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Principal Consultant

AeRO

CAUDITCloud

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POWERED BY DELL Technologies

A composable set of managed infrastructure services focused on real world education and research sector requirements.

Microsoft Partner | Azure Expert MSP

DELL Technologies TITANIUM PARTNER

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Who We Are - Macquarie Cloud Services

Australia's Most Recommended Cloud Provider.

Security

Built-in, not bolted on.
Sector-grade protection.

Accreditation Focus

The standards you expect,
the trust you need.

Expert MSP

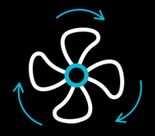
Local experts, global credentials.
Always on, always responsive.

Hybrid Cloud

Wherever you are on your cloud
journey — we meet you there.

Backed by sector-grade trust, certified to meet the highest standards in government and research.

SSAE SOC 2
Type I and II



N+1 power and cooling
design

SOC1 Type 2
Certification

ISO 27001 Information
Secutiry Management

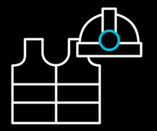
SCEC Zone 2
and higher

PCI-DSS 3.2.1

Federal Government
Certified Strategid
Hosting Provider

ISO 14001 Environmental
Management System

DISP Certified -
Defence Industry
Security Program

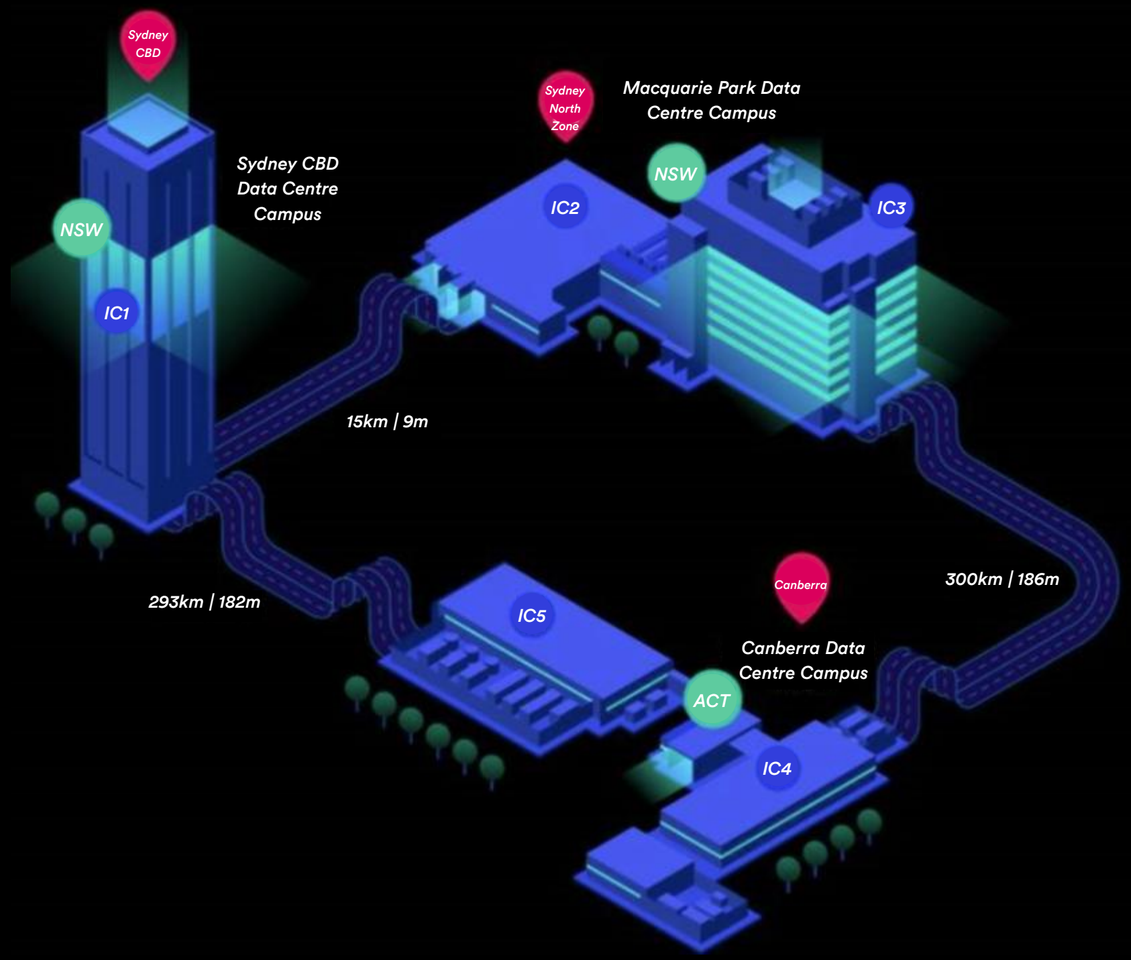


ISO 45001 OH&S
Management System

200+ engineers
security cleared to
government standards

ISO 9001 Quality
Management System

Secure, Sovereign, and Compliant Data Centres



Home of the Australian Federal Government.

