Global Data Center Market Landscape 2025-2030

Market Report | 2025-05-13 | 571 pages | Arizton Advisory & Intelligence

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Report description:

The global data center market size by investment is expected to grow at a CAGR of 8.75% from 2024 to 2030.

KEY TRENDS

Data Center Operators Enhancing Sustainability

-The adoption of renewable energy is on the rise across the globe, and it will continue to grow. The data center market is responsible for most of the global electricity consumption, and they have a significant impact on the environment. To reduce their environmental impact, operators in the data center market are powering their facilities with renewable and green energy.
-The sustainability measures are significantly attracting data center operators to invest in the industry with a growing commitment to environmental responsibility. The adoption of renewable energy and sustainability initiatives should be mandated for data center operators to enhance energy efficiency.
-As the demand for digital services is rising, the focus on sustainable initiatives should also be raised simultaneously across the world to promote sustainability and reduce greenhouse gases.

Adoption of Artificial Intelligence

-The adoption of artificial intelligence across various industries for enhanced operations has seen significant improvement, and it has also increased demand for computing power and advanced data management.
-Various servers are required to process huge data as the AI demand is rising and the operation of such huge servers requires increased need for efficient power and as the high rack density generates more amount of heat, to cool this servers advanced cooling infrastructure should be implemented and thus there will be increasing demand for liquid immersion cooling in data centers globally. Such factors are projected to support the data center market growth.

5G Networks Fueling Edge Data Center Deployments

-The growth in 5G service adoption fuels the growth of edge deployments due to increased connectivity options with established hyperscale data centers. Edge data centers will create a decentralized model of data centers, where multiple edge data centers will be connected to a centralized hyperscale facility.
-The growth of edge data centers is fueled by 5G deployment, IoT proliferation, and the need for real-time data processing, enabling faster and low-latency performance to support the digital transformation.

Increase in Rack Power Density

-The global data center market is witnessing a significant surge in digital transformation, fueled by advancements in cloud computing, artificial intelligence, and big data analytics. This growth is demanding data centers capable of processing vast data efficiently. The operators are addressing this by increasing rack density.
-The Uptime Institute's 2024 survey reveals that the average rack density is around 8 kW, driven by high-power server processors and GPU deployments, and some facilities have even deployed rack densities of over 50 kW to 100 kW to support enterprise, colocation, and cloud segments.

Deployment of Microgrids in Data Centers

-Microgrids have the added advantage of minimizing the environmental and public health impact that data centers have on their surroundings. Usually, the data center market relies on diesel generators for backup power, even though these generators are both unreliable and polluting, which can lead to objections from community members against data center construction in their areas.
-With the installation of microgrid systems, data center facilities can become Distributed Energy Resources (DERs), which can respond to grid conditions in real-time. This enables them to mitigate outages and grid stress.

Innovative & Sustainable Construction Technologies

-There is an increasing focus on sustainable and innovative data center technologies. With the growing awareness of environmental concerns and the need for energy efficiency, operators in the data center market are investing in innovative and sustainable construction techniques for the development of data centers.
-Schneider Electric, Huawei Technologies, and Vertiv are among the popular companies that claim their facilities can reduce construction and deployment times by almost 40% to 50% compared with traditional data center build methods.
-The integration of renewable energy sources, advanced cooling systems, and scalable designs is crucial for future developments in the data center industry. Several strategies will be implemented to enhance the effectiveness of data center construction by prioritizing sustainability in the forecast period.

Rising Adoption of Liquid Cooling Technologies

-The increasing demand for data processing and storage has led to a significant rise in the heat generated by IT equipment in data centers. In global data centers, liquid cooling is being adopted as an alternative to address these rising heat challenges in the facilities.
-Liquid cooling adoption is expected to increase rapidly in global data centers in the upcoming years as data centers are increasingly demanding of it, as this technology offers superior heat management, enhanced performance, and scalability for next-gen technologies.
-The rising heat management demands in data centers driven by AI and high-performance computing are fueling the adoption of advanced liquid cooling technologies such as direct-to-chip and immersion cooling in data centers, and these investments are expected to increase further in the future.

