

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

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Report description:

The India data center cooling market reached a value of USD 498.4 million in the previous year, and it is further projected to register a CAGR of 11.7% 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 India data center market is expected to reach more than 4,700 MW by 2029. The country's construction of raised floor area is expected to increase above 14.2 million sq. ft by 2029.
- The country's total number of racks to be installed is expected to reach above 7,10,000 units by 2029. Bangalore, Chennai, Hyderabad, Mumbai, NCR, and Pune are expected to house the maximum number of racks by 2029. The average annual temperature ranges between 24 degrees Celsius and 29 degrees Celsius. Depending upon climatic conditions, DC cooling is utilized in the DC facilities.
- There are close to 44 submarine cable systems connecting India, and many are under construction.

India Data Center Cooling Market Trends

Liquid-based Cooling is the Fastest Growing Segment

- Direct liquid cooling (DLC) solutions consistently achieve impressive partial power usage effectiveness (PUE) ratings, typically

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ranging from 1.02 to 1.03. This places them ahead of even the most efficient air cooling systems, surpassing them by a slight margin, usually in the low single-digit percentage range. It's important to note that while PUE improvement is a significant benefit of DLC, it doesn't account for the majority of its energy efficiency gains.

- In the context of PUE calculations, it's essential to recognize that traditional servers come equipped with fans that draw power from the rack. Consequently, the control of these fans is factored into the IT power section of the PUE calculation, and they are considered a part of the data center's overall power consumption.
- 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.
- Indian organizations and data center providers are making significant efforts to increase the power efficiency of their market-leading data centers. A sub-segment of liquid-based refrigeration, water-based refrigeration is the most widely used cooling system and is commonly used in chillers, condensers, and economizers.
- 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.
- The number of data centers is increasing in India, driving the growth of the market. The demand for data centers in cloud service platforms (CSPs), government agencies, and telecommunications organizations is increasing. This is due to the rising adoption of improved technologies, such as cloud-based services and big data, to meet the operational needs of enterprises. Increased investment in data centers in India has also increased the number of data centers in the country. Demand for data center cooling solutions is expected to increase in India as the number of data centers increases.

IT & Telecommunication is the Largest Segment

- India is recognized as one of Asia's largest and fastest-growing markets for digital consumers, but business adoption is mixed. As digital capabilities improve and connectivity becomes ubiquitous, digital technologies are poised to rapidly propel every sector of the Indian economy. Building digital infrastructure is a fundamental approach for countries to promote digital value chains.
- The Indian government is dedicated to establishing an enabling political and regulatory environment to facilitate the continued expansion of key technologies such as 5G, Internet of Things (IoT), artificial intelligence (AI), cloud computing, blockchain, and machine-to-machine (M2M) communications. This commitment is fueled by the remarkable growth of the Information and Communication Technology (ICT) sector in India and its substantial contributions to the country's socio-economic progress.
- It is imperative for the government to formulate and implement the right policies to harness the potential of the ICT sector, making it a prominent driver of India's economic growth. Advancements in these technological domains are poised to propel the research and development market within the region, further bolstering India's position as a hub for innovation and technological progress.
- Since the pandemic, cloud computing has evolved into a mission-critical technology for businesses, governments, and consumers. Not only is this the underlying technology for digital transformation, but it also enables innovation and collaboration among stakeholders in the ecosystem. By 2021, 53% of organizations will increase cloud adoption year-over-year. 84% of organizations have adopted his SaaS.
- The Ministry of MSMEs indicated that as of March 2022, there are over 7.9 million MSMEs in India, while as of January 2021, there are about 650 registered. Ten thousand companies. This shows how the number of MSMEs in India has changed. India increased rapidly. This makes it a very potential market for IT implementations.
- In June 2022, Vi Business, a business of telecom operator Vodafone Idea (Vi), launched ReadyforNext, a dedicated program designed to help MSMEs increase their growth potential. The Vi Business ReadyforNext program is based on the perspective of walking hand in hand with his MSMEs throughout their digital journey. The product supports MSMEs in their digital adoption efforts

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and helps them digitally secure their businesses in the new era of remote work. Such efforts will strengthen the domestic telecommunications market.

India Data Center Cooling Industry Overview

The India data center cooling market is moderately competitive and has gained a competitive edge in recent years. In terms of market share, a few major players, including Stulz GmbH, Schneider Electric SE, Vertiv Group Corp., Rittal GmbH & Co. KG, and Iceotope Technologies Limited, currently dominate the market.

In March 2023, STULZ, a Hamburg-based company specializing in mission-critical air conditioning, made a significant announcement regarding its industry-leading CyberAir 3PRO DX series. The company revealed that certain units within this series are now compatible with the low-global-warming-potential (GWP) refrigerant R513A. This groundbreaking development underscores STULZ's unwavering commitment to delivering the most sustainable air conditioning solutions for data centers. Furthermore, the company has implemented additional product transitions across its portfolio to further incorporate the use of R513A refrigerant.

Additional Benefits:

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

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