



Delivering Next-Generation Data Center Infrastructure for AI, Cloud and Edge Computing

ZTMM Nebula Series
Micro Modular Data Center





Why Micro Modular Data Centers



As AI, cloud computing, edge applications and digital transformation continue to accelerate, traditional data centers face increasing challenges in deployment speed, scalability and operational efficiency.

Industry Challenges

Long Construction Cycles

Traditional facilities often require months of engineering and construction.

High Initial Investment

Over-provisioning leads to underutilized resources and increased CAPEX.

Complex Expansion

Future growth often requires disruptive upgrades.

Energy Consumption

Cooling and power systems contribute significantly to operating costs.

O&M Complexity

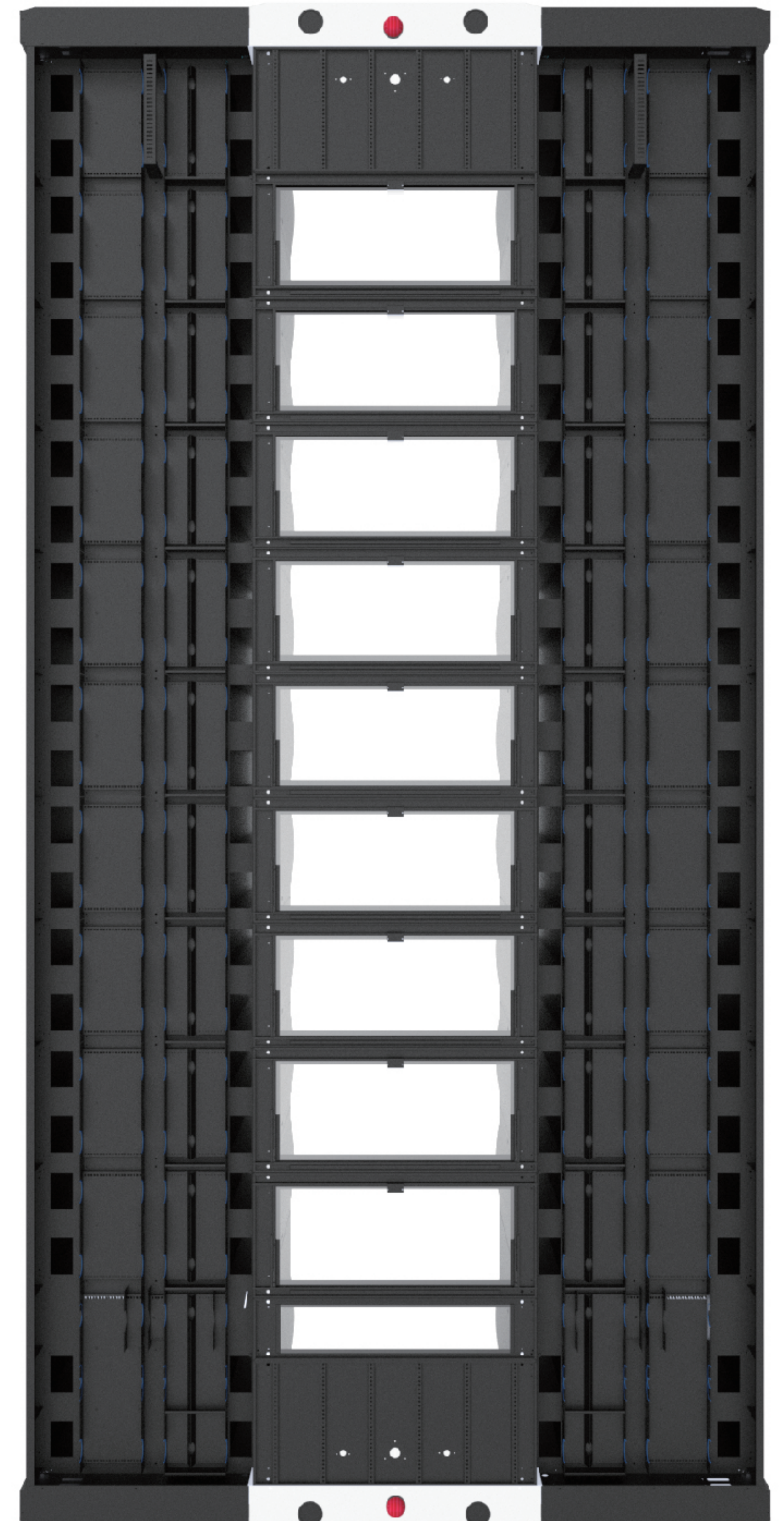
Distributed sites require centralized visibility and intelligent management.



