Global Solid State Transformer Market Research Report: By Component (Converters, Switches), by Product (Distribution Transformer, Traction Transformer, Power Transformer), by Application (Traction Locomotives, EV Charging Stations) – Forecast till 2023

Synopsis of Solid State Transformer Market

Market Scenario

A solid state transformer performs the core task of a transformer along with offering various benefits. It is a collection of high powered semiconductor components that offer conventional high-frequency transformers and control circuitry which is used to provide a high level of flexible control to power distribution networks. Solid state transformers are increasingly being integrated into smart grid systems and are most commonly used in both converter and inverter circuits.

Major factors driving the growth of solid state transformer market is the increasing emphasis on alternative energy production across the globe and huge investments in the smart grid and energy systems. Also, the growth of electric vehicle market is expected to drive the growth of global solid state transformer market.

ABB Ltd., Alstom SA, Siemens AG, General Electric Co., Schneider Electric SE, and Mitsubishi Electric Corporation are a few major players in the global solid state transformer market. Increasing demand for smart grid systems is one major factor responsible for driving the growth of global solid state transformer market.

The product segment comprises of distribution solid state transformer, traction solid state transformer, and power solid state transformer. Traction solid-state transformers is expected to grow at the highest rate during the forecast period in the solid state transformer market. This is owing to the considerable shift from conventional transformers to advanced solid-state transformers and expanding traction locomotives in the emerging economies.

The Europe region holds the largest share of the market across the globe followed by North America, and Asia Pacific region. The region has a well-established infrastructure, which allows faster implementation of advanced technologies. Additionally, the growing adoption of smart grid and energy systems is driving the growth of the solid state transformer market in the region. Also, the presence of established key players such as Siemens AG and Alstom SA is fuelling the market growth.

Global solid state transformer market is expected to grow at a CAGR of approximately 24% during the forecast period 2017-2023.

Global Solid State Transformer Market
Key Players

Some of the prominent players in the global solid state transformer market are ABB Ltd. (Switzerland), Alstom SA (France), Siemens AG (Germany), General Electric Co. (U.S.), Schneider Electric SE (France), Mitsubishi Electric Corporation (Japan), Cooper Power Systems (U.S.), Varentec, Inc. (U.S.), Amantys Limited (U.K), and GridBridge (U.S.) among others.

Segments

The global solid state transformer market is segmented by component, product, and application. Based on the component, the market is segmented into converters, switches, high-frequency transformers, and others. The converters segment is further sub-segmented into AC to DC converters, DC to AC converters, DC to DC converters and AC to AC converters. The switches segment is further sub-segmented into power diodes, SIC power thyristors, insulated-gate bipolar transistors (IGBTs), and SIC power MOSFETs. Whereas, the others segment is further sub-segmented into high voltage inductors and high voltage resistors. Based on the product, the market is segmented into distribution solid state transformer, traction solid state transformer, and power solid state transformer. Whereas, based on application, the market is segmented into traction locomotives, power grid, electric vehicle (EV) charging stations, alternative power generation, and others.

Regional Analysis

The global solid state transformer market is studied under Asia Pacific, North America, Europe, and Rest of the World. Europe is estimated to account for the largest share of the market, and is also expected to grow at the fastest rate during the forecast period. The growth of the market in Europe is attributed to technological advancements and increased adoption of solid-state transformer applications across various industry verticals.

Intended Audience

- Technology Investors
- Research/Consultancy Firms
- Government Bodies
- Consulting Service Providers
- Raw material and manufacturing equipment suppliers
- Electronic Design Automation & Design Tool Vendors
- Integrated Device Manufacturers (IDMs)
- Intelligent Power Module Component Manufacturers
- Intelligent Power Module Original Equipment Manufacturers (OEMs)
- ODM and OEM Technology Solution Providers
- Assembly, Testing, & Packaging Vendors
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