

# Data Center Construction Market in Nordic - Industry Outlook and Forecast 2020-2025

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# Abstracts

In-depth Analysis and Data-driven Insights on the Impact of COVID-19 Included in this Nordic Data Center Construction Market Report

The Nordic data center construction market is expected to grow at a CAGR of over 1% during the period 2019–2025.

The Nordic data center market has been a favorable destination for data center developments and investments for hyperscale data center operators, colocation providers, and cryptocurrency operators. The adoption of cloud-based services, big data analytics, and IoT services has grown significantly by local enterprises across countries in the Nordic region, boosting local colocation demand in the market. Public cloud and hybrid infrastructure services have witnessed strong growth in recent years. The market is witnessing significant investments in submarine cable projects from service providers. Telecommunication providers are investing heavily to strengthen the broadband services in the region. The availability of renewable sources of energy is the major market driver, with majority of data centers powered through renewable energy sources.

The rapid spread of COVID-19 has significantly increased data traffic from March 2020 onwards. The global data center construction market is facing a major slowdown due to the rapid spread of the Covid-19. To provide high availability services, operators are taking precautionary measures for their on-site employees. Colocation data center operators have reduced onsite staff and postponed non-critical maintenance and construction projects.

The following factors are likely to contribute to the growth of the Nordic data center construction market during the forecast period:



Increasing Adoption of Distinct Heating Concept

Growing Construction of Cryptocurrency Data Centers

Rising Modular Data Center Deployment

Increasing Adoption of Cloud-based Services

The study considers the present scenario of the Nordic data center construction market and its market dynamics for the period 2019?2025. It covers a detailed overview of several market growth enablers, restraints, and trends. The report offers both the demand and supply aspect of the market. It profiles and examines leading companies and other prominent ones operating in the market.

Nordic Data Center Construction Market Segmentation

This research report includes a detailed segmentation by electrical infrastructure, mechanical infrastructure, general construction, tier standards, and geography. The increased data centers construction in Denmark is expected to observe the demand for intelligent and efficient power infrastructure solutions during the forecast period. The redundancy in infrastructures such as UPS systems and PDUs is likely to be over 2N, whereas for switchgears it will be N+1 configuration with dual power line inside and outside facilities. Several facilities in Sweden have adopted N+N redundant power infrastructure. Data centers must be flexible enough to facilitate additional redundancy. A majority of facilities will be powered by dual power lines, and rural developments will include on-site substations. The use of redundant diesel generators might reduce due to a strong power grid supply in the Nordic region. Generators and switchgears with N+1 redundant configuration are being adopted in the facilities. The UPS and PDUs in N+N, 2N, 2N+1 configuration are being installed due to their flexible designs.

In terms of cooling, data centers in Denmark have an advantage as the region offers 85% free cooling annually. This reduces electricity consumption by cooling units by up to 50%. The data centers in Norway use free cooling chillers, adiabatic dry coolers, and evaporative coolers to cool down the IT infrastructure. The adoption of cooling techniques is highly dependent on the location and design of the facility. It is expected that most future investments will involve evaporative coolers, whereas the possibility of using an abundance of water resources is also high.



In Nordic, the market is completely dominated by greenfield development. In these projects, building development is carried out by major construction contractors in coordination with design and infrastructure providers and service operators. The involvement of sub-contractors is high as they have strong expertise in building structures in a particular location. Denmark continues to dominate with hyperscale greenfield development. These data center projects provide high revenue opportunities for general contractors. Local sub-contractors are also expected to witness continuous growth in their revenues during the forecast period. With the increased construction of hyperscale facilities, the demand for skilled professionals is likely to grow in the country. The growth in greenfield hyperscale facilities will generate more revenue for installation and commission service providers in Nordic.

