

China Data Center Cooling - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2031)

Market Report | 2025-04-28 | 90 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License \$4750.00
- Team License (1-7 Users) \$5250.00
- Site License \$6500.00
- Corporate License \$8750.00

Report description:

The China Data Center Cooling Market size is estimated at USD 371.63 million in 2025, and is expected to reach USD 948.40 million by 2031, at a CAGR of 16.9% during the forecast period (2025-2031).

Key Highlights

- Factors such as the rising adoption of cloud computing by SMEs, stringent government mandates on local data security, and increased investments by domestic enterprises are key drivers fueling the demand for data centers in the nation.
- The upcoming IT load capacity of the Chinese data center market is expected to reach more than 4,000 MW by 2030. The country's construction of raised floor area is expected to increase to more than 12 million sq. ft by 2030.
- By 2030, the country is projected to install over 600,000 racks. Beijing, Guangdong, Hebei, Jiangsu, and Shanghai are poised to lead in rack installations. The Pearl River Valley maintains an average annual temperature exceeding 20C, influencing the need for cooling in data center facilities.
- China boasts nearly 19 operational submarine cable systems, with several more in construction. Notably, in April 2023, China's state-owned news agency unveiled plans for a significant undersea fiber optic network valued at USD 500 million. This network is designed to link Asia, the Middle East, and Europe, positioning itself as a direct competitor to analogous US initiatives.

China Data Center Cooling Market Trends

Liquid-based Cooling to be One of the Fastest-growing Segment During the Forecast Period

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- Technological advancements have streamlined the maintenance, scalability, and affordability of liquid cooling. This has led to a reduction in data center liquid consumption by over 15% in tropical regions and a substantial 80% in more temperate zones. Moreover, the energy harnessed during liquid cooling operations can be repurposed to heat both buildings and water. Additionally, the deployment of advanced artificial refrigerants is proving instrumental in curbing the carbon footprint associated with air conditioning systems.
- Water cooling plays a pivotal role in curbing emissions and mitigating climate disruptions. Data centers that leverage water for cooling consume roughly 10% less energy than their air-cooled counterparts, resulting in a corresponding 10% reduction in CO2 emissions. Moreover, in November 2023, China began constructing a cutting-edge commercial underwater data center off the coast of Sanya in the Hainan province. This pioneering project seeks to transform the industry by tapping into the ocean's depths, conserving energy and land. With the rising number of data centers in China, the adoption of liquid cooling is on the rise, aiming to safeguard rack servers from overheating.
- Direct liquid cooling solutions boast a partial power usage effectiveness (PUE) ranging from 1.02 to 1.03, edging out the most efficient air cooling systems by a slim margin. Surprisingly, the energy gains of Direct Liquid Cooling (DLC) systems are not primarily attributed to their PUE. In traditional setups, server fans draw power from the rack, and this power consumption is factored into the IT power section of the PUE calculation, as these fans are integral components of the data center's overall energy consumption.

IT and Telecommunication Contributed Significant Market Share in 2023

- By the beginning of 2024, China had led the globe in terms of internet user numbers, outstripping India and the United States. The country boasted a staggering 1.09 billion internet users, with a penetration rate exceeding 75%. Furthermore, China's social media user base reached 1.06 billion, representing over 74% of its population. The country is actively enhancing its 5G network and advancing 6G research to establish China as a manufacturing and digital economic powerhouse. As these technologies expand, the demand for data center cooling rises in tandem with the growing reliance on data centers.
- The internet's influence on China is profound. Internet technologies drive research and development and play a pivotal role in bolstering the nation's economy and linking its vast population. MIIT reported that by June 2023, China had deployed over 2.93 million 5G base stations. This rollout coincided with a surge in 5G smartphone users, surpassing 676 million, and a substantial 2.12 billion Internet of Things-connected devices.
- The rise of AI has led to heightened water consumption for data center cooling. In response, the Chinese government introduced the "Eastern-Data, Western-Computing" initiative in 2020. This initiative aims to relocate data centers from densely populated coastal areas to the country's western regions. Factors such as natural cooling, reduced electricity costs, availability of green energy, and lower land expenses are driving this strategic shift. These measures are designed to meet the escalating demands for data center cooling.

