power next-generation collaboration at scale.

In the global AI innovation race, strategic investment in robust, future-ready data centre infrastructure is no longer a luxury but a fundamental driver of success. It's the catalyst that transforms research ambitions into tangible grants, academic brilliance into global prestige, and institutional vision into leadership. The universities that make these smart infrastructure choices today will be the ones funding the future of discovery and securing their place among the world's elite.

Every question university leaders should be asking about **AI infrastructure**

Are our researchers equipped with the compute power needed to lead in AI-driven discovery?

Do we offer the AI resources and research environment that high-performing teams expect?

Can they train and fine-tune large models in-house, or are they constrained by outdated infrastructure and long wait times?

Are we transforming our research into real-world impact, patents, partnerships, and startups?

How is our infrastructure strategy aligning with Australia's national funding priorities and sovereign capability goals?

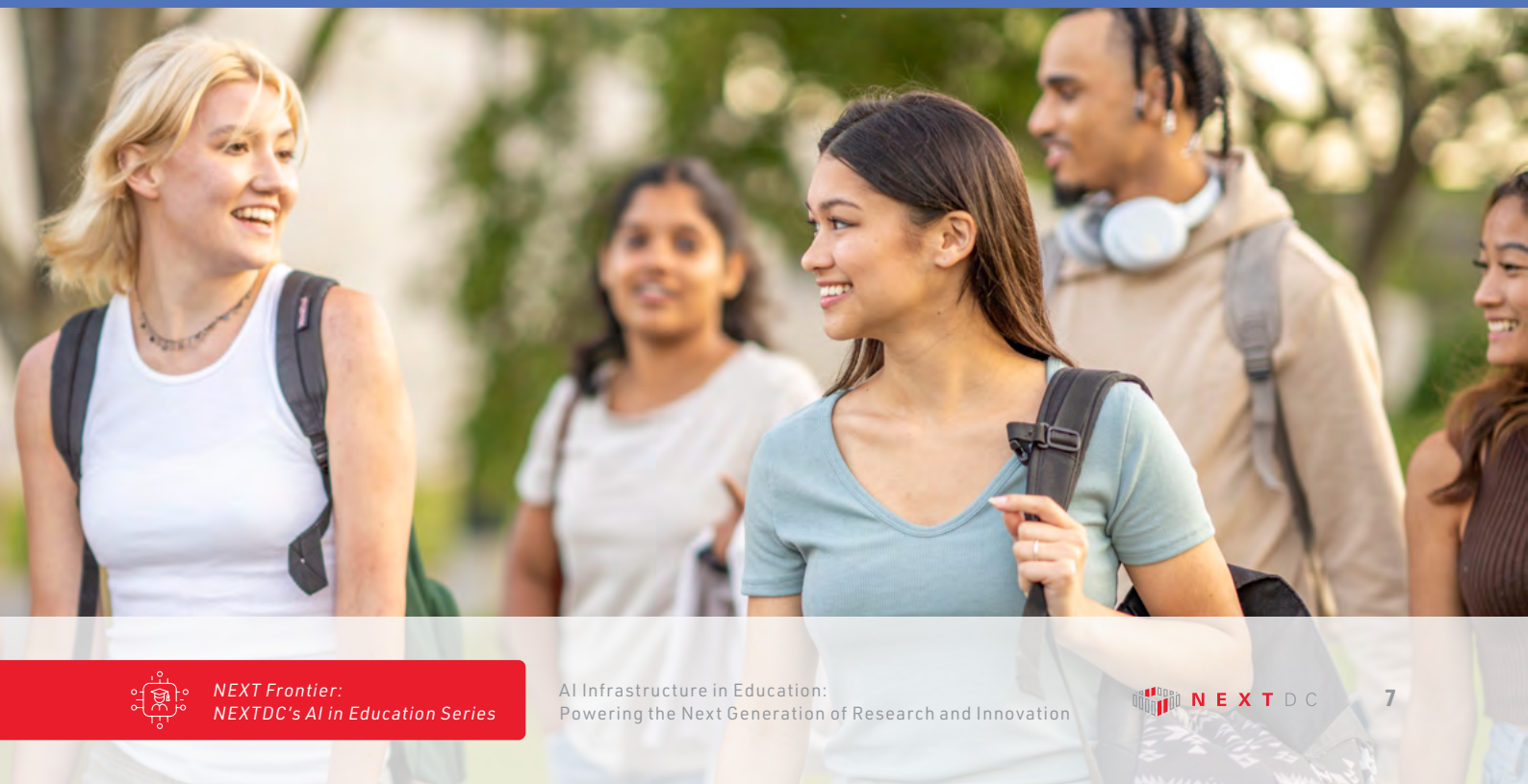
Or is a lack of scalable, high-density AI compute delaying commercialisation and innovation precinct goals?

Are we positioned to compete for grants targeting medtech, defence, climate, and digital innovation?

Is our current infrastructure strategy limiting our ability to secure major grants, industry partnerships, or national research investments in AI-intensive fields?

What is our competitive edge when attracting top academic talent, PhD students, and industry collaborators?

Should we continue building on-premises data centre(s) – and are we prepared for the ongoing investment needed to keep pace with AI innovation?



Ready to scale where AI lives™

Whether you're advancing medical research, shaping the next generation of AI talent, or building a new innovation precinct—your infrastructure must be as ambitious as your mission.

At NEXTDC, we partner with universities, research institutions, and industry innovators to deliver AI infrastructure that is secure, scalable, and truly sovereign. With NVIDIA DGX-certified data centres purpose-built for AI, our national and regional platform supports every phase of the AI lifecycle — from model training to real-time inference — with the performance, resilience, and compliance modern institutions demand.

NEXTDC's infrastructure delivers the stability, sustainability, and strategic edge required to lead in the AI era. From 100% uptime availability to ultra-low-latency connectivity across APAC, we're not just building data centres — we're delivering the AI factories of the future.

The institutions that ask better questions today will lead with better outcomes tomorrow.

Download our AI Ready Checklist →

Speak with a NEXTDC specialist →

UNI04_2025_270625_01