STANDARDS Australia

STANDARDS PLAYBOOK

Data Centres Industry

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Introduction

The expansion of cloud computing, artificial intelligence, and digital infrastructure has accelerated the global demand for data centres. This has highlighted the need for harmonised standards among data centre operators to ensure consistent design, construction, and operational practices. Greater alignment of standards can reduce barriers to investment and trade, facilitate the adoption of emerging technologies, and promote best practice across the sector. Australia's built-out data centre capacity will nearly double over the next decade, reflecting sustained investment from global players and government users.[1] Data centre capacity is concentrated in Sydney and Melbourne, shaped by strong connectivity, enterprise demand, and Australia's role as a leading Asia-Pacific digital hub.[2]

In contrast, India's data centre market is characterised by rapid expansion, supported by rising internet usage, low-cost mobile data, submarine cable landing ports, cloud adoption, digital payments, and data-localisation mandates by the Indian Government. Strong Government support and incentives are expected to accelerate data centre capacity growth from an estimated 1 GW to over 2 GW by 2026.[3] At the same time, investor-friendly policies are attracting domestic players (e.g. AdaniConnex, Yotta Infrastructure, Reliance) and global hyperscalers (e.g. Oracle, Equinix, Google Cloud, Amazon Web Services, Microsoft Azure) to invest capital into Mumbai, Chennai, and emerging hubs such as Hyderabad.[4]

Standards harmonisation is the process of aligning technical standards across jurisdictions to ensure compatibility and create a more predictable compliance environment that supports trade and innovation. It is typically achieved by adopting common benchmarks developed by international bodies such as the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), or by recognising the equivalence of national standards that deliver comparable outcomes. Harmonising data centre standards between Australia and India would reduce regulatory friction by aligning technical and compliance requirements, minimising the need for operators to comply with multiple frameworks. It would also enable trusted cross-border data flows by ensuring consistent standards for data security, privacy, and resilience, thereby strengthening digital trade through improved interoperability and lower compliance costs.

This playbook provides organisations with:

- An overview of the data centre infrastructures
- The role standards play at data centre infrastructure
- Key national and international standards applicable to data centre infrastructure

1 CBRE, "Australia's Data Centres 2024", accessed on May 4, 2026; Australia's Data Centres 2024 | CBRE Australia.
2 CBRE, "Australia's Data Centres 2024", accessed on May 4, 2026; Australia's Data Centres 2024 | CBRE Australia.
3 KPMG, "India's data center revolution: Powering the trillion-dollar digital dream", accessed on May 4, 2026; India's data center revolution: Powering the trillion-dollar digital dream.
4 Business Outreach, "From Emerging Market to Leader: India's Data Centre Boom", accessed on May 5, 2026; India Data Center Market Growth & Future Outlook 2025.

Electrical Infrastructure

Data centres rely on robust electrical infrastructure to deliver continuous, reliable power to IT equipment and supporting systems. This includes grid connections, on-site substations, transformers, switchgear, uninterruptible power supplies (UPS), backup generators, power distribution units (PDUs), and monitoring and control systems.

The role of standards at the electrical infrastructure:

- Define design, safety, redundancy, and performance requirements for power supply and distribution systems
- Ensure compatibility between grid connections, backup systems, and on-site electrical equipment

Without standards, data centre electrical systems face higher risks of outages, safety incidents, inconsistent resilience levels, and challenges in meeting regulatory requirements or customer expectations.