Home of Global Hyper-Scalers.

International Cloud Providers.
Large enterprise.
Universities.
Financial Institutions.
International IaaS, PaaS & SaaS.
ASX Top 200.
Critical Infrastructure.

Capability Examples

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Composable. Flexible. Sector-First. Purpose-built for education and research infrastructure.

Macquarie Flex

Cost Control | Cloud Native | Workload Placement

Granular control across environments with sector-optimised cost efficiency, native cloud orchestration, and dynamic workload placement.

Research Cloud

HPC | AI | Storage | IC3 | GPUaaS

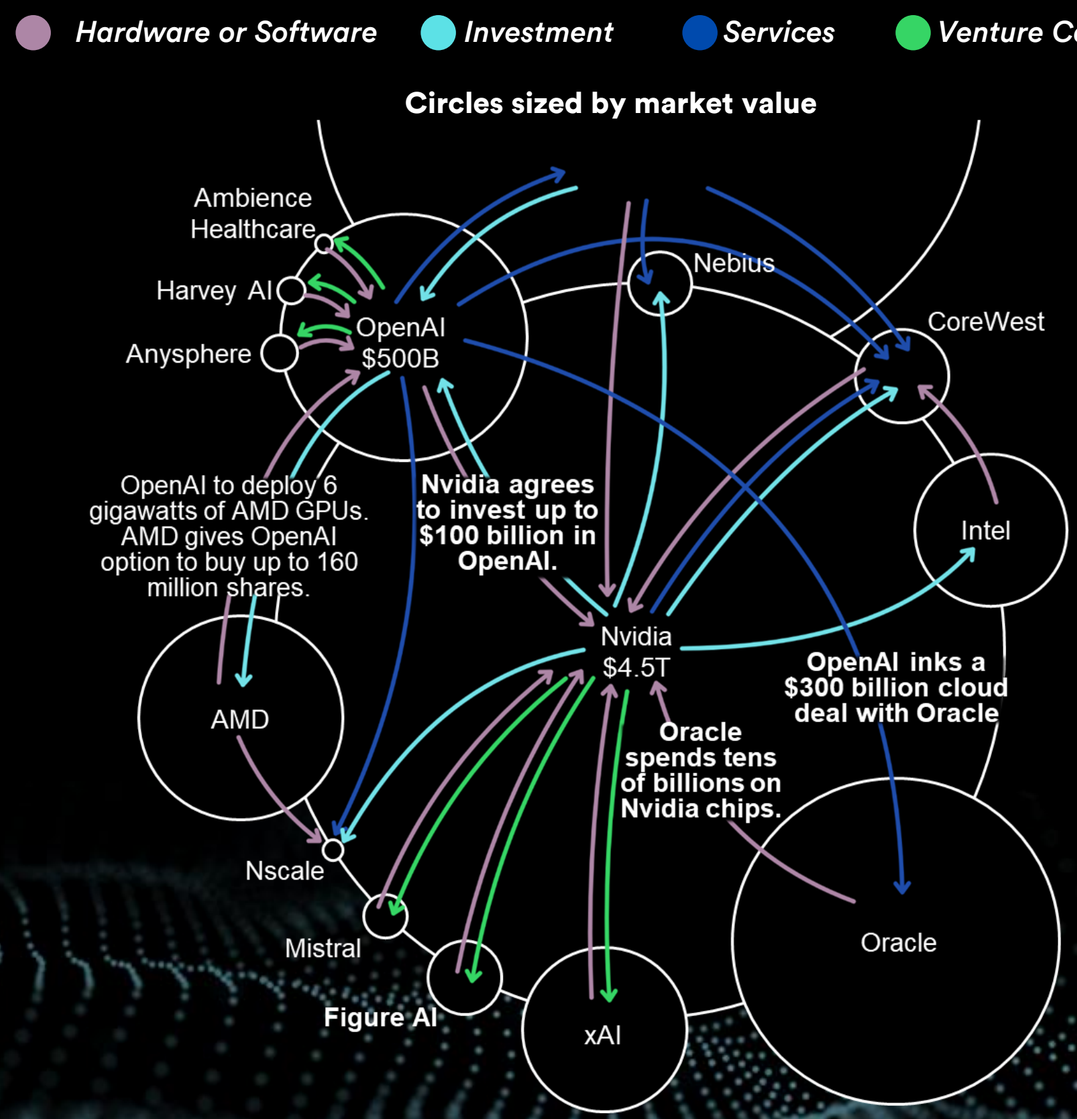
Accelerate research with high-performance compute, AI/ML environments, and scalable storage. Built from the ground up for education and science.

