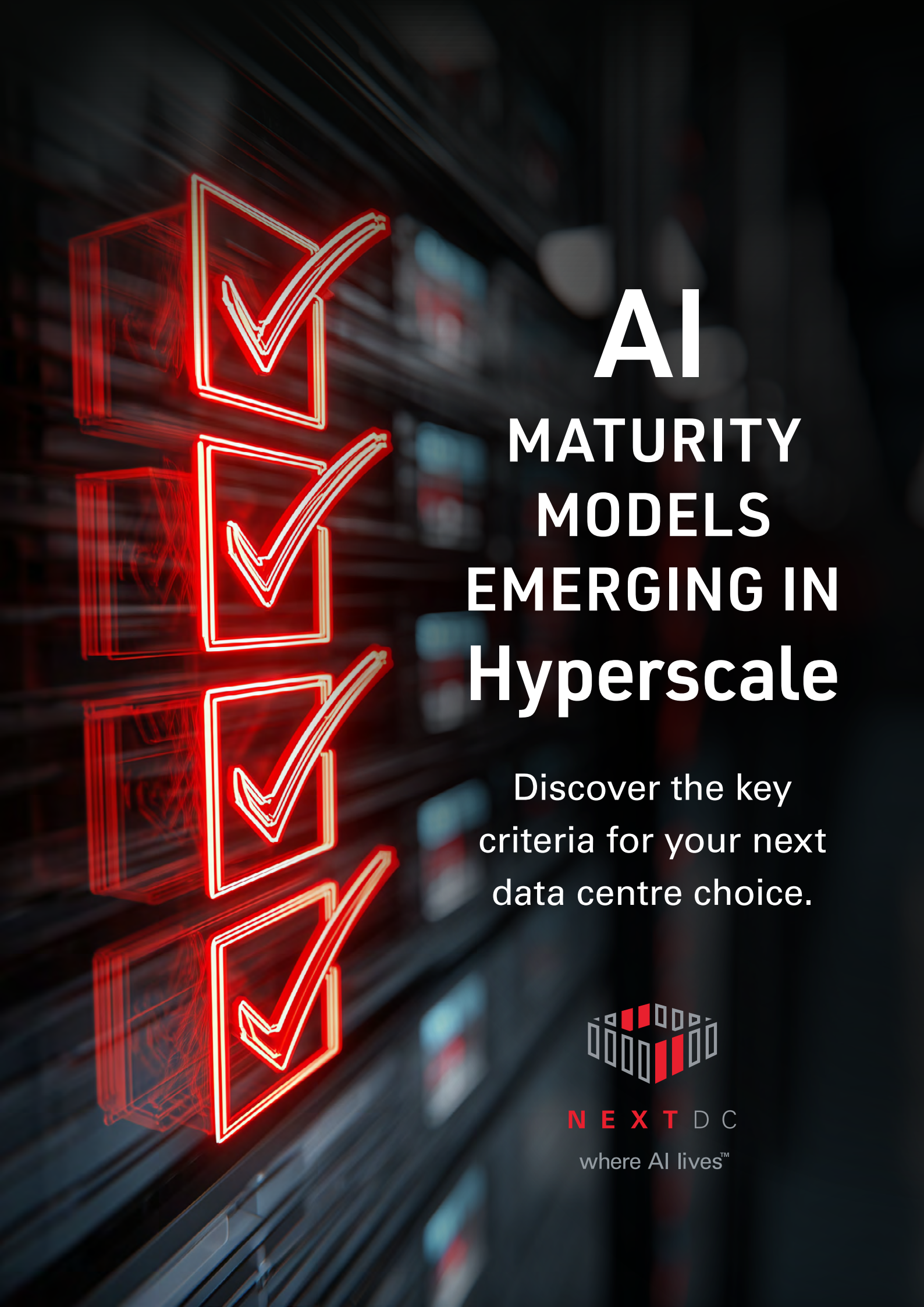


AI MATURITY MODELS EMERGING IN Hyperscale

Discover the key criteria for your next data centre choice.

NEXTDC

where AI lives™

Navigating the AI frontier:
Your AI maturity model for APAC

The race to build the future of AI is heating up, and the Asia-Pacific (APAC) region stands at its very core.

Hyperscalers are facing an unprecedented, unyielding demand for advanced AI services – everything from the raw power needed for generative AI and large language models (LLMs) to the split-second responsiveness of real-time inference.

This intense competition means hyperscalers can no longer rely on traditional data centre metrics.

