

Hong Kong 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 Hong Kong data center cooling market reached a value of USD 301.1 million in the previous year, and it is further projected to register a CAGR of 6.2% during the forecast period.

Key Highlights

- Summers in Hong Kong are hot, humid, and prone to occasional thunderstorms. Average temperatures range from 28 to 33 degrees Celsius, with high humidity. For a city like Hong Kong, liquid cooling is an inevitable option that should be accepted as an industry standard, especially in the warm island city.
- The upcoming IT load capacity of the Hong Kong data center market is expected to reach around 1.7K MW by 2029. The country's construction of raised floor area is expected to increase to 6.4 million sq. ft by 2029.
- The country's total number of racks to be installed is expected to reach 318.2K units by 2029. Tseung Kwan O is expected to house the maximum number of racks by 2029.
- There are close to 2 submarine cable systems connecting Hong Kong, and many are under construction. One such submarine cable that is estimated to start service in 2025 is Asia Cable Link ALC, which stretches over 6,000 Kilometers with landing points from Hong Kong.

Hong Kong 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.
- Hong Kong has long been acknowledged as one of the world's top cities for fixed broadband performance. The country's fixed line and mobile service penetration rates are among the highest in the world, and broadband infrastructure is widely used.
- Even Hong Kong's fixed-line tele density is remarkable at over 50%. However, as people gradually switch to the mobile platform for all their communication needs, the data is increasing exponentially, leading to major demand for servers and equipment, leading to major cooling solution demand.
- The onset of COVID-19 drove a boom in data center demand across Hong Kong as large numbers of employees shifted to new patterns of work and fast-forwarded many nascent digital business practices and patterns of consumption. This resulted in data center operators reporting a 20-30 percent boost in Internet traffic in Hong Kong and the region on average.
- Such a factor is leading to a major usage of 5G service. With 5G being introduced in the country, high bandwidth speeds offered led to users opting for multiple smart devices, such as smart wearables, tablets, security systems, smart lighting, and others, which have catalyzed the demand for these devices.
- Around 96% of the population in Hong Kong currently uses smartphones to access the internet on a daily basis. This has led to major data traffic, thereby increasing the telecom data center for the usage of 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.
- Air cooling is just insufficient to sustain the dependability of IT systems in facilities with exceptionally high-density racks (usually over 30 kW), regardless of how new or optimized they may be.
- Liquid cooling is not an option but rather a must for such facilities (rack power requirements are approaching 20 kW in many facilities, and many companies are aiming to build racks with requirements of 50 kW or more). Facilities such as Goodman Tsuen Wan West Campus (2 buildings) of Goodman and Mega IDC facility of Sunevision are the under-construction facility having high rack density.
- To meet its 2025 carbon emissions reduction target, OneAsia, an Asian IT service provider for cloud-based solutions and data center services, said that it will introduce an 'immersion cooling' solution in September 2023 in Hong Kong.
- High-tier data centers may consider adopting the water-cooled air-conditioning system, which is more energy-efficient than an air-cooled system, for data center cooling purposes. In Hong Kong, the authority of approval for fresh water supply for cooling purposes for non-domestic buildings within designated areas under the Government's voluntary Fresh Water Cooling Towers (FWCT) Scheme for Air Conditioning Systems (the Scheme) administered by the Electrical and Mechanical Services Department (EMSD) falls under the Water Supplies Department (WSD).
- For data center projects using freshwater cooling towers for water-cooled air conditioning systems, project developers should apply for participation in the Scheme to ensure the cooling towers meet the environmental and public health requirements. Besides, the participation will also facilitate WSD's consideration of approval for fresh water supply to the cooling towers.
- It is expected that with the rising demand for high-density computing applications, traditional air-cooled units will now be replaced by liquid-cooling units. Furthermore, cloud storage use has expanded over the years and is likely to raise demand for liquid data center cooling systems. For instance, 75% of the businesses in Hong Kong have adopted cloud services as they offer more flexibility and cost-effectiveness. Also, under the smart city blueprint program, government departments have been using cloud platforms since 2020.

Hong Kong Data Center Cooling Industry Overview

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The Hong Kong data center cooling market is currently characterized by consolidation among key players who have significantly enhanced their competitive position in recent years. Prominent companies such as Schneider Electric SE, OneAsia Network Limited, and LiquidStack Holding B.V. dominate this market. These major players, commanding substantial market shares, are actively pursuing strategies to expand their customer base throughout the region. They achieve this by engaging in strategic collaborative initiatives aimed at augmenting their market presence and overall profitability.

In March 2022, Johnson Controls made a significant impact on the industry by harnessing its Silent-Aire solutions to introduce the industry's inaugural hyperscale data center platform, with a distinct focus on assisting cloud providers in achieving ambitious sustainability objectives. The Johnson Controls Data Center Solutions platform offers cutting-edge solutions designed to conserve water and reduce energy consumption. These solutions encompass a range of technologies, including air-cooled chillers, liquid cooling systems, combination air handler units, future-ready refrigerants, and prefabricated modular data centers. This innovative platform underscores Johnson Controls' commitment to advancing sustainable practices within the data center industry.

Additional Benefits:

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

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