ZTMM Nebula Series Micro Modular Data Center

ZTMM Nebula Series is a highly integrated micro modular data center solution that combines IT racks, UPS, precision cooling, intelligent power distribution, containment systems, fire protection, security access and monitoring into a unified architecture.

The solution is designed for rapid deployment, simplified operation and scalable expansion, enabling customers to build modern data center infrastructure with lower risk and faster ROI.



Integrated Subsystems

- IT Rack System
- UPS & Battery System
- Precision Cooling System
- Smart Power Distribution
- Hot/Cold Aisle Containment
- Fire Suppression System
- Intelligent Monitoring Platform
- Access Control System

Key Benefits



01

Rapid Deployment

Factory-built modules reduce deployment time by up to 50%.

02

Flexible Scalability

Expand capacity according to business growth without major reconstruction.

03

High Reliability

Redundant architecture ensures continuous operation and maximum uptime.

04

Energy Efficiency

Optimized airflow management and intelligent cooling reduce energy consumption.

05

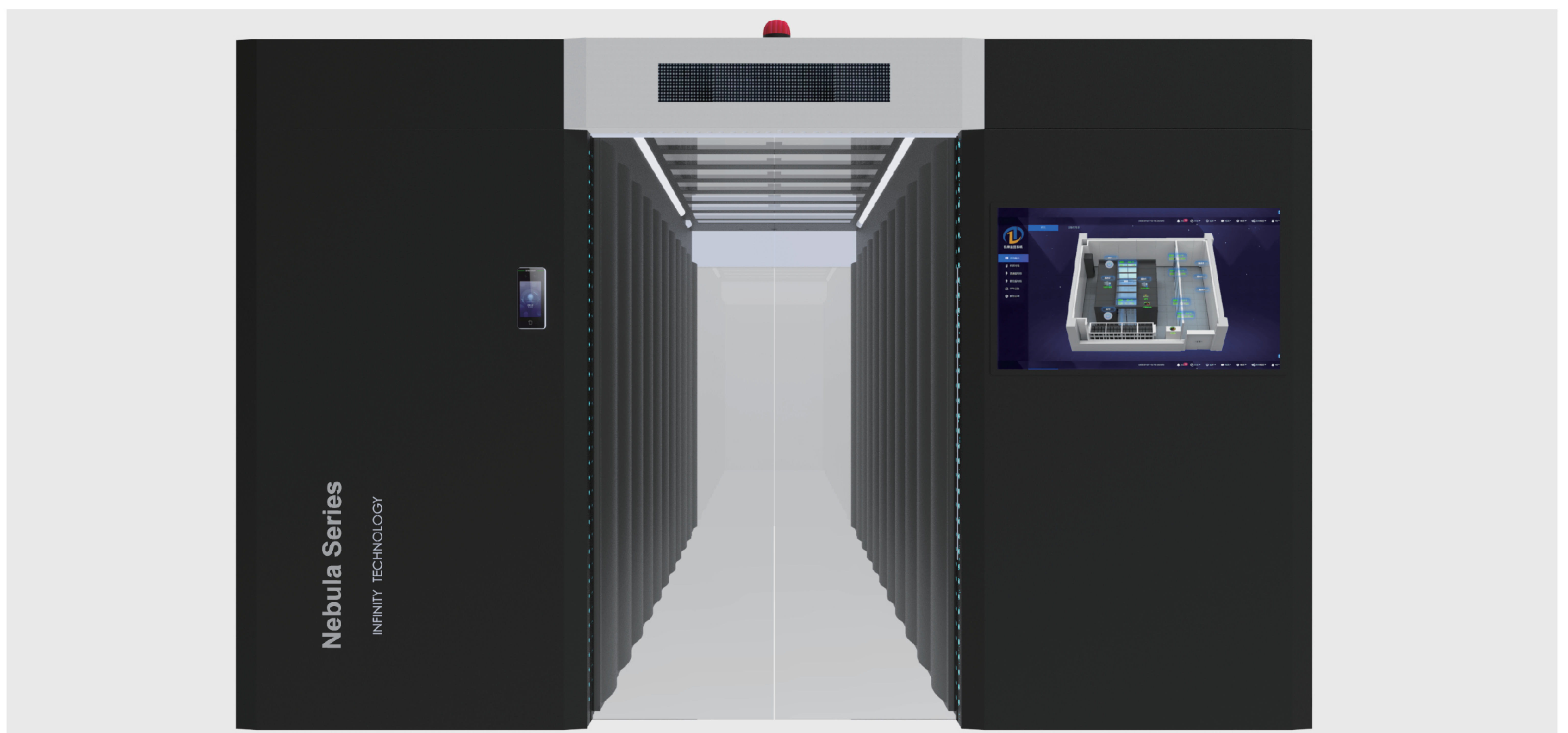
Lower Total Cost of Ownership

Reduce both capital and operational expenditure.

06

Intelligent Management

Real-time monitoring and remote management improve operational efficiency.





Telecom Operators

Rapid deployment of edge and regional data centers.



Cloud Service Providers

Scalable infrastructure for growing cloud workloads.



Enterprise Data Centers

Reliable digital infrastructure for headquarters and branch offices.



Financial Institutions



Healthcare Facilities

Secure and reliable computing environments.

