

United Arab Emirates Data Center Cooling - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

<https://marketpublishers.com/r/UBE58D94CB32EN.html>

Date: July 2024

Pages: 90

Price: US\$ 4,750.00 (Single User License)

ID: UBE58D94CB32EN

Abstracts

The United Arab Emirates Data Center Cooling Market size is estimated at USD 88.30 million in 2024, and is expected to reach USD 249.80 million by 2030, growing at a CAGR of 19.80% during the forecast period (2024-2030).

Key Highlights

The increasing demand for cloud computing among SMEs, government regulations for local data security, and growing investment by domestic players are major factors driving the demand for data centers.

Under Construction IT Load Capacity: The upcoming IT load capacity of the UAE data center market is expected to reach more than 841 MW by 2029.

Under Construction Raised Floor Space: The country's construction of raised floor area is expected to increase above 5 million sq. ft by 2029.

Planned Racks: The country's total number of racks to be installed is expected to reach above 250,576 units by 2029. Dubai is expected to house the maximum number of racks by 2029.

Planned Submarine Cables: Many are under construction. One such cable, 2Africa, was estimated to start service in 2023. It stretches over 45,000 kilometers and has landing points from Abu Dhabi and Kalba.

New data centers across the country are focusing on implementing state-of-the-art

monitoring systems to mitigate the risks associated with extreme weather events. Many would use the latest, more energy-efficient cooling technologies, such as redundant cooling systems, smart monitoring technologies, and backup power generators, to ensure consistency of temperature in the event of power interruptions. Another example is direct liquid cooling, which uses a higher thermal transfer of water to a more efficient cooling device.

The average winter temperature is between 16.4°C (61.5°F) and 24 °C (75.2 °F). The average summer temperature is between 32°C (89.6 °F) and 37.2 °C (98.96 °F). Depending upon climatic conditions, the DC cooling is done in the DC facilities.

United Arab Emirates Data Center Cooling Market Trends

IT & Telecom is Expected to Have Significant Market Share

BFSI and e-commerce are the major end-user segments, and they are expected to showcase significant growth during the forecast period. In terms of the adoption of digital banking, the UAE comes in sixth position globally. A survey by the Australian financial comparison website Finder predicts that by the end of 2027, the number of UAE residents using digital banking will rise by 22 basis points to 41%. About 19% of the UAE customers polled said they had a digital bank account, and another 15% said they planned to get one in the upcoming year. As a result, adoption reached a predicted level of 34% in 2023.

The other end-user and telecom segments are also expected to grow significantly. The rapidly increasing 4G penetration and the upcoming 5G wave further motivate telecom vendors to invest in the UAE data center market. According to the Telecommunications Regulatory Authority (UAE), over 20 million active mobile phone subscribers were in March 2024.

Liquid Cooling is Expected to Have a Significant Share

Liquid cooling offers many benefits in data centers, making it an attractive option for cooling computing environments with high performance. It is more energy-efficient than conventional air conditioning. By providing precise temperature control, it reduces the need for overcooling and improves data center energy efficiency.

Technological advances have helped to reduce the data center's water consumption by more than 15% in tropical climates and 80% in green areas, making liquid cooling easier to maintain, scale up, or affordable. Energy used for liquid cooling may be recycled to heat buildings and drinking water, while advanced artificial refrigerants can significantly reduce the carbon footprint of air conditioners.

Liquid cooling takes advantage of the space constraints and superior heat transfer properties of water or other liquids to provide efficient and cost-effective cooling of high-density racks up to 3000 times more efficiently than air. Long proven in mainframe and gaming applications, liquid cooling is increasingly used to protect rack servers in regional data centers. Vertiv has introduced a water-efficient liquid cooling solution for high-density data centers, the Liebert XDU, a new generation of thermal management systems that supports liquid-cooled servers and enables the control of liquid quality, flow, and pressure.

Abu Dhabi and Dubai are the country's major hotspots. The data center market in Abu Dhabi reached an IT load capacity of 158 MW in 2023, and it is expected to record a CAGR of 14.32% to reach a capacity of 353 MW by 2029. The data center market in Dubai reached an IT load capacity of 153 MW in 2023, and it is expected to witness a CAGR of 19.46% to reach a capacity of 445 MW by 2029.

Abu Dhabi has grown into a substantial, developed metropolis due to its quick urbanization and growth, as well as its enormous oil and gas reserves, output, and relatively high average income. It is a significant hub for culture and business, and it is the political and industrial hub of the nation. About two-thirds of the economy of the United Arab Emirates, which is USD 400 billion, comes from Abu Dhabi. Key players such as Equinix and Khazana are investing in expanding their footprints across Abu Dhabi. For instance, during the forecast period, Khazana Abu Dhabi is expected to launch 10 facilities with an IT load capacity of 141.98 MW.

Dubai is benefiting from a growing knowledge-based economy. Young millennials are attracted to Dubai because of the numerous reforms implemented, including the Golden Visa program and the development of digital infrastructure. The Department of Economy and Tourism (DET) at Dubai's Establishment for Small and Medium Enterprises Development (Dubai SME) announced the debut of Concept+, which is a brand-new business incubator that strongly emphasizes digital technology.

United Arab Emirates Data Center Cooling Industry Overview

The UAE data center cooling market is fragmented. The benefits offered by the technology and support from the government by imposing efficiency regulations on data centers are expected to help the market grow directly. Market penetration is growing with a strong presence of major players such as Schneider Electric SE, Rittal GMBH & Co.KG, Mitsubishi Electric Hydronics & IT Cooling Systems SpA, Johnson Controls International PLC, and Asetek A/S.

In April 2024, Carrier Global Corporation partnered with Strategic Thermal Labs to develop direct-to-chip cooling technology. Under this partnership, Carrier will leverage the advancement in direct-to-chip technology and incorporate it into data center cooling solutions.

In December 2023, Vertiv acquired Cooltera Ltd, a coolant distribution unit (CDU) and secondary fluid networks (SFN) manufacturer. This acquisition is expected to improve the company's existing DC cooling solutions.

Additional Benefits:

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