

Asia-Pacific DC Distribution Networks - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Asia-Pacific DC Distribution Networks Market is expected to register a CAGR of greater than 10.3% during the forecast period.

The Asia-Pacific DC distribution network market was negatively affected by COVID-19 due to disruptions in the supply chain and regional lockdowns. However, the market rebounded in 2021.

Key Highlights

- Over the long term, using direct current (DC) distribution networks in several low-to-high voltage applications is one of the catalysts driving the transformation of the electricity distribution market.
- On the other hand, high initial cost and a lot of complexity compared to conventional AC distribution networks are expected to hinder the market's growth.
- However, the DC distribution network is considered an essential factor in the future aspects of smart grids. Solar power is estimated to supply one-third of the world's energy demand by 2060, thereby increasing DC distribution in the future, as solar energy generates direct current is expected to create an ample opportunity for the DC distribution sector.
- China is expected to dominate the market studied, mainly driven by increasing electricity demand due to a growing population and industrial sector.

APAC DC Distribution Networks Market Trends

Low and Medium Voltage is Expected to Dominate the Market

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- The electric vehicle (EV) charging system segment is booming due to many factors, such as the increasing adoption of electric vehicles and supportive government policies worldwide. Moreover, oil is considered a limited resource, and an alternate source of transportation fuel like electricity is not only a smart investment but also an inevitable one.
- Low- and medium-DC distribution networks have also grown by expanding renewable power systems since they are easily interfaced with DC grids rather than AC grids. Renewable energy has been increasing its share in the global energy mix and is expected to become the primary fuel for electricity generation in the near future. Furthermore, the low- and medium-voltage DC distribution network is frequently used in various applications in EV charging equipment, trans power systems, data centers, the telecommunication sector, lighting systems, and electronic devices.
- One of the primary end-user industries utilizing a low- and medium-DC distribution network is the electric vehicle (EV) charging infrastructure, as EVs only accept DC power, and the low- and medium-DC distribution network helps bypass the AC conversion process to DC, causing the charge goes directly into the battery.
- The number of plug-in electric vehicles (PEVs), including battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), has been rising, which, in turn, is expected to drive the DC distribution network market during the forecast period.
- The number of electric vehicles in China has witnessed significant growth in recent years, growing from 85 thousand in 2014 to 7.8 million in 2021.
- The development in power electronics technology, such as microgrids, is mainly connected to distribution networks. In the power industry, the flexible DC distribution network has got attention for its lower integration and construction costs, reduction in energy losses, and higher reliability.
- Therefore, based on the aforementioned factors, the low and medium voltage will likely dominate the DC distribution networks market over the forecast period.

China is Expected to Dominate the Market

- With a growing need for power in this region, DC distribution systems can make power available to a larger extent. The major trends driving this market are an increase in distribution efficiency, demand for DC-dependent infrastructure, and the mismatch between renewable sources and demand location.
- Moreover, the DC system can work on variable frequencies, and DC architecture is simpler than AC, requiring less space, equipment, installation, and maintenance.
- The DC distribution network market in China is expected to grow significantly in the coming years due to the ever-growing population and increasing energy demand. The government started implementing new policies and regulations to meet the market demand.
- Additionally, the country is the world leader in solar energy, with the installed capacity growing from around 1 GW in 2010 to 306 GW in 2021.
- Therefore, due to the aforementioned factors, China is expected to dominate the DC distribution network market over the forecast period.

APAC DC Distribution Networks Industry Overview

The Asia-Pacific DC distribution networks market is partially consolidated. Some of the key players in this market include (in no particular order) ABB Ltd, Siemens Ltd, Vertiv Group Corp., Eaton Corporation PLC, and Secheron Sa.

Additional Benefits:

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- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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