They're now urgently re-evaluating what defines an optimal partner in this new AI-driven world. This guide unpacks the vital criteria you'll need to prioritise, ensuring you gain a critical competitive edge in APAC's fast-evolving AI environment.

Hyperscale maturity model:
Your strategic imperative for hyperscalers

The future of AI isn't just arriving; for hyperscalers, it's a strategic imperative demanding infrastructure that's not merely good, but truly exceptional. For hyperscaler infrastructure leaders, every data centre decision carries serious weight. This isn't just another list; it's your framework, the definitive strategic guide for navigating this complex landscape.

We've distilled the vital criteria to empower you to secure unparalleled performance, unwavering resilience, and future-proof adaptability for your mission-critical AI operations at scale. In the accelerating AI arms race, infrastructure strategy is paramount. This analysis provides the precise framework to ensure your investments deliver not just performance and resilience, but a distinct competitive edge. Use it to make the definitive choices that will secure your leadership in the hyperscale AI domain.

Power and Density

PRIORITY LEVEL
Critical

Current Capacity

Can the facility support high-density deployments of 20kW to 600kW per rack today? ☐

Future Scalability

Is the infrastructure engineered to accommodate ultra-high-density workloads up to 1MW per rack, such as NVIDIA Ultra systems? ☐

Thermal Management

PRIORITY LEVEL
Critical

Advanced Cooling

Are direct-to-chip or liquid cooling systems implemented to manage high thermal loads? ☐

Design Considerations

Is the facility engineered with high thermal tolerance to sustain continuous, large-scale AI operations? ☐

Latency and Interconnectivity

PRIORITY LEVEL
High

Network Proximity

Is the site within low-latency range of major cloud on-ramps and metropolitan regions? ☐

Interconnect Options

Are direct interconnects, including access to subsea cable landing stations, provisioned for immediate deployment? ☐

Deployment Velocity

PRIORITY LEVEL
High

Rapid Provisioning

Can the facility deliver capacity swiftly through build-to-suit or modular solutions? ☐

Service Level Agreements

Are delivery SLAs aligned with hyperscale deployment timelines? ☐

Sustainability

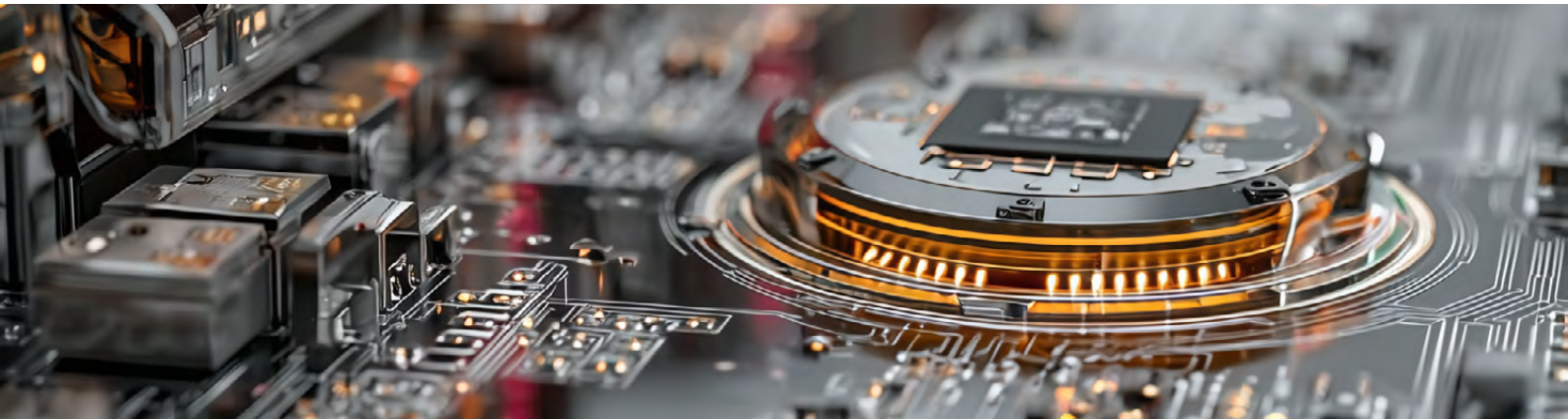
PRIORITY LEVEL
High

Energy Efficiency

Is the facility optimised for energy efficiency at scale, incorporating advanced cooling and power management systems? ☐

Power Options

Are renewable energy sources available or integrated into the power supply? ☐



Sovereignty and Compliance

PRIORITY LEVEL
Strategic

Regulatory Alignment

Does the site comply with critical infrastructure regulations, data privacy laws, and national security requirements?

