

Saudi Arabia Data Center Cooling - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2030)

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Abstracts

The Saudi Arabia Data Center Cooling Market size is estimated at USD 20.90 million in 2024, and is expected to reach USD 78.90 million by 2030, growing at a CAGR of 24.70% 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 some major factors driving the demand for data centers.

Under Construction IT Load Capacity: The upcoming IT load capacity of the Saudi Arabian data center market is expected to reach more than 855 MW by 2029.

Under Construction Raised Floor Space: The country's construction of raised floor areas is expected to exceed 3.4 million sq. ft by 2029.

Planned Racks: The country's total number of racks to be installed is expected to reach 170,963 units by 2029. Riyadh is expected to house the maximum number of racks by 2029.

DC Facilities: There are 12 colocation data center facilities in Saudi Arabia, with Riyadh being the major hotspot. Some factors contributing to the growth of data centers in the country are the adoption of 5G, smartphone penetration, and growing digitization.

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 8 °C (46.4 °F) and 20 °C (68 °F), and the average summer temperature is between 27 °C (80.6 °F) to over 48 °C (118.4 °F). Winters can vary widely across the country, with frequent cold, fog, and snow periods in the north and more pleasant weather in the south. Depending upon climatic conditions, DC cooling is done in the DC facilities.

Saudi Arabia Data Center Cooling Market Trends

IT and Telecom to Have Significant Market Share

The cloud, telecom, and BFSI end users are anticipated to hold the largest shares among end-user industries. There are more initiatives focusing on Industry 4.0 in the BFSI sector, which is one of the main pillars of the nation's economy. The nation is undergoing several digital improvements that are helping to advance the cloud sector. These programs support Saudi Arabia's Vision 2030.

Due to users' increasing adoption of 5G networks, the telecom industry is expected to continue to dominate. By 2029, 5G mobile data speed is expected to increase significantly to 921 Mbps. This supports the idea that data center servers are increasing in demand. Growth in the country's data center market is also being fueled by the country's adoption of 4G. Rapid expansion and installation of IT infrastructure are projected to boost the market's growth during the forecast period.

As part of Vision 2030, Saudi Arabia is planning to modernize and automate its economy, and the rise of 5G mobile services in the nation is essential to this effort. Creative and disruptive applications are made possible by 5G's disruptive capabilities. Saudi Arabia will be the first among the nations in Europe, Africa, and the Middle East to make the entire 6 GHz frequency range open for WiFi use, according to the CITC. This indicates that the free airwaves available to routers for the next generation of WiFi networks have increased by 150%. Saudi Arabia has now made 2,035 MHz of spectrum available for the next generation of WiFi and other license-exempt technologies, more than any other nation in the world, by assigning 1,200 MHz of the radio spectrum for

WiFi6e.

Liquid Cooling to Record Significant Share

Liquid cooling offers many benefits in data centers, making it an attractive option for cooling computing environments with high performance. It has also been shown to be more energy-efficient than conventional air conditioning. It reduces the need for overcooling and improves the energy efficiency of data centers by providing precise temperature control.

Technological advances have helped to reduce data centers' 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 can 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 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 being used to protect rack servers in regional data centers. Recently, Vertiv 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.

Riyadh has the greatest concentration of data centers in the Kingdom. It is an excellent connecting point between Asia, Africa, the GCC, and Europe. It has well-connected intersections and is regarded as a strategic location for investment in data centers. The area is recognized as the Kingdom's ICT hub. Over the next five years, Riyadh plans to achieve digital sustainability, cultivate and train local talent, speed up the expansion of the regional economy, increase the rate at which technical jobs are Saudized, and create a robust national economy.

Cloud services are being adopted more widely in Riyadh. Riyadh hosted the World Cloud and Data Center Show, which highlighted fundamental data strategies and digital transformation projects that may propel the Kingdom's next stage of cloud adoption.

The Rest of Saudi Arabia comprises Jeddah, Dammam, and Madinah. These cities are in the process of adopting data center facilities. In the coming years, some of the data centers are expected to be constructed in these locations as part of the Saudi Vision 2030.

Saudi Arabia Data Center Cooling Industry Overview

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

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 this technology and incorporate it into its data center cooling solutions.

December 2023: Vertiv completed the acquisition of Cooltera Ltd, a manufacturer of coolant distribution units (CDU) and secondary fluid networks (SFN). This acquisition is expected to improve the existing DC cooling solutions offered by the company.

Additional Benefits:

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