

China Data Center Power - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

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Abstracts

The China Data Center Power Market size is estimated at USD 1.30 billion in 2024, and is expected to reach USD 1.94 billion by 2029, growing at a CAGR of 6.56% during the forecast period (2024-2029).

The increasing demand for cloud computing among SMEs, government regulations for local data security, and growing investment by domestic players are some of the major factors driving the demand for data centers in the country.

Key Highlights

Under Construction IT Load Capacity: The upcoming IT load capacity of the Chinese data center market is expected to reach 4,765.19 MW by 2029.

Under Construction Raised Floor Space: The country's construction of raised floor area is expected to increase to 14.2 million sq. ft by 2029.

Planned Racks: The country's total number of racks to be installed is expected to reach 71K units by 2029. Beijing is expected to house the maximum number of racks by 2029.

Planned Submarine Cables: There are close to 25 submarine cable systems connecting Indonesia, and many are under construction. The Asia Direct Cable (ADC) was estimated to start service in 2023; it stretches over 9,800 km with landing points from Chung Hom Kok and Shantou.

The government considers power-saving measures such as subsidies to increase

energy efficiency or productivity and moves towards a low-carbon system to solve the electricity problem and crisis. In support of the above policy and to reduce energy consumption, key market players are focusing on introducing efficient power management systems such as PDUs, busways, and UPS for the purpose of controlling unnecessary expenditures in data centers, which is expected to boost market growth.

China Data Center Power Market Trends

IT & Telecom are expected to hold a significant market share

The country's growing demand for streaming services, such as Douyin, Kuaishou, Iqiyi, Youku, and Tencent Video, has increased data consumption owing to high-quality video streaming services. Netflix, a popular OTT platform used in many countries, is unavailable in China.

However, short video platforms like Douyin and Kuaishou are preferred over OTT services. Around 931 million users streamed short videos, while only 464 million streamed through these platforms in 2023.

The growing content demand is expected to increase the IT load capacity from 130.26 MW in 2023 to 165.24 MW by 2029, registering a CAGR of 3.46%. As most industries adopt Industry 4.0 standards and introduce automation in their factories, data consumption by end users is expected to increase.

The manufacturing segment had an IT load capacity of 46.02 MW in 2023, and it is expected to increase to 128.52 MW by 2029, registering a CAGR of 13.49%. Chinese users prefer online modes of payment to cash, and increased use of financial services by the users is expected to increase the IT load consumption from 139.35 MW in 2023 to 275.40 MW by 2029, registering a CAGR of 10.22%.

Monitored PDUs Hold a Significant Share in the Market

Monitored rack PDUs are essential components in data center and server room infrastructure, providing real-time monitoring of power usage, voltage, current, and other electrical parameters. This data helps administrators make informed decisions about power allocation and capacity planning.

By tracking power usage trends, administrators can plan for future growth and ensure that power capacity is not exceeded, preventing overloads that could lead to equipment failures. Also, it helps identify inefficiencies and optimize energy usage. This can lead to cost savings and a reduced environmental footprint by eliminating unnecessary power consumption. Also, it allows administrators remote access and control, reducing the need for physical presence and minimizing operational disruptions.

Increasing focus on digitalization, internet penetration, and e-commerce sales across the country creates more need for storage facilities, resulting in huge demand for data centers and a rise in power consumption. The increased demand for data storage has led to the deployment of intelligent power distribution units (PDUs) against simple multi-socket rack installations with server and network equipment, which optimize power consumption in data centers.

Because of the advancements mentioned with monitored PDUs and the necessity to reduce electricity consumption as per government measures in the country, key market players are focusing on introducing efficient power management systems. In May 2023, Eaton, which provides power management services, launched G3 Universal Input Rack PPDUs with dynamic C39 outlets capable of accommodating different plug configurations and input voltage requirements. To meet the most diverse data center rack power requirements, G3UPDU added new features.

In May 2023, Legrand, a significant global provider of electrical and digital building infrastructures, introduced the next generation of intelligent rack PDUs PRO4X and Raritan PX4; these new intelligent rack PDU designs revolutionize capacity planning, environmental monitoring, physical and digital access control, workload optimization, and uptime initiatives. Such developments in the segment are expected to boost regional demand over the forecast period.