U.S. TARIFF IMPACT ON THE GLOBAL DATA CENTER MARKET

-A trade war refers to an economic conflict in which countries impose tariffs or other trade barriers against each other, typically as a response to similar actions taken by the opposing party. Currently, the world is witnessing the emergence of a global trade war, sparked by the US's imposition of tariffs on the growing list of countries.
-On April 2, 2025, U.S. President Donald Trump introduced new tariffs, referred to as reciprocal tariffs, on imports from approximately 90 countries. Described by the president as "Liberation Day," the move aims to address the U.S.'s trade deficit with countries from China to the EU. The tariffs, which include an across-the-board 10% tax on all imports, mark a significant escalation in the ongoing trade tensions between the U.S. and other countries.
-However, on April 9, 2025, President Trump backtracked on parts of his tariff plan, announcing a 90-day pause on the reciprocal tariffs. Therefore, the general tariff rate was reduced to 10% for most countries. The significant exception remains China, as on April 16, 2025, China faced 245% tariffs on most of its exports to the U.S., based on the most recent revisions in Trump's trade policies. China responded with 125% tariffs on U.S. products.
-The recent tariff war has posed a challenge for data center infrastructure, particularly in sourcing raw materials, as increased import and export taxes are expected to raise overall infrastructure costs. For example, the United States has imposed tariffs of around 245% on China, which will increase the cost of equipment imported from China and nearby regions. In response, China has imposed tariffs of around 125% on the United States, which will raise the cost of materials such as electronic equipment that China imports from the U.S.
-The recent increase in tariffs has started to threaten both the rising cost and lead time of data center construction. Some of the construction-related materials that may be impacted include iron and steel, aluminum, and others that are crucial to data center development.

SEGMENTATION INSIGHTS

-Hyperscale operators such as AWS, Google, Meta, and Microsoft are involved in their respective data center projects across the globe. These operators focus more on the deployment of OCP-scale infrastructure in their data center facilities. This drives the investments for OCP infrastructure across the globe.
-The global data center market is witnessing more investment in IT infrastructure due to the increasing demand for AI-ready data centers across the globe. IT infrastructure in the data center is expected to grow at a CAGR of 6.24%.
-AI and HPC workloads operate at a higher density, which makes traditional cooling inadequate. Therefore, data centers are investing in installing liquid cooling techniques in their facilities. Liquid cooling in the data center is expected to grow at a CAGR of 20.86%
-The use of advanced technologies, such as cloud, IoT, big data, quantum computing, and AI, by businesses is expected to increase the adoption of HPC infrastructure in the coming years across the globe.

The report includes the investment in the following areas:

Segmentation by Facility Type
-Hyperscale Data Centers
-Colocation Data Centers
-Enterprise Data Centers
Segmentation by Infrastructure
-IT Infrastructure
-Electrical Infrastructure
-Mechanical Infrastructure
-General Construction

Segmentation by IT Infrastructure
-Server Infrastructure
-Storage Infrastructure
-Network Infrastructure
Segmentation by Electrical Infrastructure
-UPS Systems
-Generators
-Transfer Switches & Switchgear
-Power Distribution Units
-Other Electrical Infrastructure
Segmentation by Mechanical Infrastructure
-Cooling Systems
-Racks
-Other Mechanical Infrastructure
Segmentation by Cooling Systems
-CRAC & CRAH Units
-Chiller Units
-Cooling Towers, Condensers, and Dry Coolers
-Economizers & Evaporative Coolers
-Other Cooling Units
Segmentation by Cooling Techniques
-Air-based
-Liquid-based
Segmentation by General Construction
-Core & Shell Development
-Installation & Commissioning Services
-Engineering & Building Design
-Physical Security
-Fire Detection & Suppression
-DCIM
Segmentation by Tier Standard
-Tier I & II
-Tier III
-Tier IV

GLOBAL DATA CENTER MARKET GEOGRAPHICAL ANALYSIS

-The data center market in several regions is experiencing significant growth, driven by a combination of technology advancements, increased digitalization, and government support. In terms of investment United States and China dominate the global data center market, both contributing more than 65% market share in 2024.
-In the Americas, the United States has contributed the highest market share in terms of investments in 2024, followed by Latin America and Canada.
-In Europe, Western Europe contributed the largest market share in 2024, followed by Nordic and Central & Eastern Europe.
-In MEA, the Middle East dominates the data center market in 2024 in terms of investments, followed by Africa.
-In APAC, China dominated the data center market share in terms of investment in 2024, followed by Southeast Asia, Australia, Japan, India, South Korea, Hong Kong, Taiwan, New Zealand, and the rest of APAC countries.
-In the SEA region, Malaysia dominated the data center market share in terms of investment in 2024, followed by Singapore,

Indonesia, Thailand, the Philippines, Vietnam, and other SEA countries.

