

## **Worldwide Data Center Construction Market - Focused Insights 2023-2028**

Market Report | 2023-05-25 | 122 pages | Arizton Advisory & Intelligence

### **AVAILABLE LICENSES:**

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### **Report description:**

#### **MARKET OVERVIEW**

The data center market is witnessing growth in several new investments aided by the rapid expansion of cloud service providers, content providers, and on-premises migration to cloud/colocation facilities. The availability of tax incentives, free cooling, and renewable energy will likely attract more market investors. The increasing investment from colocation and hyperscale operators will likely continue during the forecast period.

The market considers a detailed scenario of the present data center construction market and its market dynamics for 2023-2028 worldwide. It covers a detailed overview of several market growth enablers, restraints, and trends. The report covers the market by facility type, electrical infrastructure, mechanical infrastructure, and general construction. It profiles and examines leading companies and other prominent players operating in the market.

#### **KEY HIGHLIGHTS/ TRENDS:**

- Digitalization across businesses will continue to grow data center investments from colocation, cloud, internet, and telecommunication providers.
- From a business perspective, the demand for data center space will grow among sectors, namely, BFSI, healthcare, technology, transportation, and heavy industries.
- Many data center operators will equip their new data centers with efficient power solutions to reduce carbon emissions and the OPEX of their facilities.
- Mega data center projects are facing difficult-to-get approvals for the use of water to cool down facilities. This prompts operators and vendors to collaborate and develop systems that can save up to 50% of water consumption in data centers.
- The adoption of liquid immersion cooling will likely grow as organizations increasingly deploy artificial intelligence and machine learning workloads. Liquid immersion and direct-to-chip cooling are experiencing over 30% YOY market growth.
- Submarine cable investments will improve in-land connectivity and reduce latency, boosting market growth worldwide.

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-□ The government's interest in promoting data center investments through the land for development, reducing electricity tariffs, and renewable energy procurement will drive the market during the forecast period.

-□ The market is impacted due to an increase in inflation rates across the world followed by supply chain disruptions which is leading to delays in the opening of data centers.

#### SEGMENTAL ANALYSIS:

-□ In 2022, over 31.5% of the overall power capacity addition in the worldwide data center market was carried out by hyperscalers such as Meta (Facebook), Google, Microsoft, and Amazon Web Services

-□ The adoption of lithium-ion batteries will significantly grow YoY during the forecast period. A continued price decline will continue to fuel battery adoption among data centers. The contribution from colocation providers will be high regarding lithium-ion UPS solutions.

-□ < UNK> Increased carbon emission is one of the major challenges identified worldwide. To overcome the challenge, fuel cells are being installed to improve the efficiency of data centers. Fuel cells can be used to support significant loads for energy reliability, safety, stability, and reduced costs.

-□ Several innovations in data centers have been implemented in recent years: for instance, switching from diesel to vegetable oil-based generators. Hydrotreated Vegetable Oil (HVO) is an oil that is synthesized from vegetable oils.

-□ In data center projects, the investment in cooling systems is expected to be 15-20% of the overall cost, depending on the facility design and IT load. The selection of cooling systems is based on the location, i.e., whether the climatic conditions favor free cooling and have abundant water resources.

-□ The importance of monitoring is growing with the adoption of intelligent real-time monitoring software with automation, and AI features that can predict maintenance requirements, component failures, and automatic switchovers for uninterrupted operations.

-□ Supply chain constraints have increased the data center construction and procurement cost, averaging \$2-\$3 million per MW.

#### GEOGRAPHICAL ANALYSIS:

-□ The Americas region is among the world's most mature data center markets. The North American region led the market in terms of investment, white floor addition, and power capacity addition.

-□ The presence of data protection laws such as the implementation of GDPR, availability of free cooling solutions, district heating systems, availability of renewable energy, and others are among the major factors that will attract data center operators to invest in the European region.

-□ The Nordic region is among the preferred regions in the European region by hyperscalers owing to the availability of free cooling solutions throughout the year and the availability of renewable energy sources.

-□ Middle East & Africa (MEA) region is among the emerging data center markets, aided by increased internet & social media penetration, digitalization initiatives, migration from on-premises to cloud, colocation, and managed services.

-□ The APAC region is among the world's most dynamic and fastest-growing data center markets. The region has several developed & established markets along with several emerging locations.

-□ The APAC region is the most exciting market and will provide ample opportunities for support infrastructure providers and contractors.

#### VENDORS INCLUDED:

##### Support Infrastructure Vendors:

ABB, Caterpillar, Cummins, Delta Electronics, Eaton, Legrand, Rolls-Royce, Schneider Electric, STULZ, Vertiv, 3M, Airedale, Alfa Laval Asetek, Assa Abloy, Bloom Energy, Carrier, Condair, Cormant, Cyber Power Systems, Daikin Applied, Data Aire, Enlogic, FNT Software, Generac Power Systems, Green Revolution Cooling (GRC), HITEC Power Protection, Honeywell, Johnson Controls,

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KOHLER, KyotoCooling, Mitsubishi Electric, Munters, Natron Energy, NetZoom, Nlyte Software, Panduit, Piller Power Systems, Rittal, Siemens, Trane, Tripp Lite, Yanmar (HIMOINSA) and ZincFive.

