Data Center Case Studies Portfolio

FOSHAN JINGONG HARDWARE CO., LTD

Prepared: Foshan Jingong Hardware Co., Ltd — Data Center Design, Supply & Deployment

Introduction

This document contains 10 detailed case studies of data center projects delivered by Foshan Jingong Hardware Co., Ltd. Each case study focuses on data center-specific systems: electrical infrastructure (UPS, switchgear, generators), precision cooling, racks and containment, fire suppression, DCIM/monitoring, network backbone, and site security. Technical configurations, major equipment used, timeline and measured outcomes are provided for each project.

Case Study 1: PT DCI Indonesia — Jakarta, Indonesia

Project Capacity: 30 kW (Modular)

Modular micro data center deployed to support edge computing and cloud-hosting services for enterprise clients.

Major Equipment & Systems Used

- 10 x 42U server racks with hot-aisle containment
- 1 x InRow precision CRAC units (4 kW each) with humidity control
- 2 x 40 kVA online UPS in N+1 configuration (Delta Electronics)
- Battery bank: VRLA, 30 minutes at full load
- FM-200 clean agent fire suppression
- Dual 10 Gbps fiber uplinks with BGP failover
- DCIM (IoT-enabled) with SNMP and remote alerting

Timeline: 8 weeks (design to commissioning)

PUE / Efficiency: 1.45

Outcome:

Rapid deployment with modular footprint; reliable 24/7 operation and remote management.

Case Study 2: Global CloudNode — Singapore

Project Capacity: 20 MW

Large hyperscale data hall delivering colocation services for APAC region with optimized energy efficiency and high-availability power systems.

Major Equipment & Systems Used

- 10,000+ rack units across 2 halls
- Chilled water central plant with plate heat exchangers and adiabatic cooling towers
- 4 x 2.0 MW diesel generators (N+1), automatic transfer switches (ATS)
- UPS system: Modular 2 MW UPS frames with hot-swap power modules (2N)
- Lithium-ion battery energy storage for ride-through and peak shaving
- Hot-aisle containment and blanking panels
- Fire detection with VESDA early-warning and FM-200 suppression zones
- Network: Dual 100 Gbps fiber backbone, redundant core routers

Timeline: 18 months (phased deployment)

PUE / Efficiency: 1.20 (design), measured 1.25

Outcome:

High-density colocation enabling customers to scale; improved cooling controls reduced energy spend.

Case Study 3: EuroBank Data Center — Frankfurt, Germany

Project Capacity: 35 MW

Mission-critical financial data center with strict security, compliance, and resilience requirements.

Major Equipment & Systems Used

- Multiple data halls supporting 35 MW critical load
- N+2 chilled water plant with direct evaporative economizers
- UPS configuration: diverse 5 MW UPS strings in 2N topology
- Generators: 6 x 3.5 MW diesel sets with paralleling switchgear
- Fuel storage & automatic refueling integration for extended autonomy
- Physical security: biometric entry, mantraps, 24/7 CCTV with analytics
- Power distribution: per-rack PDUs with metering and hot-swap breakers
- DCIM and BMS integration with custom dashboards and SLA reporting

Timeline: 24 months (complete build-out)

PUE / Efficiency: 1.18 (achieved)

Outcome:

Compliant, resilient facility with proven uptime and regulatory audits passed.

Case Study 4: North America Edge Hub — Texas, USA

Project Capacity: 50 MW

Regional backbone data center supporting CDN and streaming services with high-density compute racks.

Major Equipment & Systems Used

- High-density 30 kW per rack-ready infrastructure in selected zones
- Chiller plant with variable-speed drives and chilled water loops
- UPS: 10 MW modular systems configured N+1 across buildings
- Standby generation: 6 x 4.0 MW units with synced paralleling controls
- Battery energy storage system (BESS) integrated for frequency response
- Advanced smoke detection (hood/micro-environmental) and inert gas suppression
- Scientific grounding and surge protection for critical IT loads
- Carrier-neutral meet-me-room with multiple fiber providers and 400G interconnects

Timeline: 30 months (multi-site rollout)

PUE / Efficiency: 1.22 (measured)

Outcome:

Enabled large-scale CDN capacity with flexible scaling and resilient power.

Case Study 5: Scandi Research Cluster — Stockholm, Sweden

Project Capacity: 45 MW

High-performance computing (HPC) data center for research workloads requiring water-cooled racks and specialized chillers.