The increased demand for computing and data processing led China to launch a huge national project to centralize the data center system, the East-to-West Computing Capacity Diversion Project.

The Chinese government plans to build eight computing hubs and 10 data center clusters to build a unified data center system by 2025. The project aims to channel the growing demand from the east to the data centers in the western region of the country.

Data center companies are investing in infrastructures in these regions where the land value is less, and electricity value is subsidized, leading to a preference for the mega

segment. The capacity of mega data centers is expected to increase to 1,880.9 MW by 2029 from 921.7 MW in 2023, registering a CAGR of 9%, followed by massive, large, medium, and small data centers.

China Data Center Power Industry Overview

The Chinese data center power market is highly concentrated, with the presence of multiple vendors. Players are adopting several strategies, such as mergers and acquisitions (M&A), collaborations, partnerships, etc. Various initiatives are being undertaken by governmental bodies as well as private data center construction, creating intense competition. Key players in the market include Schneider Electric SE, ABB Ltd., Rittal GmbH & Co. KG, Fujitsu Limited, and Legrand Group.

February 24: Enlogic, a significant provider of power products, announced two new PDUs to its extensive iPDU product line: Horizontal & Vertical high AMP PDUs. They included a High Amp Vertical PDU with combination and locking combination outlet and a Horizontal high Amp PDU (100/125A) with combination and locking combination outlets of C13/C15 and C13/C15/C19/C21, offering versatility and flexibility.

January 2024: Vertiv announced the plans to double its manufacturing capacity for busways, switchgear, and integrated modular solutions (IMS) by 2025. The expansion plans include increasing the utilization and footprint in the United Arab Emirates, Ireland, South Carolina (United States), Mexico, Slovakia, and Northern Ireland.

Additional Benefits:

The market estimate (ME) sheet in Excel format

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Contents

1 INTRODUCTION

- 1.1 Study Assumptions & Market Definition
- 1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET DYNAMICS

- 4.1 Market Overview
- 4.2 Market Drivers
 - 4.2.1 Rising Adoption of Mega Data Centers and Cloud Computing
 - 4.2.2 Increasing Demand to Reduce Operational Costs
- 4.3 Market Restraints
 - 4.3.1 High Cost of Installation and Maintenance
- 4.4 Value Chain / Supply Chain Analysis
- 4.5 Industry Attractiveness - Porter's Five Forces Analysis
 - 4.5.1 Threat of New Entrants
 - 4.5.2 Bargaining Power of Buyers/Consumers
 - 4.5.3 Bargaining Power of Suppliers
 - 4.5.4 Threat of Substitute Products
 - 4.5.5 Intensity of Competitive Rivalry
- 4.6 Assessment of COVID-19 Impact

5 MARKET SEGMENTATION

- 5.1 Power Infrastructure
 - 5.1.1 Electrical Solution
 - 5.1.1.1 UPS Systems
 - 5.1.1.2 Generators
 - 5.1.1.3 Power Distribution Solutions
 - 5.1.1.3.1 PDU
 - 5.1.1.3.2 Switchgear
 - 5.1.1.3.3 Critical Power Distribution
 - 5.1.1.3.4 Transfer Switches

5.1.1.3.5 Remote Power Panels

5.1.1.3.6 Others

5.1.2 Service

5.2 End User

5.2.1 IT & Telecommunication

5.2.2 BFSI

5.2.3 Government

5.2.4 Media & Entertainment

5.2.5 Other End User

6 COMPETITIVE LANDSCAPE

6.1 Company Profiles

6.1.1 ABB Ltd

6.1.2 Caterpillar Inc.

6.1.3 Cummins Inc.

6.1.4 Eaton Corporation

6.1.5 Legrand Group

6.1.6 Rolls-Royce PLC

6.1.7 Vertiv Group Corp.

6.1.8 Schneider Electric SE

6.1.9 Rittal GmbH & Co. KG

6.1.10 Fujitsu Limited

6.1.11 Cisco Systems Inc.

7 INVESTMENT ANALYSIS

8 MARKET OPPORTUNITIES AND FUTURE TRENDS

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