Data Center Power - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-06-01 | 176 pages | Mordor Intelligence

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Report description:

Data Center Power Market Analysis

The data center power market size is expected to be valued at USD 24.56 billion in 2025 and is projected to advance at a 7.25% CAGR, reaching USD 34.86 billion by 2030. Growing deployment of artificial intelligence, aggressive hyperscale capacity additions, and stricter reliability mandates are reshaping electrical infrastructure priorities and fueling expansion in the data center power market. High-density AI workloads consume three times more electricity than conventional CPUs, pushing operators toward higher-voltage distribution, liquid cooling, and grid-interactive power trains. Consolidation among equipment suppliers is strengthening as utilities, regulators, and cloud providers align on large-scale projects that require multi-gigawatt interconnections. With more operators repurposing retired coal plants for campus-style facilities, the data center power market is transitioning from passive energy consumption to active grid participation, unlocking new revenue streams through ancillary services.

Global Data Center Power Market Trends and Insights

Hyperscale & Cloud Computing Expansion

Hyperscale operators are commissioning campuses that equal the electricity demand of medium-sized cities. Meta's 2 GW development and the 5.6 GW Wonder Valley site illustrate the scale now required to sustain cloud growth. Orders for modular, factory-integrated power trains are rising sharply, and Schneider Electric disclosed that data centers made up 24% of its incoming

orders in 2025. Structured agreements tying utility interconnections to phased capacity releases are becoming common, improving risk allocation among utilities, landlords, and cloud tenants. The data center power market benefits directly because every incremental megawatt of IT load drives proportional investment in switchgear, UPS, and medium-voltage systems.

AI-Driven High-Density Workloads

AI accelerators raise rack densities from 5-10 kW to 50-100 kW, forcing a move to 48 V DC distribution, higher phase counts, and liquid cooling. Vertiv's 360AI platform supports 100 kW per rack with integrated busway, coolant distribution, and leak-detection controls. Persistent thermal loads increase the duty cycle of UPS equipment, making efficiency curves at partial load a critical selection metric. International Energy Agency projections indicate AI could consume 1.5% of global electricity by 2029, reinforcing the urgency for energy-proportional power systems that dynamically throttle in sync with GPU utilization. Vendors that marry power and cooling into a compact, prefabricated block are capturing share as operators seek predictable deployment timelines.

High CAPEX of Electrical Infrastructure

End-to-end cost for AI-ready campuses approaches USD 38 million per MW, with liquid cooling inflating power-train expenditures by 15-20? compared with air-based designs. Smaller colocation players find it challenging to secure financing for customized medium-voltage gear, long-lead transformers, and specialized batteries. Equipment-as-a-service contracts are emerging, yet lenders remain cautious because secondary-market values for bespoke switchgear are limited. Budget restrictions slow expansion in emerging economies, tempering the otherwise robust trajectory of the data center power market. Financing gaps also spur joint-venture models where landlords and utilities co-invest, diluting returns but enabling project viability.

Other drivers and restraints analyzed in the detailed report include:

Stricter Uptime & Redundancy Standards / Sustainability & Energy-Efficiency Mandates / Transformer/Switchgear Supply Bottlenecks /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

UPS platforms retained 62.1% of the data center power market share in 2024, underscoring their role as the last defense against grid instability. Lithium-ion adoption continues, but valve-regulated lead-acid remains prevalent due to cost advantage in lower-density halls. Intelligent switch-mode rectifiers trim conversion losses, improving overall facility energy profiles. In parallel, power distribution units record 7.5% CAGR because operators now embed branch-circuit monitoring, temperature sensing, and secure firmware. Generators stay indispensable, yet the narrative shifts as hydrogen-ready gensets enter pilot use. Switchgear upgrades align with higher voltages demanded by AI racks, and battery energy storage systems gain favor for peak-shaving and revenue stacking.

Ecosystem dynamics shift as UPS vendors add grid services modules, enabling frequency regulation without undermining ride-through performance. Vertiv's grid-interactive firmware dispatches reserve capacity during non-critical intervals. Delta's Smart PDU I-Type consolidates metering and remote-upgrade functions into a 42 mm chassis aimed at dense AI enclosures. Services revenue rises because commissioning high-density halls requires thermal mapping, harmonic studies, and ongoing firmware validation. Consequently, operators outsource lifecycle support, driving predictable, annuity-style income streams for integrators and enriching the data center power market.

Colocation facilities held a 43.8% share of the data center power market size in 2024, thanks to shared infrastructure economics

and rapid time-to-market. Yet hyperscalers post an 8.7% CAGR, propelled by Apple, Microsoft, and Google's strategies to self-build AI hosting zones. Enterprise campuses persist for compliance-sensitive industries, and edge nodes proliferate near population clusters to lower latency. Hyperscalers design proprietary power topologies, integrating on-site substations and battery farms, while colocation players counter with flexible power densities and interconnect fabrics.

Competitive tension fosters innovation: CoreSite advertises liquid-to-chip cooling and 48 V busway as standard in next-gen halls, whereas cloud majors refine modular blocks for 15 MW increments. Pay-as-you-grow contracts appear in both camps, decoupling capital allocation from immediate occupancy. Edge operators deploy standardized micro power modules to keep pace with 5G rollouts. These intertwined strategies collectively elevate equipment volumes flowing into the data center power market.

The Data Center Power Market is Segmented by Component (Electrical Solutions and Services), Data Center Type (Hyperscaler/Cloud Service Providers, Colocation Providers, and More), Data Center Size (Small Size Data Centers, Medium Size Data Centers, Large Size Data Centers and More), Tier Type (Tier I and II, Tier III, Tier IV) and by Geography. The Market Forecasts are Provided in Terms of Value (USD)

Geography Analysis

Europe led with 34.18% revenue share in 2024, driven by binding energy-efficiency legislation, stringent reporting rules, and aggressive renewable goals. Operators retrofit legacy facilities with high-efficiency UPS and battery storage to satisfy the Energy Efficiency Directive. Coal-plant conversions such as Sines DC repurpose existing grid interconnections and seawater intake lines, accelerating deployment while curbing environmental impact. Vendors supply grid-interactive UPS that help stabilize wind-heavy regional grids, strengthening the continent's leadership in sustainable design. Corporate buyers prefer European sites because renewable guarantees of origin support net-zero pledges, sustaining equipment demand across the data center power market.

Asia-Pacific delivers the fastest 9.2% CAGR as governments fund cloud corridors and subsidize land, fiber, and electricity. Regional capacity totaled 12,206 MW of live IT load with 14,338 MW in construction as of H2 2024. Microsoft pledged multi-billion-dollar plans in India and Japan, highlighting the scale of expansion. China enforces a national PUE cap that accelerates high-efficiency power component orders. India's Digital Personal Data Protection Act drives domestic hosting and stimulates new campuses near renewable clusters. Southeast Asian nations offer tax breaks to attract hyperscalers, further widening procurement pipelines for switchgear, UPS, and smart PDUs.

List of Companies Covered in this Report:

Schneider Electric SE / Vertiv Holdings Co. / ABB Ltd / Eaton Corporation plc / Legrand SA / Huawei Technologies Co. Ltd / Fujitsu Ltd / Cisco Systems Inc. / Rittal GmbH and Co. KG / Mitsubishi Electric Corp. / Cummins Inc. / Kohler Power Systems / PDU Experts UK Ltd / Schleifenbauer Products BV / Delta Electronics Inc. / Caterpillar Inc. / Socomec Group / Tripp Lite (by Eaton) / Riello UPS S.p.A. / KEHUA Tech /

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