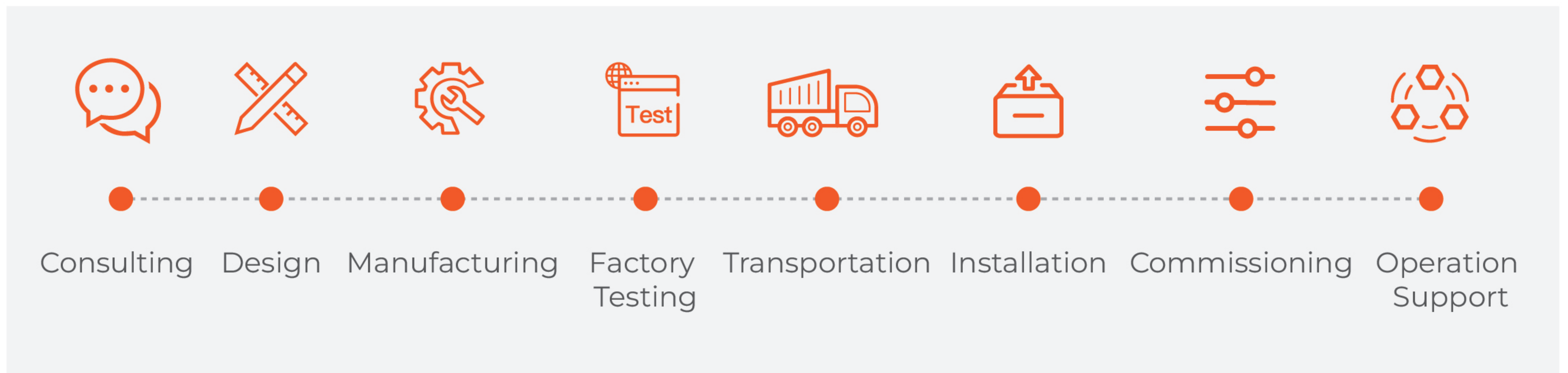


Industrial Edge Computing

