

Global Smart Transformer Market

Market Research Report | 2023-11-09 | 73 pages | BCC Research

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Report description:

Description

Report Scope:

This report analyzes different ongoing technologies and their feasibility at present. The report covers various segments by transformer type, component, application, and regional market development of the smart transformer market. Furthermore, we sub-segmented the regional market analysis by major countries in this report, such as the U.S., China, Germany, India, and others, where the opportunities for installing smart transformers are lucrative.

The study is prepared in a simple, easy-to-understand format; tables and figures are included to illustrate historical, current, and future market scenarios. The report also covers leading companies with information on product portfolios, global headquarters addresses, and more. We have also included a list of other companies in the global market. Also, the report consists of a patent analysis for the smart transformer market, representing a significant investment area for investors.

In this report, 2022 is used as the market's base year, estimated values are provided for 2023, and the market values are forecast from 2023 to 2028. All market values are provided in millions of dollars, and market shares and CAGRs are provided in percentages.

Report Includes:

- An overview of the current and future global markets for smart transformers in the energy industry
- Analyses of the global market trends, with historical market revenue data (sales figures) for 2022, estimates for 2023, forecasts for 2024 and 2026, and projections of compound annual growth rates (CAGRs) through 2028.
- Estimates of the market size and revenue forecasts for the global market in USD millions, and a corresponding analysis of

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market share based on transformer type, component, application and region

- Discussion of the major factors influencing the growth of this market with respect to opportunities and challenges, upcoming grid technologies, future demand for smart transformers, regulations and contributions to the overall market
- Insights into the value chain of the smart transformer market, providing a study of the key intermediaries, with emphasis on energy sources, manufacturers, distributors and major types of end users
- An evaluation of the importance of ESG sustainability in the smart transformer market, including consumer attitudes, impact of ESG factors on corporate performance and the ESG practices of leading companies
- Overview of the major vendors in the global market along with an analysis of the industry structure, including company market shares, M&A and venture funding
- Profiles of the leading global players

Executive Summary

Summary:

The smart transformer is an integral part of the smart grid that works independently to regulate voltage and maintain contact with the smart grid to control it remotely. Transformers include multiple intelligent electronic devices or control systems, which can assess the condition of the transformer system and make intelligent recommendations based on design and component data. The changing dynamics of the power market across the globe have accelerated the demand for advancement in transformer technology. The complexity of the grid has increased the need for smarter and more efficient electrical components with the rapid growth in the generation, transmission, and distribution sectors.

The growing penetration of renewable energy sources and the need to reduce transmission and distribution losses to address grid security and consumer safety concerns have emerged the need for smart transformers. The key factors attributed to the market growth are aging power infrastructure and increasing investment in grid modernization projects. Also, technological advancements create new business prospects for integrating smarter technologies in the transformer. In addition, the growing demand for electric vehicles (EVs) has initiated the need for charging infrastructure. The EVs use DC power sources, which has created potential opportunities for deploying smart transformers, which helps drive the market growth.

Technological advancements such as digitalization in the power industry, emerging artificial intelligence (AI), and edge-to-cloud technologies create new business prospects for deploying smarter infrastructure. Renewable energy has fluctuations in supply and performance, leading to voltage and frequency uncertainty. Hence, real-time analysis helps offset fluctuations and control load balance, and digitization maintains a consistent and reliable energy network. Digitally integrated transformers offer several benefits, such as advanced real-time monitoring and control, predictive maintenance and outage prevention, automated energy optimization, and improved cybersecurity. Hence, the growing adoption of smart transformers by utilities and industries will pay off significantly in the short and long term.

Smart transformers can help large commercial facilities use power more wisely to save power and achieve greener targets. A smart transformer provides the required power and responds instantly to fluctuations within the power grid, acting as a voltage regulator to ensure the optimized voltage is undisturbed. Smart transformers are used in various applications such as locomotives and other traction systems, smart grids, DC sources for the EV industry, integration with other systems, and applications between generation sources & distribution grids. Hence, the wide-scope application of smart transformer technology is igniting the demand over the forthcoming years.

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Overview

CG POWER & INDUSTRIAL SOLUTIONS LTD.

GENERAL ELECTRIC CO.

HITACHI ENERGY LTD.

MASCHINENFABRIK REINHAUSEN GMBH

MITSUBISHI ELECTRIC CORP.

ORMAZABAL ELECTRIC, S.L.U.

SCHNEIDER ELECTRIC

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