☐

Data Sovereignty

Are there provisions to ensure data remains within specific geographic or jurisdictional boundaries?

☐

Ecosystem Access

PRIORITY LEVEL
High

Partner Integration

Does the facility offer seamless integration with cloud providers, telecommunications carriers, and sovereign partners?

☐

Marketplace Connectivity

Is there access to a rich ecosystem of services and partners within the data centre?

☐

Operational Maturity

PRIORITY LEVEL
High

Support Infrastructure

Is there 24/7 engineering support, with staff trained to manage hyperscale environments?

☐

Automation and Monitoring

Are there automated support systems and monitoring tools to ensure operational excellence?

☐

Subsea Connectivity

PRIORITY LEVEL
Optional

Global Reach

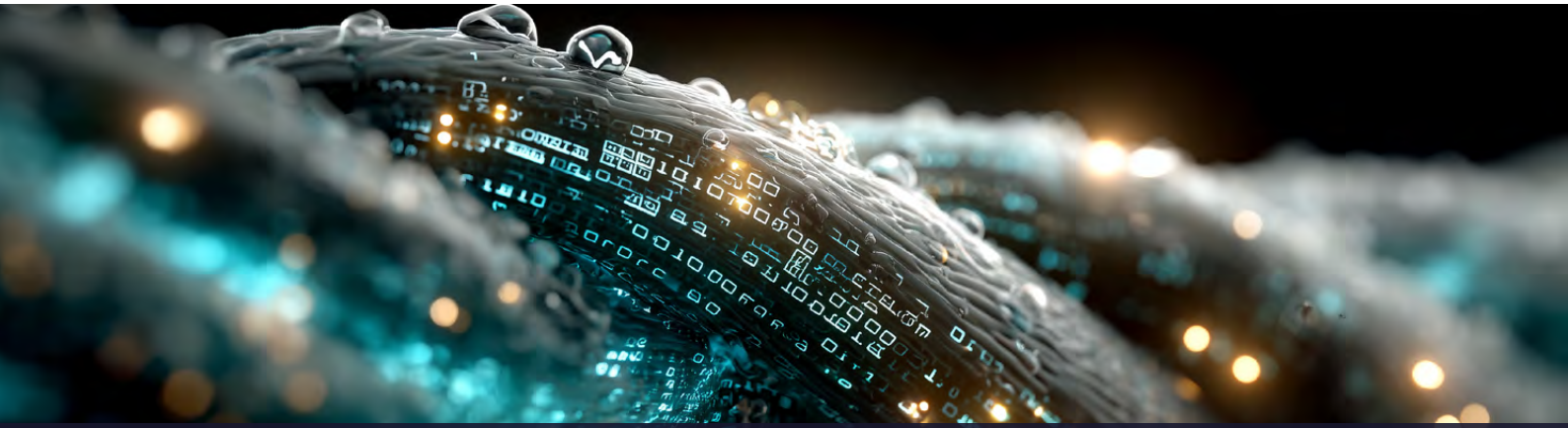
Does the facility provide direct access to subsea cable systems, enhancing global connectivity and redundancy?

☐

Latency Optimisation

Can the data centre leverage subsea connections to minimise latency for international data transfers?

☐



NVIDIA DGX-Ready Certification

PRIORITY LEVEL
Critical

Certification Status

Has the data centre achieved NVIDIA DGX-Ready Data Centre certification, validating its capability to support NVIDIA DGX systems?

☐

Infrastructure Readiness

Does the facility meet the stringent requirements for power, cooling, and networking necessary for optimal DGX system performance?

☐

AI Workload Specialisation

PRIORITY LEVEL
High

Training Support

Is the facility equipped with infrastructure aligned to partner specifications (e.g. high-performance networking, liquid cooling) to support AI training workloads?

☐

Inference Optimisation

Does the infrastructure support low-latency, high-throughput inference environments for real-time processing?

☐

Security (Physical and Digital)

PRIORITY LEVEL
Critical

Physical Security

Are there robust measures like biometric authentication, 24/7 surveillance, multi-layered access control, and on-site personnel?

- [ ]

Cyber Security

Does the network include segmentation, DDoS protection, secure ops networks, and ISO 27001 or equivalent certifications?

- [ ]

Network Redundancy and Resilience

PRIORITY LEVEL
High

Fibre Diversity

Are there multiple fibre entry points and diverse dark fibre paths?

- [ ]

Carrier Diversity

Does the site offer access to a variety of network providers to eliminate single points of failure?