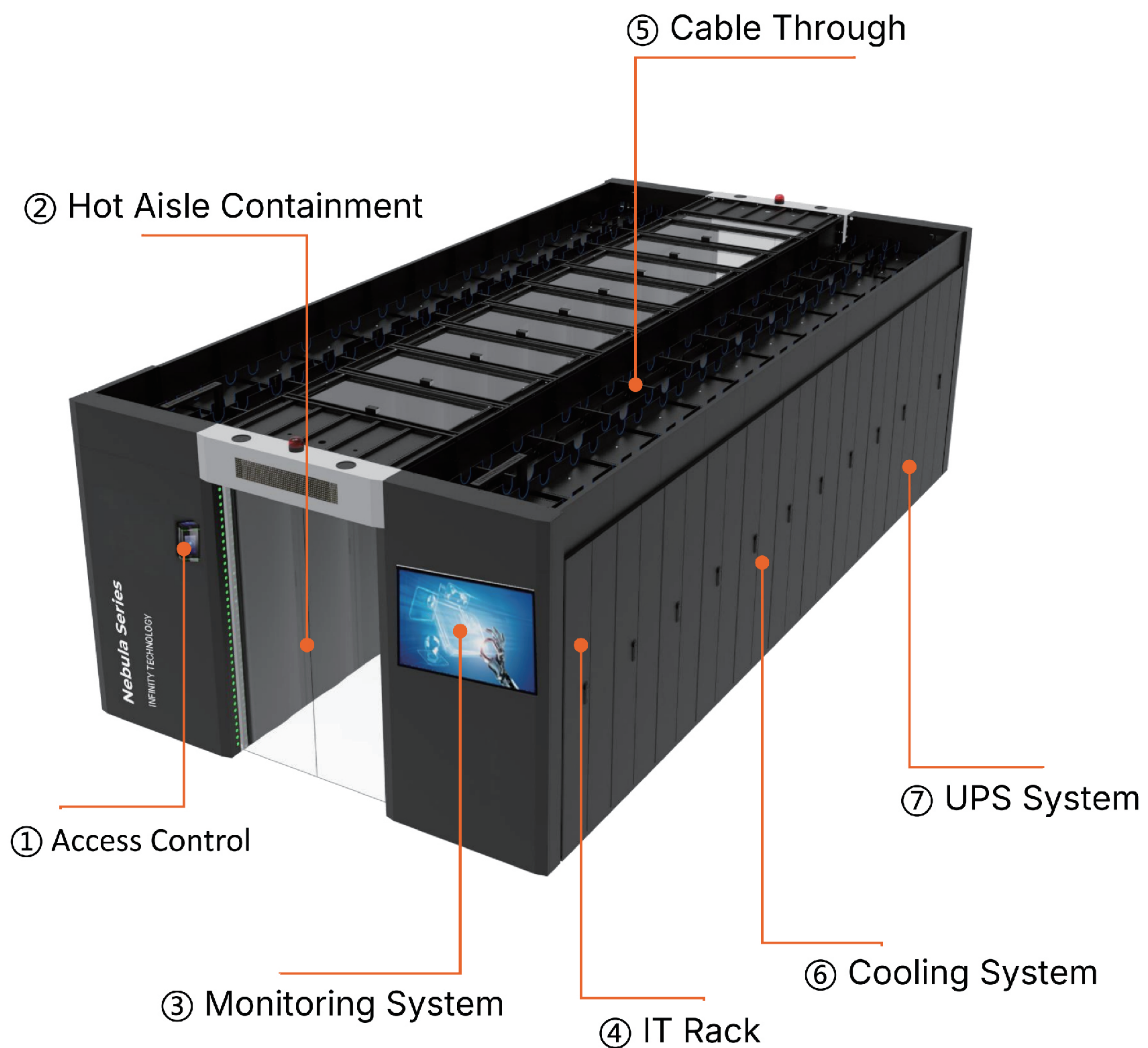
Distributed computing closer to operational sites.