- North America
  - The U.S.
  - Canada
- Latin America
  - Brazil
  - Mexico
  - Chile
  - Colombia
  - Argentina
  - Rest of Latin America
- Western Europe
  - The U.K.
  - Germany
  - France
  - Netherlands
  - Ireland
  - Switzerland
  - Italy
  - Spain
  - Belgium
  - Portugal
  - Greece
  - Other Western European Countries
- Nordics
  - Sweden
  - Norway
  - Denmark
  - Finland
  - Iceland
- Central & Eastern Europe
  - Russia
  - Poland
  - Austria
  - Czechia
  - Other Central & Eastern European Countries
- Middle East
  - UAE
  - Saudi Arabia
  - Israel
  - Oman
  - Qatar
  - Jordan
  - Bahrain
  - Kuwait
  - Other Middle East Countries

-Africa
o South Africa
o Kenya
o Nigeria
o Egypt
o Other African Countries
-APAC
o China
o Hong Kong
o Australia
o New Zealand
o Japan
o India
o South Korea
o Taiwan
o Rest of APAC
-Southeast Asia
o Singapore
o Indonesia
o Malaysia
o Thailand
o Philippines
o Vietnam
o Other Southeast Asia Countries

VENDORS

IT Infrastructure Providers

-Arista Networks
-Atos
-Broadcom
-Cisco Systems
-DataDirect Networks (DDN)
-Dell Technologies
-Extreme Networks
-Fujitsu
-Hewlett Packard Enterprise
-Hitachi Vantara
-Huawei Technologies
-IBM
-Infortrend Technology
-Inspur
-Intel
-Lenovo
-Micron Technology
-MiTAC Holdings

-NEC Corporation
-NetApp
-Nimbus Data
-Oracle
-Pure Storage
-QNAP Systems
-Quanta Cloud Technology
-Quantum
-Seagate Technology
-Silk
-Synology
-Western Digital
-Wiwynn

Global Data Center Contractors and Subcontractors

-AECOM
-Arup
-Corgan
-DPR Construction
-Fortis Construction
-Holder Construction
-Jacobs
-Mercury
-RED Engineering Design
-Syska Hennessy Group
-Turner Construction
-Turner & Townsend
-AtkinsRealis
-Aurecon Group
-Basler & Hofmann
-CAP INGELEC
-Collen Construction
-COWI
-Dornan Engineering and Construction
-DSCO Group
-Edarat Group
-EMCOR Group
-Ethos Engineering
-EYP Mission Critical Facilities
-Fluor Corporation
-Gensler
-Gilbane Building Company
-HDR Architecture
-HITT Contracting
-Hoffman Construction
-ISG

-Kirby Group Engineering
-Laing O'Rourke
-Linesight
-M+W Group
-Mortenson
-Quark Unlimited Engineering
-Royal HaskoningDHV
-Skanska
-Sterling and Wilson
-Structure Tone
-Winthrop Technologies

Global Support Infrastructure Providers

-ABB
-Caterpillar
-Cummins
-Delta Electronics
-Eaton
-Johnson Controls
-Rehlko
-Legrand
-Rittal
-Rolls Royce
-Schneider Electric
-STULZ
-Vertiv
-3M
-Airedale
-Alfa Laval
-Asetek
-Assa Abloy
-Asperitas
-Bloom Energy
-Carrier
-Condair Group
-CoolIT Systems
-Cormant
-Cyber Power Systems
-Dakin Applied
-DCX LIQUID COOLING SYSTEMS
-Enlogic
-FNT Software
-Generac Power Systems
-GIGABYTE
-Green Revolution Cooling
-HITEC Power Protection

-Honeywell
-Iceotope
-KyotoCooling
-LiquidStack
-Mitsubishi Electric
-Munters
-Natron Energy
-NetZoom
-Nlyte Software
-Panduit
-Pillar Power Systems
-Siemens
-Submer
-Toshiba
-Trane Technologies
-Yanmar
-ZincFive

KEY QUESTIONS ANSWERED:

1.How big is the global data center market?
2.What is the growth rate of the global data center market?
3.What are the key trends in the global data center market?
4.What is the estimated market size in terms of area in the global data center market by 2030?
5.How many MW of power capacity is expected to reach the global data center market by 2030?

Table of Contents:

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