- [ ]

Power Redundancy and Resilience

PRIORITY LEVEL
High

Electrical Resilience

Is the site configured with N+1 or 2N redundancy across UPS, generators, and PDUs?

- [ ]

Fuel Autonomy

Is there enough on-site generator fuel to sustain operations during extended power outages?

- [ ]

Floor Loading and Rack Integrity

PRIORITY LEVEL
High

Floor Load Capacity

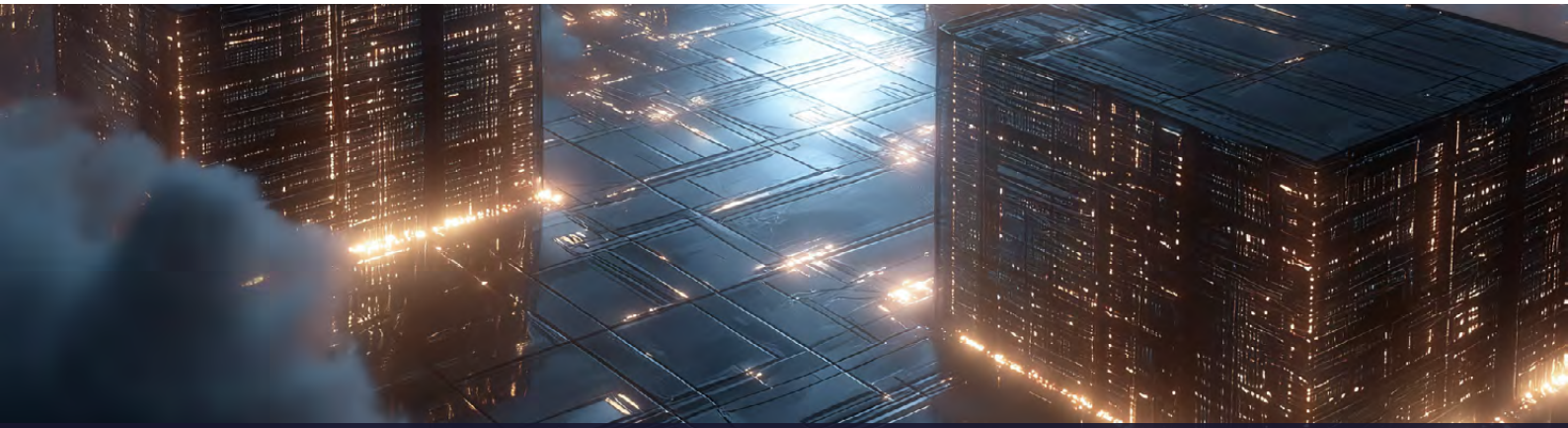
Can the data centre support AI racks exceeding 2,000 kg per rack?

- [ ]

Stability

Are the physical racks built to manage large-scale AI systems securely?

- [ ]



Supply Chain and Logistics

PRIORITY LEVEL
Strategic

Delivery and Staging

Does the facility have infrastructure to receive large volumes of AI equipment, secure staging, and lift equipment?

☐

Labour Force

Is there a scalable pool of skilled local talent for deployment and ongoing maintenance?

☐

Cost and Commercial Flexibility

PRIORITY LEVEL
Strategic

Transparent Pricing

Are the cost structures for power, cooling, and space predictable and clear?

☐

Flexible Contracts

Can the commercial terms accommodate rapid scale-ups or evolving hardware needs?

☐

Powering Asia-Pacific's AI future

As hyperscalers accelerate their expansion across the Asia-Pacific region, infrastructure decisions have evolved beyond mere space and power.

They're now about securing a strategic competitive advantage. Supporting ultra-high-density AI training clusters, ensuring sustainable operations, maintaining data sovereignty, and achieving true scalability are all reshaping what it means to be "data centre ready."

At NEXTDC, we don't just build facilities; we architect the AI Factories of the future.

Our proven expertise in deploying infrastructure meticulously aligned to NVIDIA and partner specifications, combined with our national footprint, robust sovereign controls, and unparalleled performance-at-scale capabilities, makes us the ideal partner for your most demanding AI deployments.

Your AI Factory starts here - with NEXTDC

The intelligence economy isn't on the horizon, it's already transforming industries. To lead in this new era, you need infrastructure that's not just ready for AI, but purpose-built for it.

NEXTDC's high-performance, AI-optimised data centre platform delivers the density, sovereignty, and sustainability your workloads demand today and tomorrow.

Let's build your AI Factory.

Connect with our specialists today to design the infrastructure that defines your next competitive advantage.

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