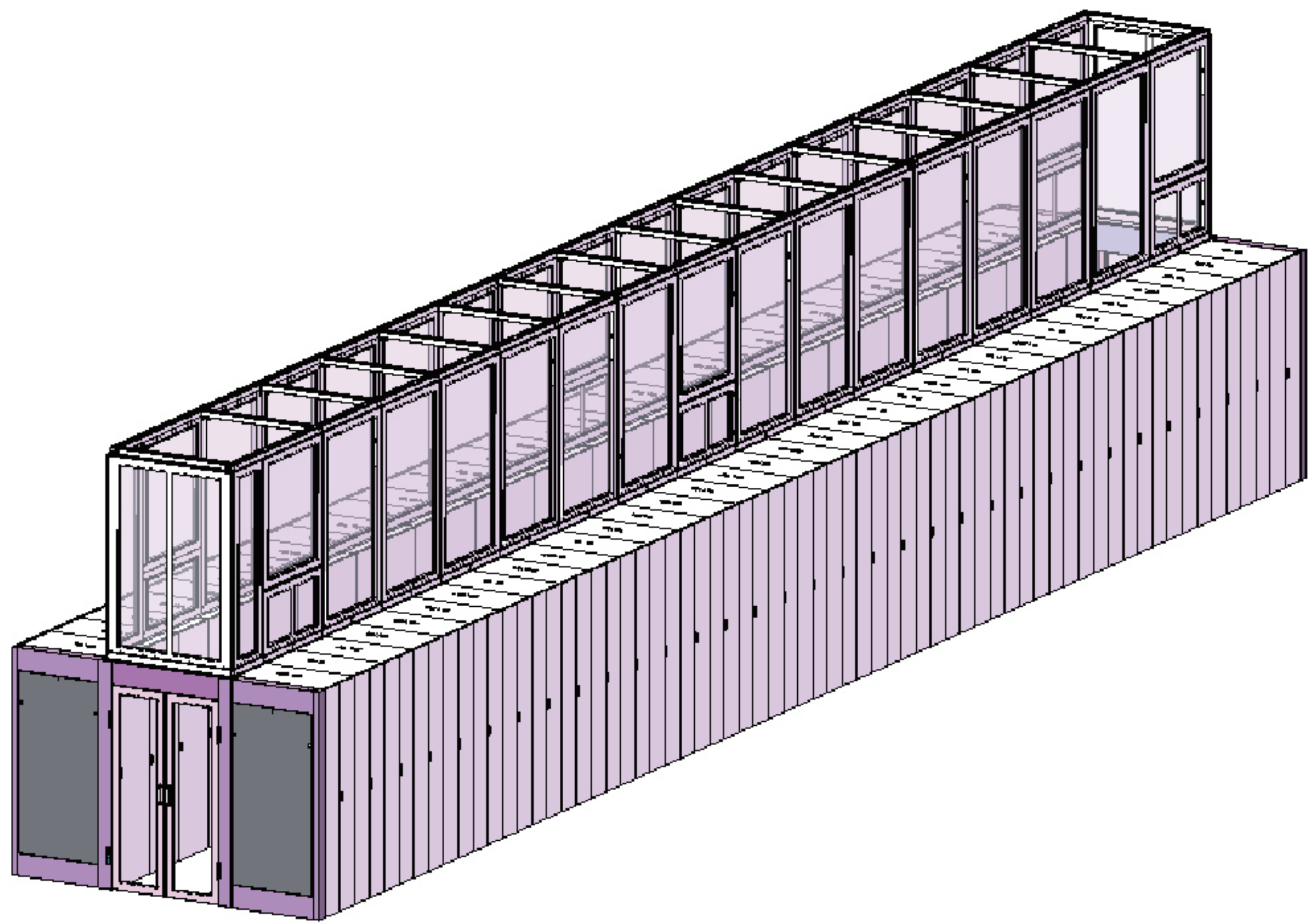
End-to-End Service Capability



System Architecture



Hot Aisle Containment System



The Hot Aisle Containment System effectively separates hot and cold air streams, maximizing cooling efficiency and reducing operational costs.

Key Advantages

- ✓ Improved Cooling Efficiency
- ✓ Stable Equipment Operating Temperature
- ✓ Lower Operating Costs
- ✓ Reduced Energy Consumption
- ✓ Support for High-Density Computing