Below are the key national and international standards which support reliable and resilient electrical systems in data centres:

Adopted standard | Indigenous standard

Region	Designations	Title
International	IEC TS 63236-3:2021	Direct current (DC) appliance couplers for information and communication technology (ICT) equipment installed in data centres and telecom central offices - Part 3: AC/DC appliance inlet
	IEC 62783-1:2023	Twinax cables for digital communications - Part 1: Generic specification
	IEC 61280-4-5:2020	Fibre-optic communication subsystem test procedures - Part 4-5: Installed cabling plant - Attenuation measurement of MPO terminated fibre optic cabling plant using test equipment with MPO interfaces
	IEC TR 61282-15:2017	Fibre optic communication system design guides - Part 15: Cable plant and link - Testing multi-fibre optic cable plant terminated with MPO connectors
	IEC 61280-4-2:2024	Fibre-optic communication subsystem test procedures - Part 4-2: Installed cabling plant - Single-mode attenuation and optical return loss measurements
	IEC 61280-4-1:2019	Fibre-optic communication subsystem test procedures - Part 4-1: Installed cabling plant - Multimode attenuation measurement
	IEC 60793-2-10:2019	Optical fibres - Part 2-10: Product specifications - Sectional specification for category A1 multimode fibres
	ISO/IEC 30134-3:2016	Information technology - Data centres - Key performance indicators - Part 3: Renewable energy factor (REF)
	ISO/IEC 22237-3:2021	Information technology - Data centre facilities and infrastructures - Part 3: Power distribution
	ISO/IEC TR 23050:2019	Information technology - Data centres - Impact on data centre resource metrics of electrical energy storage and export
	ISO/IEC 30134-2:2016	Information technology - Data centres - Key performance indicators - Part 2: Power usage effectiveness (PUE)
	ISO/IEC 30134-6:2021	Information technology - Data centres key performance indicators - Part 6: Energy Reuse Factor (ERF)
	ISO/IEC 30134-8:2022	Information technology - Data centres key performance indicators - Part 8: Carbon usage effectiveness (CUE)
India	IS/ISO/IEC 22237-3:2021	Information Technology Data Centre Facilities and Infrastructures Part 3: Power Distribution
	IS/ISO/IEC 30134-2:2016	Information Technology Data Centres Key Performance Indicators Part 2 Power Usage Effectiveness (PUE)
	IS/ISO/IEC 30134-3:2016	Information Technology Data Centres Key Performance Indicators Part 3 Renewable Energy Factor (REF)
	IS/ISO/IEC 30134-6:2021	Information Technology Data Centres Key Performance Indicators Part 6: Energy Reuse Factor ERF
	IS/ISO/IEC 30134-8:2022	Information Technology Data Centres Key Performance Indicators Part 8: Carbon Usage Effectiveness CUE

Mechanical Infrastructure

Data centres rely on robust mechanical infrastructure to maintain stable operating conditions and prevent overheating of IT equipment and supporting systems. This includes cooling systems such as chillers, cooling towers, air-handling units, pumps, piping, heat exchangers, containment systems, and environmental monitoring controls.

The role of standards at the mechanical infrastructure:

- Define design, efficiency, redundancy, and performance requirements for cooling and environmental control systems
- Ensure compatibility between cooling equipment, airflow management, and data hall layouts

In the absence of defined standards, mechanical infrastructure is more susceptible to poor airflow design, cooling inefficiencies, equipment short-cycling, and uneven temperature control, resulting in higher energy consumption and reduce IT systems availability.

Below are the key national and international standards which enable efficient thermal and mechanical performance in data centres:

Adopted standard | Indigenous standard

Region	Standards Code	Title
International	IEC 62966-2:2020	Mechanical structures for electrical and electronic equipment - Aisle containment for IT cabinets - Part 2: Details of air flow, air separation and air-cooling requirements
	IEC 62966-1:2019	Mechanical structures for electrical and electronic equipment - Aisle containment for IT cabinets - Part 1: Dimensions and mechanical requirements
	IEC TS 62966-3:2021	Mechanical structures for electrical and electronic equipment - Aisle containment for IT cabinets - Part 3: Aspects of operational and personal safety
	ISO/IEC 30134-5:2017	Information technology - Data centres - Key performance indicators - Part 5: IT Equipment Utilization for servers (ITEUsv)
	ISO/IEC 30134-7:2023	Information technology - Data centres key performance indicators - Part 7: Cooling efficiency ratio (CER)
	ISO/IEC 30134-4:2017	Information technology - Data centres - Key performance indicators - Part 4: IT Equipment Energy Efficiency for servers (ITEEsv)
	ISO/IEC 30134-9:2022	Information technology - Data centres key performance indicators - Part 9: Water usage effectiveness (WUE)
India	IS/ISO/IEC 22237-4:2021	Information Technology Data Centre Facilities and Infrastructures Part 4: Environmental Control
	IS/ISO/IEC 30134-4:2017	Information Technology Data Centres Key Performance Indicators Part 4 IT Equipment Energy Efficiency for Servers (ITEEsv)
	IS/ISO/IEC 30134-5:2017	Information Technology Data Centres Key Performance Indicators Part 5 IT Equipment Utilization for Servers (ITEUsv)
	IS/ISO/IEC 30134-9:2022	Information Technology Data Centres Key Performance Indicators Part 9: Water Usage Effectiveness WUE
	IS/ISO 14001:2015	Environmental management systems - Requirements with guidance for use (Second Revision)

General Construction

Data centres depend on general construction to provide a secure, resilient, and controlled physical environment for IT equipment and supporting systems. This includes building structure, floor loading capacity, fire-rated walls, ceilings and floors, access controls, physical security features, and protection against environmental risks such as fire, flooding, and seismic events.

The role of standards at the general construction:

- Define requirements for structural integrity, fire protection, physical security, and resilience to environmental and physical hazards
- Ensure compatibility between building design, spatial layout, and the integration of electrical and mechanical infrastructure

Gaps in general construction standards increase data centre exposure to structural, fire-safety, physical security, and environmental risks, leading to higher downtime risk and long-term data centre degradation.

Below are the key national and international standards guiding robust data centre design and construction:

Adopted standard | Indigenous standard

Region	Standards Code	Title
International	ISO/IEC 22237-4:2021	Information technology - Data centre facilities and infrastructures - Part 4: Environmental control
	ISO/IEC 11801-5:2017	Information technology - Generic cabling for customer premises - Part 5: Data centres
	ISO/IEC TS 22237-31:2023	Information technology - Data centre facilities and infrastructures - Part 31: Key performance indicators for resilience
	ISO/IEC 30134-1:2016	Information technology - Data centres - Key performance indicators - Part 1: Overview and general requirements
	ISO/IEC TS 22237-5:2018	Information technology - Data centre facilities and infrastructures - Part 5: Telecommunications cabling infrastructure
	ISO/IEC TR 20913:2016	Information technology - Data centres - Guidelines on holistic investigation methodology for data centre key performance indicators
	ISO/IEC 22237-1:2021	Information technology - Data centre facilities and infrastructures - Part 1: General concepts
	ISO/IEC 22237-2:2024	Information technology - Data centre facilities and infrastructures - Part 2: Building construction
	ISO/IEC TS 22237 30:2022	Information technology - Data centre facilities and infrastructures - Part 30: Earthquake risk and impact analysis
	ISO 14001:2015	Environmental management systems - A practical guide for SMEs
	ISO 22301:2019	Security and resilience — Business continuity management systems — Requirements
	ISO/IEC 27001:2022	Information security, cybersecurity and privacy protection — Information security management systems — Requirements
Australia	AS 11801.5:2019	Information technology - Generic cabling for customer premises, Part 5: Data centres (ISO/IEC 11801-5:2017, MOD)
	AS/NZS ISO 14001:2016	Environmental management systems - Requirements with guidance for use
	AS ISO 22301:2020	Security and resilience - Business continuity management systems - Requirements

Standards Mapping Portal

Visit the standards mapping portal to explore international, Indian, and Australian standards applicable to data centres. The portal also highlights standards relevant to other important sectors to Australia and India's bilateral relationship including Food and Beverages, Pet Food, and Green Hydrogen.

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