Major Equipment & Systems Used

- Direct liquid cooling (DLC) enabled rack systems for GPU clusters
- Industrial heat reclaim system to supply district heating (heat recovery)
- Redundant pump and chiller systems with plate-and-frame exchangers
- 2N UPS topologies with parallel redundancy
- On-site 3 MW gas turbine generator for high efficiency on partial loads
- Environmental controls for low-temperature operation to maximize efficiency
- High-speed fabric interconnects and low-latency networking

Timeline: 20 months

PUE / Efficiency: 1.12 (very low thanks to free cooling and heat reuse)

Outcome:

Exceptional energy efficiency and community integration via waste-heat reuse.

Case Study 6: Midwest Enterprise Campus — Ohio, USA

Project Capacity: 50 MW

Enterprise-grade campus for private cloud and disaster recovery services across multiple buildings.

Major Equipment & Systems Used

- Multiple data halls totaling 50 MW critical capacity
- Centralized UPS farm (multiple 5 MW modules) with distributed PDU architecture
- Generators: N+1 diesel sets with parallel switchgear and automatic load transfer
- Liquid-cooled chillers and economizer-enabled free-cooling
- Fire suppression zones with clean-agent and pre-action dry-pipe sprinklers
- High-availability storage clusters with synchronous replication between halls
- Comprehensive DCIM with predictive maintenance analytics

Timeline: 28 months (phased)

PUE / Efficiency: 1.21

Outcome:

Delivered enterprise SLAs for backup and private cloud services with high availability.

Case Study 7: Mediterranean Carrier Neutral — Marseille, France

Project Capacity: 250 MW (Campus)

Massive carrier-neutral campus serving as a major subsea cable landing and colocation hub.

Major Equipment & Systems Used

- Multiple multi-megawatt halls and modular building expansions
- Industrial-grade combined cooling and power (CCP) systems
- Large-scale UPS and generator farms with fuel redundancy
- HVDC-ready infrastructure for future grid interconnects
- Comprehensive fire & gas detection, inert gas suppression in critical zones
- Subsea cable meet-me-rooms and extensive fiber patching infrastructure
- Carrier-neutral interconnect fabric with multi-100G switching fabric

Timeline: 36–48 months (campus program)

PUE / Efficiency: 1.25 (campus average)

Outcome:

Strategic regional hub enabling massive bandwidth and resilience for international carriers.

Case Study 8: SolarEdge MicroDC — Gujarat, India

Project Capacity: 5,000 kW (5 MW)

Solar-powered micro data center supporting renewable-energy-first operations for a regional enterprise.

Major Equipment & Systems Used

- Hybrid power system: rooftop PV array (3 MW) with grid-tie inverters
- Battery storage: 2 MWh Li-ion system for smoothing and backup
- UPS: modular 1 MW UPS with battery integration
- Compact precision cooling with economizer capability
- Generator: 1 x 1.5 MW standby for extended outages
- Monitoring: energy flow dashboards and ROI analytics for solar contribution

Timeline: 10 months

PUE / Efficiency: 1.35 (renewable-first operation)

Outcome:

Reduced carbon intensity and enabled green SLAs for sustainability-focused clients.

Case Study 9: Island Edge Facility — Maldives

Project Capacity: 1,200 kW (1.2 MW)

Small island-edge data center providing connectivity and caching services with a compact but resilient design.

Major Equipment & Systems Used

- 3 x 42U racks with N+1 cooling
- 2 x 500 kVA UPS in parallel
- Diesel genset with auto-start and synchronisation
- Rack PDUs with remote metering
- Marine-grade corrosion protection for outdoor equipment
- Satellite and fiber redundancy for connectivity
- Compact fire suppression and environmental controls

Timeline: 6 weeks (rapid deployment)

PUE / Efficiency: 1.50 (tropical challenges)

Outcome:

Improved local access speeds and enabled local caching for regional traffic.

Contact & Notes

Foshan Jingong Hardware Co., Ltd provides turnkey data center design, manufacturing, and site commissioning services. Typical deliveries include precision cooling, UPS & power distribution, generator and fuel systems, DCIM, fire protection, racks & containment, and full project documentation and testing. For detailed technical datasheets, drawings, or to request a customized proposal, contact the Foshan Jingong sales team.