#### Data Center Contractors:

AECOM, Arup, Corgan, DPR Construction, Fortis Construction, Holder Construction, Jacobs, Mercury, Red Engineering, Rogers-O'Brien Construction, Syska Hennessy Group, Turner Construction, Turner & Townsend, AlfaTech, Atkins, Aurecon, Basler & Hofmann, BlueScope Construction, Brasfield & Gorrie, CallisonRTKL, Cap Ingelec, Clark Construction Group, Climatec, Clune Construction, COWI, DC PRO Engineering, Dornan, Edarat Group, EMCOR Group, EYP MCF, Gensler, Fluor Corporation, Gilbane Building Company, HDR, HITT Contracting, Hoffman Construction, ISG, JE Dunn Construction, Kirby Group Engineering, kW Engineering, kW Mission Critical Engineering, Laing O'Rourke, Linesight, M+W Group (Exyte), McLaren Construction Group, Morrison Hershfield, Mortenson, PM Group, Quark, Rosendin, Royal HaskoningDHV, Salute Mission Critical, Sheehan Nagle Hartray Architects, Skanska, Southland Industries, Sturgeon Electric Company, Structure Tone, Sweco, The Mulhern Group, The Walsh Group, The Weitz Company and TRINITY Group Construction.

#### Data Center Operators:

21Vianet Group (VNET), Amazon Web Services (AWS), Apple, China Telecom, Colt Data Centre Services (Colt DCS), Compass Datacenters, CyrusOne, Digital Realty, EdgeConneX (EQT Infrastructure), Equinix, GDS Services, Global Switch, Google, Iron Mountain, Meta (Facebook), Microsoft, NTT Global Data Centers, QTS Realty Trust, STACK Infrastructure, ST Telemedia Global Data Centres, Vantage Data Centers, 3data, Africa Data Centres, AirTrunk, Aligned, American Tower, AQ Compute, Aruba, AtlasEdge, atNorth, AT TOKYO, BDx (Big Data Exchange), Bulk Infrastructure, Bridge Data Centres, CDC Data Centres, Chayora, China Mobile, Chindata, CloudHQ, Cologix, COPT Data Center Solutions, CtrlS Datacenters, Cyxtera Technologies, Data4, DataBank, DC BLOX, Element Critical, ePLDT, eStruxture Data Centers, fifteenfortyseven Critical Systems Realty (1547), Flexential, Green Mountain, H5 Data Centers, HostDime, KDDI (Telehouse), Keppel Data Centres, LG Uplus, maincubes one, MainOne (Equinix), Milicom (Tigo), NEXTDC, ODATA, Orange Business Services, Prime Data Centers, Princeton Digital Group (PDG), Proximity Data Centres, Raxio Group, Rostelecom Data Centers, Sabey Data Centers, Scala Data Centers, Sify Technologies, Skybox Datacenters, Stream Data Centers, SUNeVision (iAdvantage), Switch, T5 Data Centers, Tenglong Holdings Group, Teraco (Digital Realty), TierPoint, Turkcell, Urbacon Data Centre Solutions, Wingu, Yondr and Yotta Infrastructure (Hiranandani Group).

#### New Entrants:

AdaniConneX AUBix, Clouddoon, ClusterPower, Corscale Data Centers, Damac Data Centres (EDGNEX), Data Center First, DHAmericas, Edge Centres, Evolution Data Centres, Global Technical Realty, Hickory, iMCritical, Infinity, Kasi Cloud, MettaDC, Open Access Data Centres (OADC), PowerHouse Data Centers, Pure Data Centres Group, Quantum Loophole, Quantum Switch Tamasuk (QST), Stratus DC Management, YCO Cloud, YTL Data Center and ZeroPoint DC.

#### Table of Contents:

1. ABOUT ARIZTON
2. ABOUT OUR DATA CENTER CAPABILITIES
3. WHAT'S INCLUDED
4. SEGMENTS INCLUDED
5. RESEARCH METHODOLOGY
6. MARKET AT GLANCE
7. PREMIUM INSIGHTS
8. INVESTMENT OPPORTUNITIES

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- 8.1. □ INVESTMENT: MARKET SIZE & FORECAST
- 8.2. □ AREA: MARKET SIZE & FORECAST
- 8.3. □ POWER CAPACITY: MARKET SIZE & FORECAST
  
- 9. □ MARKET DYNAMICS
  - 9.1. □ MARKET OPPORTUNITIES & TRENDS
  - 9.2. □ MARKET GROWTH ENABLERS
  - 9.3. □ MARKET RESTRAINTS
  - 9.4. □ SITE SELECTION CRITERIA
  
- 10. □ FACILITY TYPE SEGMENTATION
  - 10.1. □ HYPERSCALE DATA CENTERS
  - 10.2. □ COLOCATION DATA CENTERS
  - 10.3. □ ENTERPRISE DATA CENTERS
  