Intelligent Monitoring Platform

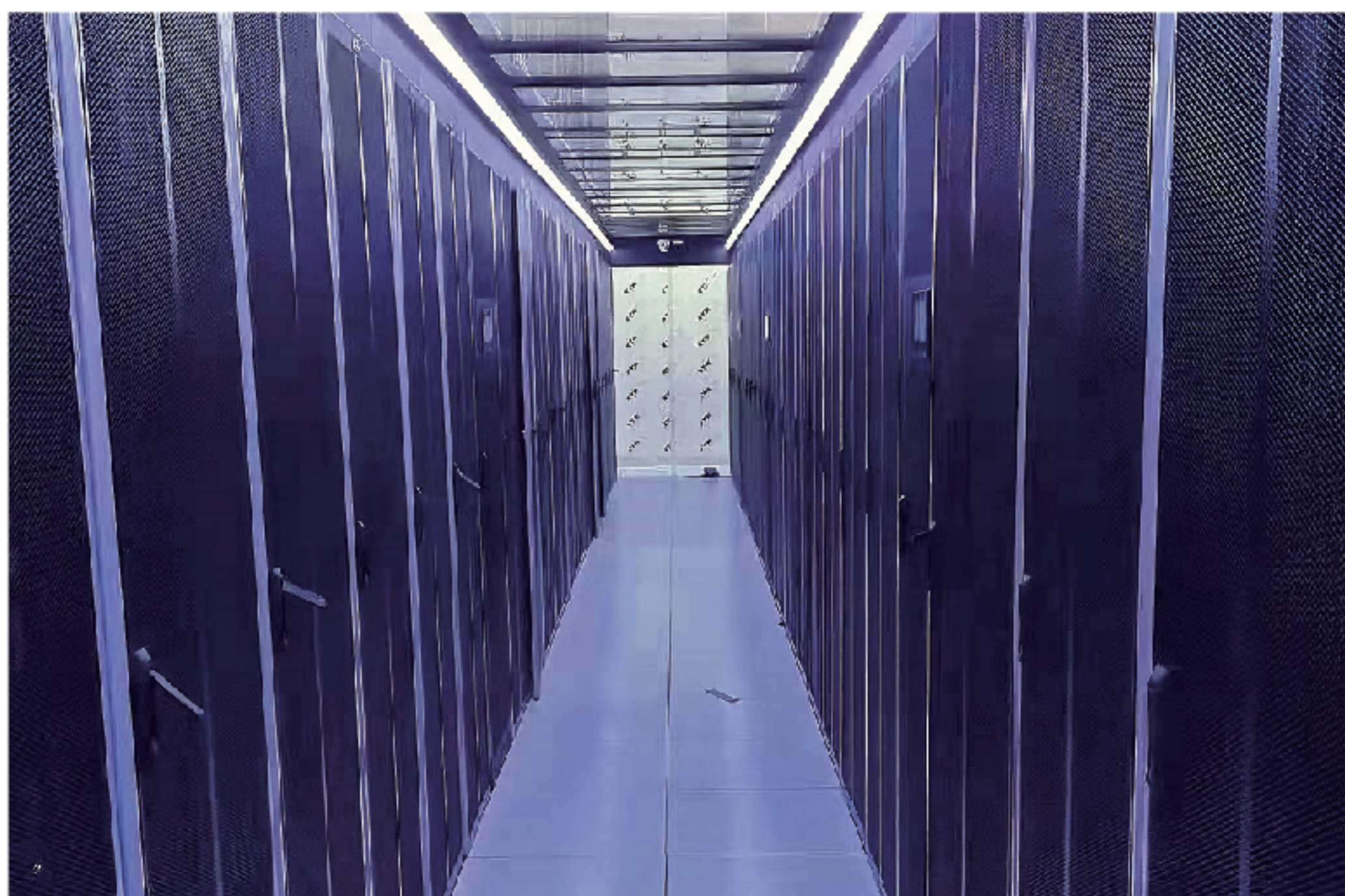
The integrated DCIM platform provides complete visibility into power, cooling, environmental conditions and security systems.





