

## **China Data Center Cooling - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2030**

Market Report | 2024-02-17 | 90 pages | Mordor Intelligence

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### **Report description:**

The China data center cooling market reached a value of USD 729.8 million in the previous year, and it is further projected to register a CAGR of 6% during the forecast period.

#### Key Highlights

- 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.
- The upcoming IT load capacity of the China data center market is expected to reach more than 3,300 MW by 2029. The country's construction of raised floor area is expected to increase above 11.9 million sq. ft by 2029.
- The country's total number of racks to be installed is expected to reach above 5,99,000 units by 2029. Beijing, Guangdong, Hebei, Jiangsu, and Shanghai are expected to house the maximum number of racks by 2029. The average annual temperature in the Pearl River Valley is above 20 C. Depending upon climatic conditions, the DC cooling is done in the DC facilities.
- There are close to 19 submarine cable systems connecting China, and many are under construction. In April 2023, China's state-owned news agency announced the development of a USD 500 million undersea fiber optic cable network that would connect Asia, the Middle East, and Europe, competing with similar US-backed projects.

#### China Data Center Cooling Market Trends

Liquid-based cooling is the fastest growing segment

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- Technological advances have made liquid cooling easier to maintain, more scalable, and more affordable, reducing data center liquid consumption by more than 15% in tropical climates and by 80% in greener areas. The energy used for liquid cooling can be recycled to heat buildings and water, and advanced artificial refrigerants can effectively reduce the carbon footprint of air conditioners.
- Liquid cooling takes advantage of the superior heat transfer properties of water or other liquids to support efficient and cost-effective cooling of high-density racks, up to 3000 times more effective than using air. Long proven in mainframe and gaming applications, liquid cooling is increasingly being used to protect rack servers in data centers across the region.
- Direct liquid cooling solutions achieve partial power usage effectiveness (PUE) of 1.02 to 1.03, outperforming the most efficient air cooling systems by low single-digit percentages. However, PUE is not responsible for much of the DLC's energy gain. Traditional servers have fans that use power from the rack, so control is included in the IT power section of his PUE. These are considered part of the data center payload.
- Water cooling can be essential in minimizing emissions and reducing climate disturbance. Data centers using water as a cooling substance use about 10% less energy than most air-cooled data centers, emitting about 10% less CO2. In 2021, water cooling could reduce energy-related CO2 emissions in the data center portfolio by about 300,000 tonnes.
- People in China spend an average of 2.5 hours on e-commerce, and 80% of e-commerce sales come mainly from smartphones. The online market penetration of e-commerce marketplaces was about 71.9% in 2022 and is expected to reach 83.9% by 2025.
- E-commerce is growing proportionately both domestically and internationally due to the attractive offers and goods these marketplaces offer at affordable prices. Another factor that has contributed to the growth of the e-commerce market is digital payment services.

#### IT & Telecommunication is the largest segment

- Demand for data centers in the country is growing at an ever-faster rate, and it is critical to keep these facilities up and running. In the telecommunications sector, demand for data centers to deliver content, mobile, and cloud services is increasing. In this phase, data center interconnects and WAN connections are major network requirements, creating large storage resources that are energy intensive, so data center cooling is critical.
- Since the advent of the Internet, ICT has become one of the most important drivers of global development and value creation. In recent years, the ICT industry has undergone many changes due to technological advances. High growth rates are projected in this rapidly growing market. ICT companies, and virtually all companies with access to telecommunications networks, are likely to feel immediate and far-reaching impacts from these major trends currently prevalent in the telecommunications sector.
- According to the China Data Center Energy Consumption Report, there are currently more than 400,000 small and medium-sized data centers in China, with a total annual power consumption of 100 billion kWh. Coupled with the growing trend of data localization, the country is likely to further push the development of hyperscale data centers.
- Governments are taking important steps to develop more energy-efficient data centers. For example, the Green Data Center Pilot Project (GPPGDC) was established in the past to promote sustainability in China's data center industry, which included a pilot involving 100 major green data centers.

#### China Data Center Cooling Industry Overview

The China data center cooling market is moderately competitive but has gained a significant competitive edge in recent years. Currently, a handful of major players, including Stulz GmbH, Schneider Electric SE, Vertiv Group Corp., Daikin Industries Ltd, and Trane Inc., dominate the market in terms of market share.

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- In March 2023, STULZ, a Hamburg-based mission-critical air conditioning company, made a significant announcement regarding its industry-leading CyberAir 3PRO DX series. They introduced the use of the low global warming potential (GWP) refrigerant R513A in some units within this series. This breakthrough development highlights STULZ's unwavering commitment to providing highly sustainable air conditioning systems for data centers. Furthermore, across their product portfolio, they have taken additional steps to expand the integration of R513A refrigerant, demonstrating their dedication to environmentally friendly solutions.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

## **Table of Contents:**

### 1 INTRODUCTION

- 1.1 Study Assumption & 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 Development of IT Infrastructure in the Region
  - 4.2.2 Emergence of Green Data Centers
- 4.3 Market Restraints
  - 4.3.1 Costs, Adaptability Requirements, and Power Outages
- 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 Cooling Technology
  - 5.1.1 Air-based Cooling
  - 5.1.2 Liquid-based Cooling
  - 5.1.3 Evaporative Cooling
- 5.2 End-User
  - 5.2.1 IT & Telecommunication
  - 5.2.2 BFSI
  - 5.2.3 Government

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5.2.4 Media & Entertainment

5.2.5 Other End-Users

## 6 COMPETITIVE LANDSCAPE

### 6.1 Company Profiles

6.1.1 Vertiv Co.

6.1.2 Schneider Electric SE

6.1.3 STULZ GMBH

6.1.4 Daikin Industries Ltd

6.1.5 Trane Inc.

6.1.6 Johnson Controls International PLC

6.1.7 Mitsubishi Heavy Industries Ltd.

6.1.8 RITTAL Electro-Mechanical Technology Co. Ltd (RITTAL GMBH & CO. KG)

6.1.9 Gree Electric Appliances Inc. of Zhuhai

6.1.10 Munters Air Treatment Equipment (Beijing) Co. Ltd

6.1.11 Carrier Global Corporation

6.1.12 Condair Group

6.1.13 Chat Union Climaveneta

## 7 INVESTMENT ANALYSIS

## 8 MARKET OPPORTUNITIES AND FUTURE TRENDS

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