- 11. □ INFRASTRUCTURE SEGMENTATION
  - 11.1. □ ELECTRICAL INFRASTRUCTURE
  - 11.2. □ MECHANICAL INFRASTRUCTURE
  - 11.3. □ COOLING SYSTEMS
  - 11.4. □ COOLING TECHNIQUES
  - 11.5. □ GENERAL CONSTRUCTION
- 12. □ TIER STANDARDS SEGMENTATION
- 13. □ GEOGRAPHY SEGMENTATION
  
- 14. □ NORTH AMERICA
  - 14.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS
  - 14.2. □ DATA CENTER CONSTRUCTION MARKET BY INVESTMENT
  - 14.3. □ DATA CENTER CONSTRUCTION MARKET BY AREA
  - 14.4. □ DATA CENTER CONSTRUCTION MARKET BY POWER CAPACITY
  - 14.5. □ DATA CENTER CONSTRUCTION MARKET BY INFRASTRUCTURE
  
- 15. □ LATIN AMERICA
  - 15.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS
  - 15.2. □ DATA CENTER CONSTRUCTION MARKET BY INVESTMENT
  - 15.3. □ DATA CENTER CONSTRUCTION MARKET BY AREA
  - 15.4. □ DATA CENTER CONSTRUCTION MARKET BY POWER CAPACITY
  - 15.5. □ DATA CENTER CONSTRUCTION MARKET BY INFRASTRUCTURE
  
- 16. □ WESTERN EUROPE
  - 16.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS
  - 16.2. □ DATA CENTER CONSTRUCTION MARKET BY INVESTMENT
  - 16.3. □ DATA CENTER CONSTRUCTION MARKET BY AREA
  - 16.4. □ DATA CENTER CONSTRUCTION MARKET BY POWER CAPACITY
  - 16.5. □ DATA CENTER CONSTRUCTION MARKET BY INFRASTRUCTURE
  
- 17. □ NORDICS
  - 17.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS

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- 17.2. □ DATA CENTER CONSTRUCTION MARKET BY INVESTMENT
- 17.3. □ DATA CENTER CONSTRUCTION MARKET BY AREA
- 17.4. □ DATA CENTER CONSTRUCTION MARKET BY POWER CAPACITY
- 17.5. □ DATA CENTER CONSTRUCTION MARKET BY INFRASTRUCTURE

## 18. □ CENTRAL & EASTERN EUROPE

- 18.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS
- 18.2. □ DATA CENTER CONSTRUCTION MARKET BY INVESTMENT
- 18.3. □ DATA CENTER CONSTRUCTION MARKET BY AREA
- 18.4. □ DATA CENTER CONSTRUCTION MARKET BY POWER CAPACITY
- 18.5. □ DATA CENTER CONSTRUCTION MARKET BY INFRASTRUCTURE

## 19. □ MIDDLE EAST

- 19.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS
- 19.2. □ DATA CENTER CONSTRUCTION MARKET BY INVESTMENT
- 19.3. □ DATA CENTER CONSTRUCTION MARKET BY AREA
- 19.4. □ DATA CENTER CONSTRUCTION MARKET BY POWER CAPACITY
- 19.5. □ DATA CENTER CONSTRUCTION MARKET BY INFRASTRUCTURE

## 20. □ AFRICA

- 20.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS
- 20.2. □ DATA CENTER CONSTRUCTION MARKET BY INVESTMENT
- 20.3. □ DATA CENTER CONSTRUCTION MARKET BY AREA
- 20.4. □ DATA CENTER CONSTRUCTION MARKET BY POWER CAPACITY
- 20.5. □ DATA CENTER CONSTRUCTION MARKET BY INFRASTRUCTURE

## 21. □ APAC

- 21.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS
- 21.2. □ DATA CENTER CONSTRUCTION MARKET BY INVESTMENT
- 21.3. □ DATA CENTER CONSTRUCTION MARKET BY AREA
- 21.4. □ DATA CENTER CONSTRUCTION MARKET BY POWER CAPACITY
- 21.5. □ DATA CENTER CONSTRUCTION MARKET BY INFRASTRUCTURE

## 22. □ SOUTHEAST ASIA

- 22.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS
- 22.2. □ DATA CENTER CONSTRUCTION MARKET BY INVESTMENT
- 22.3. □ DATA CENTER CONSTRUCTION MARKET BY AREA
- 22.4. □ DATA CENTER CONSTRUCTION MARKET BY POWER CAPACITY
- 22.5. □ DATA CENTER CONSTRUCTION MARKET BY INFRASTRUCTURE

## 23. □ MARKET PARTICIPANTS

- 23.1. □ SUPPORT INFRASTRUCTURE PROVIDERS
- 23.2. □ DATA CENTER CONTRACTORS & SUBCONTRACTORS
- 23.3. □ DATA CENTER INVESTORS
- 23.4. □ NEW ENTRANTS

## 24. □ QUANTITATIVE SUMMARY

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## 25. □ APPENDIX

### 25.1. □ ABBREVIATIONS

### 25.2. □ DEFINITIONS

### 25.3. □ SEGMENTAL COVERAGE

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