

Data Center Cooling Market by Solution (Air Conditioning, Chilling Unit, Cooling Tower, Economizer System, Liquid Cooling System, Control System), Service, Type of Cooling, Data Center Type, Industry, & Geography - Global Forecast to 2030

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Abstracts

The global data center cooling market will rise from USD 12.7 billion in 2023 to USD 29.6 billion by 2030 at a CAGR of 12.8% from 2023 to 2030. The imperative drives the global data center cooling market to balance the increasing heat loads with energy-efficient and sustainable cooling technologies, driven by technological advancements, environmental considerations, and the evolving landscape of data center operations.

“Liquid cooling systems solution segment of data center cooling to grow at the highest CAGR during the forecast period.”

Liquid cooling systems have emerged as an innovative solution to address the escalating heat challenges in data centers. These systems use liquid, often water or a specialized coolant, to dissipate heat generated by IT equipment more efficiently than traditional air cooling methods. Adopting liquid cooling solutions in data centers contributes significantly to market growth.

“Maintenance & Support, in the by-service segment, is projected to grow the highest CAGR from 2023 to 2028.”

The factors driving the growth of the maintenance & support segment include the increasing demand for support and maintenance services due to the rising requirement for energy-efficient and cost-effective data center cooling solutions. This growth is also driven by the growing demand for digital technologies and data centers, escalating the

need for efficient and sustainable cooling solutions. The rising demand for cloud computing and data storage and the emergence of liquid cooling technology also contribute to the market's expansion.

“Row/Rack-based cooling, in by type of cooling segment, is projected to grow at the highest CAGR from 2023 to 2028.”

The trend toward high-density computing, driven by technologies such as blade servers and GPUs, has led to increased heat generation within racks. Rack/row-based cooling solutions are designed to address the specific cooling requirements of high-density server configurations, ensuring optimal performance and reliability. This factor leads to row/rack-based cooling adoption in the data center cooling market.

“Research & Academics, by industry segment, is projected to grow at the highest CAGR from 2023 to 2028.”

The growth of data center cooling in the research and academics industry is fueled by the sector's increasing reliance on advanced computing technologies, growing data storage needs, expanding IT infrastructure, a focus on energy efficiency, the critical nature of research operations, government funding initiatives, and the adoption of edge computing. These factors collectively drive the adoption of sophisticated and efficient cooling solutions to support the evolving demands of research and academic institutions.

“Asia Pacific data center cooling market is projected to grow at the highest CAGR from 2023 to 2028.”

Asia Pacific is expected to be the fastest-growing market for data center cooling market during the forecast period. The Asia-Pacific data center cooling market is thriving due to the region's rapid digital transformation, the expansion of cloud services, increasing internet penetration, government support, emerging markets, the presence of global technology giants, a focus on energy efficiency, and the need to address climate variability challenges. These factors collectively contribute to the dynamic growth of the data center cooling market in the Asia-Pacific region.

Profile break-up of primary participants for the report:

By Company Type: Tier 1 – 16%, Tier 2 – 36%, and Tier 3 – 48%

By Designation: C-level Executives – 16%, Directors – 24%, and Others – 60%

By Region: North America – 24%, Europe – 36%, Asia Pacific – 20%, Middle East & Africa –12%, and Latin America America – 8%

The data center cooling market report is dominated by players such as Asetek (Denmark), STULZ GmbH (Germany), Coolcentric (US), Rittal GmbH & Co. KG (Germany), Nortek Air Solutions, LLC (US), Schneider Electric SE (France), and Vertiv Holdings Co. (US).

Research Coverage:

The report defines, segments, and projects the data center cooling market based on industry, type of cooling, solution, component, type of data center, and region. It provides detailed information regarding the major factors influencing the market's growth, such as drivers, restraints, opportunities, and industry-specific challenges. It strategically profiles key data center cooling solution providers, comprehensively analyzes their market shares and core competencies, and tracks and analyzes competitive developments, such as expansions, agreements, contracts, partnerships, acquisitions, collaborations, and divestments, undertaken by them in the market.

Reasons to Buy the Report:

The report is expected to help the market leaders/new entrants by providing them with the closest approximations of revenue numbers of the data center cooling market and its segments. This report is also expected to help stakeholders understand the market's competitive landscape better, gain insights to improve the position of their businesses and make suitable go-to-market strategies. It also enables stakeholders to understand the market's pulse and provides information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers: Analysis of critical drivers (Improving efficiency in data centers), restraints (High investment cost), opportunities (Emergence of liquid cooling technology), and challenges (Cooling challenges during power outage) influencing the growth of the data center cooling market.

Product Development/Innovation: Detailed insights on upcoming technologies,

research &

development activities in the data center cooling market.

Market Development: Comprehensive information about lucrative markets – the report analyses

the data center cooling market across varied regions.

Market Diversification: Exhaustive information about new products & services, untapped

geographies, recent developments, and investments in the data center cooling market.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service

offerings of leading players like Asetek (Denmark), STULZ GmbH (Germany), Coolcentric (US), Rittal GmbH & Co. KG (Germany), Nortek Air Solutions, LLC (US), Schneider Electric SE (France), and Vertiv Holdings Co. (US), and among others in the data center cooling market.

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About

As the need for data processing power and information storage proliferates, enterprises witness a rising need to increase the capacity of the existing data centers as well as to deploy new ones. Data center capacity increment requires high energy consumption and generates excessive heat, creating a need for efficient data center cooling technologies. As a result, enterprises are compelled to adopt new and innovative data center cooling solutions. Cooling solutions account for more than 40% of the total power consumption used in data centers.

Thus, enterprises have started focusing on bringing efficient power saving equipment in data centers. With continuously escalating need for storing information and data, global data center cooling market is expected to grow at a healthy rate in the coming years.

Some of the key vendors occupying the market are Emerson Network Powers. APC Corp by Schneider Electric. Rittal. Eaton. Hitachi, HP, IBM, Fujitsu, Mitsubishi, and Stulz. The data center cooling research report discusses the strategies and insights of the key vendors in the industry. The research report provides in-depth study of driving forces and challenges for the data center cooling market. The report also analyzes global adoption trends and future growth potentials across different geographical regions. MarketsandMarkets has segmented the global data center cooling market by cooling solutions, cooling services, industry verticals, user types, and geographical regions. The report also consists of MarketsandMarkets views of the key players and analyst insights on various developments that are taking place in the data center cooling market.

Data center cooling, a critical element in the efficient functioning of a data center, signifies the cooling systems and technologies for enhancing its performance. Efficient cooling technologies highly reduce the operational cost of a data center. Because of traction in data center deployment rate, requirement for data center cooling is continuously increasing, creating opportunity for various data center equipment and service companies to take a dive in this pool. For achieving efficient and cost-effective operation of a data center, it is extremely important to reduce the cost associated with it.

In the present scenario, organizations are moving from maintaining manual records to maintaining electronic records. This transition of data management from manual to electronic requires efficient data storage. Also, government has started imposing various environmental regulations on the data center operations, creating demand for

eco-friendly solutions. It is estimated that cooling contributes to 40% of total data center power consumption; thus, it is strictly required to reduce the cost associated with power consumption involved in cooling of data centers. So, with the increasing need of operational cost reduction across various industry verticals, data center managers are forced to implement cost-effective and efficient data center cooling technologies, as with efficient cooling technologies, energy consumption can be reduced by 70%.

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