Private Cloud & Azure

Compliance | Azure Arc | Sovereign

Secure, sovereign private cloud with Azure-native integration. Full visibility and control via Azure Arc. Ideal for next-gen compliance.

Recent Context.



Congratulations to our winner!

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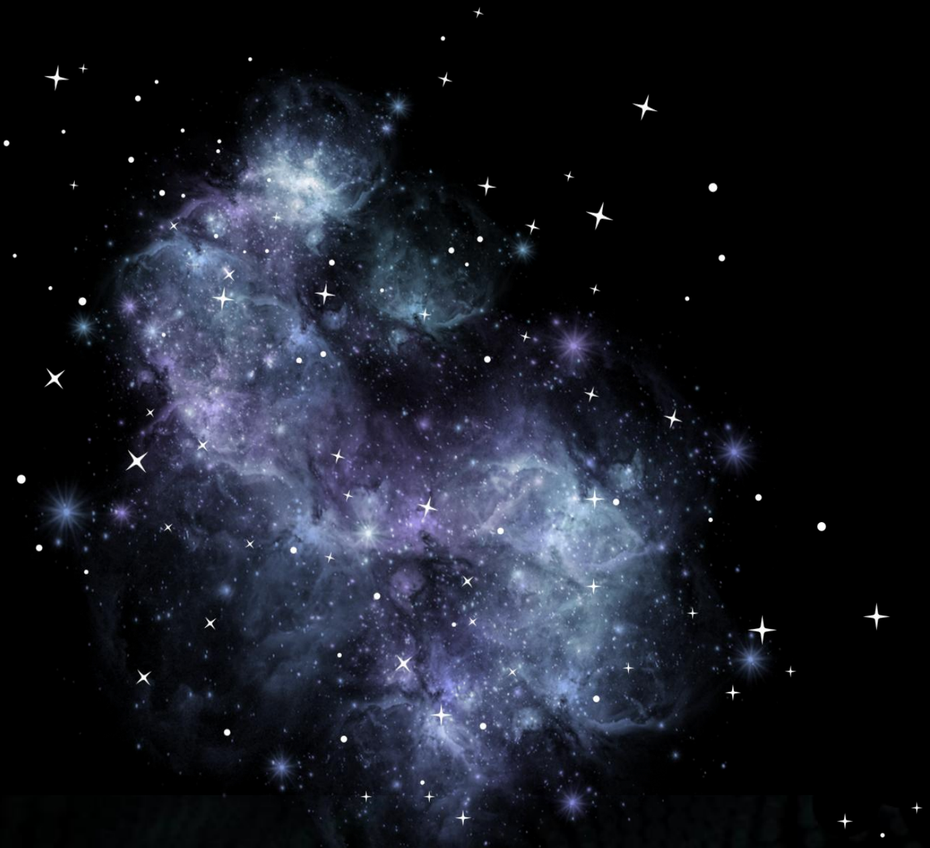
What the future holds.



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What the future holds...

Uncertainty seems certain.

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What the future holds...

What are we (Macquarie Cloud Services) doing?

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What the future holds...

Why does this matter for eResearch?

Data volumes & model sizes outpacing campus facilities

Time-to-insight depends on power, cooling, and operational maturity

Sovereign hosting reduces IP, privacy & regulatory risk

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What the future holds...

“Sovereign” in the Australian context.

ACSC Essential Eight & ISM

Set technical baselines

Hosting Certification Framework (HCF)

Guides agencies to hosting that meets enhanced privacy, sovereignty, security needs

Regulated Sectors

APRA CPS 234 info-security obligations

What the future holds...

