

# Asia-Pacific Data Center Liquid Cooling Market: Focus on Product, Application, and Country Analysis -Analysis and Forecast, 2024-2034

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# Abstracts

Introduction to Asia-Pacific Data Center Liquid Cooling Market

The Asia-Pacific data center liquid cooling market (excluding China), valued at \$1,108.0 million in 2024, is expected to reach \$11,765.9 million by 2034, exhibiting a robust CAGR of 26.65% during the forecast period 2024-2034. The market for liquid cooling in data centres in Asia-Pacific is expanding rapidly due to the increasing need for high-efficiency thermal management systems and the quick adoption of new technologies. Traditional air cooling techniques are becoming less and less effective as data centres get smaller and use less electricity as a result of the growth of cloud computing, edge computing, and AI-based workloads. As a result, liquid cooling is becoming the go-to option since it provides better heat dissipation, less energy use, and increased spatial efficiency.

This market is expanding due to a number of important factors. In order to satisfy sustainability targets and save operating expenses, energy-efficient and space-saving cooling techniques are urgently needed. Second, data centre operators are becoming more aware of liquid cooling's capacity to facilitate higher overclocking and improve performance in high-density computing situations. This is particularly important for applications that need high-performance computing infrastructure, such as blockchain, AI, and machine learning.

Furthermore, in the APAC area, where urban density and real estate costs might be constraining, the capacity of liquid cooling systems to boost computing power without requiring significant physical expansions or expensive infrastructural overhauls is quite alluring. The market for liquid cooling is expected to gain from advantageous regulatory.



frameworks, government incentives, and a growing focus on sustainable data centre operations as nations like China, India, Japan, and Singapore continue to invest in digital infrastructure and smart technologies. Manufacturers and technology suppliers have a great chance to develop and broaden their product offerings in one of the fastestgrowing digital sectors globally thanks to this changing landscape.

#### Market Introduction

The growing need for scalable, high-performance, and energy-efficient data centre infrastructure in the Asia-Pacific (APAC) region is propelling the market for liquid cooling for data centres in this region. Data centres in APAC are growing denser and more power-hungry as digital transformation speeds up across industries thanks to developments in cloud computing, big data, 5G, and artificial intelligence. Due to the tremendous strain this change has placed on conventional air cooling systems, there is a growing trend towards liquid cooling technologies as a more efficient way to handle heat.

Direct-to-chip and immersion cooling are two examples of liquid cooling techniques that have several advantages, including as increased energy efficiency, greater heat dissipation, and a smaller footprint. In the APAC area, where land limits and urbanisation necessitate compact and sustainable infrastructure, these technologies are especially alluring. Additionally, operators are being encouraged to use eco-friendly cooling solutions by growing environmental concerns and government-led green data initiatives.

Leading the way are nations like China, India, Japan, and Singapore, which have made significant investments in hyperscale data centres and have robust policies supporting sustainable development. Adoption is being accelerated by ongoing innovation, rising awareness, and improved cooperation between technology vendors and data centre providers, even though high initial setup costs and technical know-how continue to be obstacles. The APAC liquid cooling market is therefore well-positioned for strong long-term growth.

Market Segmentation

Segmentation 1: by End-Use

IT and Telecom



Banking, Financial Services, and Insurance (BFSI)

Government and Public Sector

Healthcare

Manufacturing

Retail

Others

Segmentation 2: by Data Center

Hyperscale Data Center

Enterprise Data Center

**Colocation Data Center** 

Others

Segmentation 3: by Solution

Rear Door Heat Exchangers (RDHX)

Direct Cooling

Direct-to-Chip Liquid Cooling System

Immersion Cooling System

Segmentation 4: by Region

Asia-Pacific



China

Market Trends, Drivers and Challenges of APAC Data Center Liquid Cooling Market

The growing demand for effective cooling solutions in response to rising data centre density and power consumption is propelling the APAC data centre liquid cooling market's rapid expansion. The need for high-performance computing, which produces a lot of heat, is being fuelled by the growth of cloud computing, artificial intelligence, 5G, and big data analytics. Compared to conventional air-cooling techniques, liquid cooling—including direct-to-chip and immersion cooling—offers better thermal management, increased energy efficiency, and reduced operating costs. Adoption is also being encouraged by government programs that support carbon footprint reduction and sustainable infrastructure in nations like China, India, Japan, and Singapore. Nevertheless, the market is confronted with obstacles like high upfront prices, intricate technical details, and a lack of experience in implementing and maintaining liquid cooling systems. Additionally, retrofitting existing facilities with liquid cooling technology can be difficult and costly. Despite these obstacles, continued innovation, increasing awareness of environmental benefits, and supportive government policies are expected to drive the adoption of liquid cooling technologies across APAC.

How can this report add value to an organization?

Product/Innovation Strategy: The product segment helps the reader understand the different application and product segments of APAC data center liquid cooling and their potential in APAC Region. Moreover, the study gives the reader a detailed understanding of the different regulations, consortiums and associations, and government programs impacting the liquid cooling manufacturers for various purposes, including data centers.

Growth/Marketing Strategy: The APAC data center liquid cooling market has seen major development by key players operating in the market, such as business expansion, partnership, collaboration, and joint venture. The favored strategy for the companies has been partnership, collaboration, and joint venture activities to strengthen their position in the APAC data center liquid cooling market.

Competitive Strategy: Key players in the APAC data center liquid cooling market analyzed and profiled in the study involve liquid cooling providers, including market segments covered by distinct product kinds, applications served, and regional presence,



as well as the influence of important market tactics employed. Moreover, a detailed competitive benchmarking of the players operating in the APAC data center liquid cooling market has been done to help the reader understand how players stack against each other, presenting a clear market landscape. Additionally, comprehensive competitive strategies such as partnerships, agreements, and collaborations will aid the reader in understanding the untapped revenue pockets in the market.

Key Market Players and Competition Synopsis

The companies that are profiled in the APAC data center liquid cooling market have been selected based on input gathered from primary experts and analyzing company coverage, project portfolio, and market penetration.

Some of the prominent names in this market are:

PEZY Computing Inc.

Firmus Technologies Pty Ltd

Shenzhen MicroBT Electronics Technology Co., Ltd

Sunonwealth Electric Machine Industry Co., Ltd.

WERNER FINLEY

FogHashing



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