

FACILITY OVERVIEW

M1 MELBOURNE



A thriving environment for powering business

Redefining industry standards for security, performance, reliability and energy-efficiency, M1 is NEXTDC's flagship Australian data centre. Located less than 3km from Melbourne's CBD, M1 is the largest independent data centre in the city, with six data halls measuring 1,000m² each; and has the Uptime Institute's industry-benchmark Tier III certification for design.

M1 is also the first facility in Asia-Pacific to employ solar power as a renewable energy source. M1's photovoltaic solar system is the largest privately funded rooftop solar array in Australia, and is capable of generating approximately 550 megawatt-hours of electricity annually, offsetting carbon equivalent to that emitted by 200 cars in one year.

About NEXTDC

An ASX300 company and Australia's only independent data centre operator with a national presence, NEXTDC provides a range of highly flexible, resilient and secure colocation services to government, enterprise and IT services organisations.

Supporting the growth of cloud computing and virtualisation, our next-generation data centres offer superior physical security and connectivity, energy-efficient cooling and high-density power.

Plus, with on-demand monitoring and remote controls through our award-winning data centre management tool, ONEDC®, NEXTDC is redefining Data-Centre-as-a-Service (DCaaS).



Power



Cooling



Security



Rack analytics



Ecosystem



Cross connects



Remote control



Environment monitoring



Australia's leading independent **DCaaS** Data-Centre-as-a-Service provider.

Building Overview

- Two storey 17,500m² building.
- Total technical space approximately 6,000m².
- 3,000 rack capacity.
- Average 1,000m² per data hall.
- Office and common areas approximately 1,200m².
- 100% concrete construction for walls and roof of all data halls.
- 900mm raised floors in data halls and service corridors.
- Floor is reinforced concrete with 14.4kPa floor live load capacity.

Power

- Available power of 22.5MVA.
- IT load capacity of approximately 12MW.
- Minimum N+1 redundancy on power supply.
- Multiple power distribution units (PDUs) with minimum N+N redundancy.
- Harmonic distortion controlled and monitored by UPS systems.
- Full N+1 main electrical infrastructure extending to N+N at PDU level.
- Ultimate 12+1 Pillar 1670kVA Diesel Rotary UPS [DRUPS] units on an Isolated Parallel bus for 100% no break IT and mechanical power.
- Three 7.5MVA main feeders delivered at 11kV.
- Minimum 24 hours' onsite fuel supply.

Cooling

- N+1 high efficiency water-cooled chillers, cooling towers and pumps.
- Dual primary pipework header and distribution system.
- Secondary pipework distribution serving data hall equipment valved and looped providing dual path.
- Multiple redundant water pump and compressor configuration.
- Leak detection system for critical plant areas.
- Server heat load approximately 2000W/m².
- N+2 Computer Room Air Conditioning (CRAC) units per data suite.
- CRAC units fitted with supply temperature control and floor pressure control.
- All CRAC units are located in secured plant corridors outside the data suites.
- Hot and cold aisle containment systems: halls 4, 5 and 6 cold aisle; halls 1, 2 and 3 hot aisle.
- Average cold aisle temperature of 22 +/-2 degrees.
- Average cold aisle relative humidity of 50% +/- 15%.

Telecommunications

- Diverse connectivity and underground cable pathways to the building.
- Dedicated interconnect room for cable connections.
- 100% carrier and vendor neutral.

Security

- Individual credential checks prior to authorisation.
- 24/7 onsite security personnel.
- Biometric fingerprint security for data centre access.
- Anti-cloning access card encryption.
- Secure lifts between floors.
- Intruder-resistant glass, steel mesh and solid concrete walls.
- Secure loading dock for deliveries.
- Extensive coverage of motion sensitive CCTV cameras.
- Remote monitoring and control of rack access via ONEDC®.
- Monitoring of news and weather for external security risks.

Sustainability

- Water cooled chiller technology with variable speed compressors.
- Indirect water-side free cooling.
- Rain water shall be available for cooling towers.
- Australia's largest privately owned rooftop PV solar array.
- Dedicated area for potential future installation of onsite generation plant (such as tri-gen or other technologies) to significantly reduce CO₂ emissions.
- Energy efficient lighting (fluro or LED) meeting AS1680.2.2 standard.
- External walls insulated to reduce heat transmission.
- Low volatile organic compound (VOC) materials and paint.
- Target PUE for full final design IT load is 1.35.

Fire Suppression and Monitoring

- Inert gas fire suppression system.
- Leak detection systems.
- Emergency warning systems throughout the building.
- Water mist suppression system in DRUPS enclosures.
- Distributed fire alarm controls equipment to avoid single point of failure.
- Fully addressable analogue fire alarm system comprising Fire Indicator Panel (FIP), mimic panels, heat detection and MASDs systems.

Certifications and Standards

- Uptime Institute Tier III certification of design documents.
- Certified to ISO 9001:2008 for the design, development and provision of secured data centre infrastructure and associated services.
- Designed by ASIO T4 accredited consultants with ASIO T4 security and future requirements of the Protective Security Policy framework (PSPF) in mind.
- Designed in accordance with the Telecommunications Industry Association's (TIA) 942 standard (Tier III).

Customer Services

- Sound-proof boardroom that can be booked for meetings.
- Customers working on site have access to a chill-out room equipped with kitchen facilities, TV, Xbox®, Foxtel®, tea and coffee and two fully reclining massage chairs.
- Spare cables and other handy items are available in distinctive vending machines in the chill out room.
- The two four tonne lifts and the 2.7m high doors throughout make installations easy and we provide three staging rooms where customers can test equipment before installing it.