The density curve (past→present→near future)

TRADITIONAL ENTERPRISE	TODAY'S MAINSTREAM	FRONTIER DESIGNS
4–5 kW/rack common historically	10–20 kW/rack; AI/HPC 25–50 kW common; pockets 100+ kW	120–600 kW/rack emerging for advanced GPU racks (late-decade)

What the future holds...

Why air alone hits a wall.

Air's thermal transport limits at >25–30 kW/rack

Augmented air (containment, RDHx) helps, but not enough for AI clusters

Liquids move 10–20× heat per unit energy; smaller conduits enable density

What the future holds...

Direct-to-chip (D2C) cooling 101

- Cold plates on CPUs/GPUs; facility coolant loop via CDUs
- Works with warm-water loops; high heat-reuse potential
- Smaller fans, less air recirculation; lower PUE at scale
- Resiliency patterns now documented by ASHRAE TC 9.9

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What the future holds...

Australian Government
Australian Signals Directorate

ACSC Australian Cyber Security Centre

Information Security Management ISO 27001 Certified

SSAE 18 type 2 COMPLIANT SOC 2

Security and Compliance Data Centre Managed Services

- Researcher Toolsets
- Managed Hardware / Infrastructure
- Data Centre / Colocation

Sovereign service spectrum: beyond “just colo”

- Remote hands → Managed hardware → Managed private-cloud/HPC
- 24×7 monitoring, patching, firmware, compliance evidence packs
- Integration with Essential Eight/ISM practices; audit-ready reporting

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What the future holds...

A SAMPLE REFERENCE ARCHITECTURE (PRIVATE-CLOUD AI/HPC)

RACK GROUP

2–4 AI racks (liquid)
+ 1 storage
+ 1 management

DATA PATH

Campus/ARO/ER
→ DC core
→ GPU/FS clusters

SERVICES

Bare-metal or
virtualised GPU pools;
secure bastion; SIEM

CONTROLS

MFA, PAM,
vulnerability mgmt,
backup / immutability

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What the future holds...

PROCUREMENT CHECKLIST FOR RESEARCH LEADS

- Target kW/rack today & 24-mo roadmap; liquid-ready?
- Hosting certification / sovereignty posture
- DCIM/telemetry access; evidence packs for audits
- Service scope (SLA, RTO/RPO, remote-hands vs fully managed)

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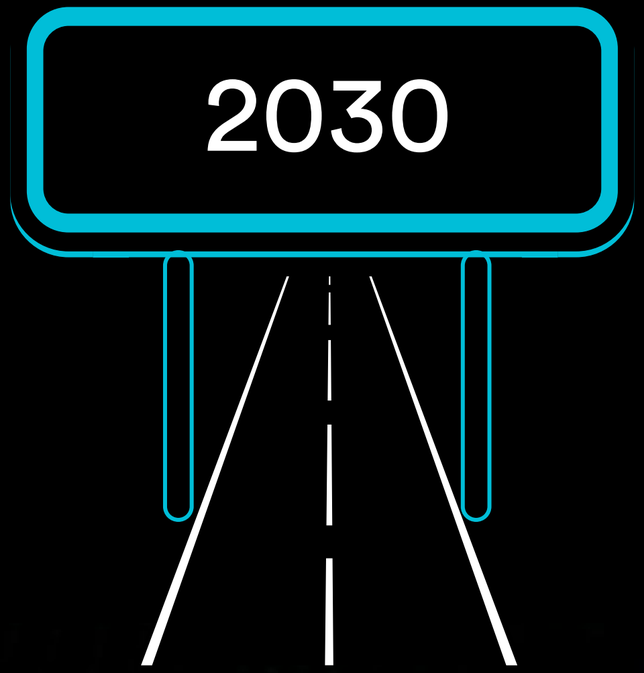
What the future holds...



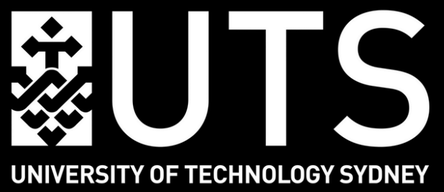
WHAT'S COMING

Racks trending >100 kW; experimental 200–600 kW for late-decade AI

Wider adoption of warm-water loops & heat reuse

Denser SSD tiers reduce watts/TB; more liquid-native servers

Built for the Sector, With the Sector



Learn More About

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Scan the QR code to explore how we're supporting the future of research and innovation.

Let's keep the conversation going.

Come and meet the real stars at the Macquarie Cloud Services stand.

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