Case 1
System Capacity: 20 kW – 100 kW / Unit
Vertical: Energy & Petrochemical
Location: Brunei
Solution: 5 x Nebula Series Units
Power Density: 3 kW / Rack (Air-Cooled)
IT Capacity: 240 kW (80 Racks)
UPS Redundancy: 2N
Battery Backup: 1-hour autonomy (VRLA)
Cooling: N+1 In-Row AC
Fire Safety: FM-200 & Intelligent Detection

Case 2
System Capacity: 20 kW – 100 kW / Unit
Vertical: Public Safety
Location: China
Solution: 3 x Nebula Series Units
Power Density: 3 kW / Rack (Air-Cooled)
IT Capacity: 360 kW (120 Racks)
UPS Redundancy: 2N
Battery Backup: 2-hour autonomy (VRLA)
Cooling: N+1 In-Row AC
Fire Safety: FM-200 & Intelligent Detection



Case 3
System Capacity: 20 kW – 100 kW / Unit
Vertical: Banking & Finance
Location: China
Solution: 8 x Nebula Series Units
Power Density: 2 kW / Rack (Air-Cooled)
IT Capacity: 224 kW (112 Racks)
UPS Redundancy: 2N
Battery Backup: 2-hour autonomy (VRLA)
Cooling: N+1 In-Row AC
Fire Safety: FM-200 & Intelligent Detection

Case 4
System Capacity: 20 kW – 100 kW / Unit
Vertical: Banking & Finance
Location: China
Solution: 8 x Nebula Series Units
Power Density: 2 kW / Rack (Air-Cooled)
IT Capacity: 300 kW (150 Racks)
UPS Redundancy: 2N
Battery Backup: 1-hour autonomy (VRLA)
Cooling: N+1 In-Row AC
Fire Safety: FM-200 & Intelligent Detection





Manufacturing	Manufacturing
Micro Module	Dimensions (Single channel, with aisle containment): L x 2,200 x 2,300 mm, L x 2,200 x 2,400 mm, L x 2,400 x 2,300 mm, L x 2,400 x 2,400 mm
	Dimensions (Double channel, with aisle containment): L x 3,200 x 2,300 mm, L x 3,200 x 2,400 mm, L x 3,600 x 2,300 mm, L x 3,600 x 2,400 mm
	Qty of Cabinets: Single channel ≤ 24 cabinets; dual channel ≤ 48 cabinets
	Power supply: 208/380/400/415 V DC/AC, 50/60 Hz, 3 Ph + N + PE
	Max IT load per module: 125 kW (with integrated UPS) / 145 kW (with integrated PDU)
	Cable routing: Top or bottom
	Installation: On raised floor
Cabinet Enclosure	Dimensions (H x W x D): 2,000/2,200 mm x 600/800 mm x 1,200/1,100 mm
	Space available: 42U / 47U
	Protection level: IP20
Air Conditioner	Installation: In-row or vertical direction of one end
	Refrigeration type: DX, chilled water, or cooling water system
In-Row Air Conditioner	Cooling capacity: 25 kW, 35 kW, 40 kW, 50 kW, 60 kW
	Dimensions (H x W x D): 2,000 mm x 300/600 mm x D
	Power supply: 208–415 V AC, 50/60 Hz, 3 Ph + N + PE
	Refrigerant: R410A, R407C
Integrated UPS	Input voltage: 208/380/400/415 V AC, 50/60 Hz, 3 Ph + N + PE
	Input MCCB: 250 A / 400 A
	Input power factor: Full load > 0.99, half load > 0.98
	Output power factor: 0.9 / 1.0
	Rated capacity: 25 kVA – 125 kVA
	Output: IT: 40 A / 1P x 24 x 2; A/C: 40 A or 63 A / 3P x 8; lighting: 10 A / 1P x 3
	Efficiency: ≥ 96%
Integrated Power Distribution Cabine	Input voltage: 380/400/415 V AC, 50/60 Hz, 3 Ph + N + PE
	Input MCCB: IT: 160 A / 250 A; A/C: 160 A / 250 A
	Output: IT: 32 A / 1P, 40 A / 1P, 63 A / 1P, 32 A / 3P; A/C: 40 A or 63 A / 3P
Precision Power Distribution Cabinet	Input voltage: 208/380/400/415 V AC, 50/60 Hz, 3 Ph + N + PE
	Input MCCB current: 160 A / 250 A / 400 A
	Output: 32 A / 1P, max 144 routes
Smart Busbar	Input voltage: 208/380/400/415 V AC, 50/60 Hz, 3 Ph + N + PE
	Input MCCB: 160 A / 250 A
	Output: 32 A / 1P, 40 A / 1P, 63 A / 1P, 32 A / 3P