China Data Center Cooling Industry Overview

The Chinese data center cooling market is moderately competitive but has gained a significant competitive edge in recent years. A handful of major players, including Stulz GmbH, Schneider Electric SE, and Vertiv Group Corp., dominate the market in terms of market share. Companies such as STULZ GmbH, Schneider Electric SE, and Vertiv Group Corp. offer liquid and air-based cooling products.

Additional Benefits:

- The market estimate (ME) sheet in Excel format

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 3 months of analyst support

Table of Contents:

1 INTRODUCTION

1.1 Study Assumption and Market Definition

1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET INSIGHTS

4.1 Market Overview

4.2 Key Cost Considerations for Cooling

4.2.1 Analysis of the Key Cost Overheads Related to DC Operations with an Eye on DC Cooling

4.2.2 Comparative Study of the Cost and Operational Considerations Related to Each Cooling Technology Based on Key Factors Such as Design Complexity, PUE Advantages, Drawbacks, Extent of Utilization of Natural Weather Conditions

4.2.3 Key Innovations and Developments in Data Center Cooling

4.2.4 Key Energy Efficiency Practices Adopted in Data Centers

5 MARKET DYNAMICS

5.1 Market Drivers

5.1.1 Innovative Data Center Cooling Technologies To Drive Market Growth

5.1.2 Increasing Data Center Demand To Drive Market Growth

5.2 Market Challenges

5.2.1 Higher Energy Consumption And Water Scarcity For Data Center Cooling To Hinder Market Growth

5.3 Market Opportunities

5.3.1 Sustainability and Energy Efficient Data Center Cooling Solutions To Provide Market Opportunity

5.4 Industry Ecosystem Analysis

6 ANALYSIS OF THE CURRENT DATA CENTER FOOTPRINT IN CHINA

6.1 Analysis of IT Load Capacity and Area Footprint of Data Centers (for the period of 2017-2030)

6.2 Analysis of the current DC hotspots and scope for future expansion in China

6.3 Analysis of major Data Center Contractors and Operators in China

7 MARKET SEGMENTATION

7.1 By Cooling Technology

7.1.1 Air-based Cooling

7.1.1.1 Chiller and Economizer

7.1.1.2 CRAH

7.1.1.3 Cooling Tower (Covers Direct, Indirect, and Two-stage Cooling)

7.1.1.4 Other Air-based Cooling Technologies

7.1.2 Liquid-based Cooling

7.1.2.1 Immersion Cooling

7.1.2.2 Direct-to-chip Cooling

7.1.2.3 Rear-door Heat Exchanger

7.2 By Type

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 7.2.1 Hyperscaler (Owned and Leased)
- 7.2.2 Enterprise (On-premise)
- 7.2.3 Colocation
- 7.3 By End-user Industry
 - 7.3.1 IT and Telecom
 - 7.3.2 Retail and Consumer Goods
 - 7.3.3 Healthcare
 - 7.3.4 Media and Entertainment
 - 7.3.5 Federal and Institutional agencies
 - 7.3.6 Other End-user Industries

8 COMPETITIVE LANDSCAPE

- 8.1 Company Profiles
 - 8.1.1 Schneider Electric SE
 - 8.1.2 Johnson Controls Inc.
 - 8.1.3 GIGA-BYTE Technology Co. Ltd
 - 8.1.4 Vertiv Group Corp.
 - 8.1.5 Carrier Global Corporation
 - 8.1.6 Rittal GmbH & Co. KG
 - 8.1.7 Munters Group
 - 8.1.8 Stulz GmbH
 - 8.1.9 Kstar Ltd
 - 8.1.10 Alfa Laval AB

9 INVESTMENT ANALYSIS

10 MARKET OPPORTUNITIES AND FUTURE TRENDS

11 ABOUT US

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

**China Data Center Cooling - Market Share Analysis, Industry Trends & Statistics,
Growth Forecasts (2025 - 2031)**

Market Report | 2025-04-28 | 90 pages | Mordor Intelligence

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$4750.00
	Team License (1-7 Users)	\$5250.00
	Site License	\$6500.00
	Corporate License	\$8750.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2026-02-26"/>
		Signature	

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