The Tier I & Tier II data center market is expected to register a negative CAGR during the forecast period. The number of Tier I and Tier II facilities has reduced significantly over the past five years because of the increasing awareness of the use of redundant infrastructure. UPS and PDU systems in Tier II data centers are equipped with minimum N+N redundancy. A majority of under-developed projects across the Nordic region fall under the Tier III category. This trend is likely to continue during the forecast period. Many operators are expected to move to the Tier IV category based on the growth in rack power capacity and critical applications. In Finland and Iceland, there are three data centers that are Uptime Institute Certified under the Tier III category.

Segmentation by Electrical Infrastructure

UPS

Generators

Transfer Switches & Switchgears

Rack PDUs

Other Electrical Infrastructure

Segmentation by Mechanical Infrastructure

**Cooling Systems** 



#### CRAC & CRAH Units

Chillers

Cooling Towers & Dry Coolers

Other Units

Racks

Other Mechanical Infrastructure

Segmentation by General Construction

**Building Development** 

Installation & Commissioning Services

**Building Designs** 

**Physical Security** 

DCIM

Segmentation by Tier Standards

Tier I & Tier II

Tier III

Tier IV

Insights by Geography

Facebook investments in its Odense Data Center Facility in Denmark is followed by Google broke ground on its first Denmark data center, which is likely to be functional by



2021. In terms of colocation providers, Bulk Infrastructure invested in its DK01 Campus along with investments from DigiPlex, GlobalConnect, and Interxion are investing in the data center market in Denmark. In Norway, Microsoft and Equinor contributed to the investment along with Green Mountain with investments in facilities such as DC2 Telemark and Telemark & Stavanger Data Center. In 2019, Stockholm was the major investment destination Sweden that includes seven facility development activities with an estimated investment of over \$350 million. Hyperscale renewable procurement is growing YOY in the region. For instance, Google has signed a 12-year contract with a power company in Norway to supply 160 MW of wind energy to power its data centers in Europe. The country has ample renewable energy sources to support large facilities.

Segmentation by Geography

Denmark

Sweden

Norway

Finland & Iceland

#### Insights by Vendors

The Nordic data center construction market is witnessing a steady growth in terms of greenfield and modular data center construction, with the high adoption of efficient and modular data center infrastructure solutions. The market has evolved over the years with multiple innovations focused on reducing power and water consumption and decreasing carbon dioxide emissions. Schneider Electric, Eaton, Rittal, Vertiv, and ABB are leading vendors in the electrical infrastructure market. Vendors are also partnering with modular data center developers and direct liquid cooling providers to increase revenues. This trend is likely to continue during the forecast period.

Prominent Support Infrastructure Providers

ABB

Airedale Air Conditioning



Alfa Laval

Asetek

Bosch Security Systems (Robert Bosch)

Caterpillar

Cummins

Delta Group

Eaton

KINOLT (Euro-Diesel)

Hitech Power Protection

KOHLER (SDMO)

Legrand

**Piller Power Systems** 

**Riello UPS** 

Rittal

MTU On Site Energy (Rolls-Royce Power Systems AG)

Schneider Electric

Socomec Group

STULZ

Trane (Ingersoll Rand)

Vertiv



#### **Prominent Construction Contractors**

AECOM

Arup Group

Bravida

COWI

Dornan

**DPR** Construction

ENACO

Etix Everywhere (VANTAGE DATA CENTER)

**Fortis Construction** 

Granlund

HDR Architecture

**KMCS** 

Mace Group

Mercury Engineering

MTH GROUP

NCC

Ramboll

Royal HaskoningDHV



Skanska

SRV Group

Sweco

#### Prominent Data Center Investors

Bahnhof

BorderLight AB (GoGreenHost)

Bulf Infrastructure

Digiplex

Equinix

Facebook

GlobalConnect

Interxion

Microsoft

Multigrid

Green Mountain AS

EcoDataCenter

Key Questions Answered

1. What is the Nordic data center construction market size and growth forecast?

2. What are the factors impacting the growth of the Nordic data center construction



market forecast?

3. What are the leading drivers, trends, and restraints in the Nordic data center construction market?

- 4. Who are the leading vendors and what are their market shares?
- 5. What impact the COVID-19 Pandemic have on the market?



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