

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

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Report description:

The Taiwan data center cooling market reached a value of USD 100.8 million in the previous year, and it is further projected to register a CAGR of 7.0% during the forecast period.

Key Highlights

- Generally, Taiwan's weather is warm all year round. There is no severe cold in winter, but the weather in summer is brutally hot and of high humidity. The annual average temperature of the northern part is around 21.7 while it is around 24.1 in the southern part. Extreme weather events are a threat to physical infrastructure such as power stations, electricity cables, and the data center buildings themselves. The above factor drives the major demand for data center cooling solutions.
- The upcoming IT load capacity of the Taiwan data center market is expected to reach 304.2 MW by 2029. The country's construction of raised floor area is expected to increase to 1.5 million sq. ft by 2029.
- The country's total number of racks to be installed is expected to reach 76K units by 2029. Taipei is expected to house the maximum number of racks by 2029.
- There are close to 14 submarine cable systems connecting Taiwan, and many are under construction. One such submarine cable that is estimated to start service in 2024 is Apricot, which stretches over 11,972 Kilometers with landing points from Toucheng, Taiwan.

Taiwan Data Center Cooling Market Trends

IT and Telecom to Hold Significant Share

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- The telecommunications industry is looking toward institutionalization to supervise and promote digital transformation, making the process a foundation for developing the digital economy and society.
- In the space of just four years, the Taiwanese have become Asia's most prolific users of mobile data, second in global terms only to the Finns. Taiwanese use twice as much monthly data per SIM card holder as South Koreans, more than three times as much as Japanese, and nearly six times as much as Singaporeans, as per Global System for Mobile Communications. The data is increasing exponentially, leading to major demand for servers and equipment, leading to major cooling solution demand.
- The increasing demand for high-speed data access, particularly for cloud and Internet of Things (IoT) applications like smart home energy management, is expected to drive the rapid adoption of 5G services. With 5G networks providing faster speeds, greater capacity, and reduced latency compared to 4G LTE networks, the number of 5G subscribers is experiencing substantial growth. In Taiwan, the total count of 5G customers exceeded 1 million within just five months of the technology's launch. By the close of 2021, 5G penetration had surged to over 30%.
- To support telecommunications operators, the Taiwanese government allocated USD 650 million, which was distributed between 2019 and 2022, to subsidize the installation of 5G in the country. Also, telco providers are investing in data center construction, leading to market demand.
- One such instance is that in August 2022, Taiwanese telco Chunghwa announced the building of a new data center in Taoyuan City. It is located in Taoyuan City, where the new data center will be a building with one basement and five floors above ground, and the floor area is about 223,355 sq ft/20,750 sqm in total. Such hyperscale facility construction will lead to major power heat consumption, leading to major demand for cooling solutions.

Liquid Cooling to Hold Significant Growth

- In the ever-evolving landscape of data centers, efficient cooling solutions are crucial to maintain optimal performance and handle the increasing heat loads generated by modern IT equipment. Among the emerging technologies, liquid cooling systems have gained significant traction in recent years.
- A study conducted by the Uptime Institute found that liquid cooling systems achieved a power usage effectiveness (PUE) of 1.02, indicating remarkable energy efficiency gains. Companies like Microsoft and Google in Taiwan have implemented liquid cooling solutions in their data centers, resulting in significant energy savings.
- As Taiwan develops into a regional hub for many enterprises, they are investing in cloud computing, thus increasing the demand for local data centers. The government is encouraging Taiwanese businesses to go digital. It is also dedicated to creating a cloud-based smart digital blueprint for local partners and connecting top-tier creative technologies for a variety of industries.
- For instance, Microsoft launched its "Reimagine Taiwan" program in 2020, outlining intentions to build its first cloud data center area in Taiwan and make large investments in local talent and development with the aim of supplying over 200,000 Taiwanese with digital skills by 2024. Such a factor states the major demand for liquid cooling with increasing cloud data centers in the country.
- In terms of investment, in March 2021, Wiwynn announced an investment in LiquidStack, one of the prominent liquid cooling companies, through Series A funding and obtained one seat on the board of directors. Wiwynn and LiquidStack will also build strategic partnerships to enable the synergistic advancement of next-generation cloud IT infrastructure designed for two-phase immersion cooling in data centers, edge, and high-performance computing (HPC).

Taiwan Data Center Cooling Industry Overview

The Taiwan data center cooling market has witnessed consolidation among key players, leading to a heightened competitive landscape in recent years. Schneider Electric SE, Green Revolution Cooling, Munters Group AB, and others stand out as major

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players in this industry. These prominent companies, holding significant market shares, have made expanding their customer base across the region a key priority. They achieve this by employing strategic collaborative initiatives aimed at enhancing their market share and overall profitability.

In March 2022, Johnson Controls made a significant move in this market by utilizing its Silent-Aire solutions to introduce the industry's inaugural hyperscale data center platform. This groundbreaking platform is designed to assist cloud providers in meeting ambitious sustainability objectives. The Johnson Controls Data Center Solutions platform offers cutting-edge solutions that prioritize water conservation and reduced energy consumption. These solutions encompass air-cooled chillers, liquid cooling systems, combination air handler units, environmentally-friendly refrigerants that are future-ready, and prefabricated modular data centers. This strategic step underscores Johnson Controls' commitment to sustainability and innovation in the data center cooling sector.

Additional Benefits:

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

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