

Global Excitation Systems Market Size study & Forecast, by Type (Static, Rotational) by Controller Type (Analog, Digital), by Application (Synchronous Generator, Synchronous Motor), by End User (Power Generation, Other Industrial) and Regional Analysis, 2023-2030

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Abstracts

Global Excitation Systems Market is valued approximately USD 2.3 billion in 2022 and is anticipated to grow with a healthy growth rate of more than 4.6% over the forecast period 2023-2030. Excitation systems are an integral part of synchronous generators (alternators) used in power systems. They control the field current and voltage of the generator's rotor, which in turn regulates the output voltage and reactive power of the generator. The main function of an excitation system is to maintain the generator's terminal voltage within acceptable limits, regardless of the load or system conditions. By regulating the field current, the excitation system ensures that the generator produces the desired voltage and reactive power to support the stability and reliability of the power system. The key factors driving the market growth is rise in demand for synchronous machines by industrial users to ensure uninterrupted power supply for efficient production, increasing demand for uninterrupted and reliable power supply in several industries, and growing investment toward power infrastructure projects is anticipated to support the market growth.

Moreover, the growth of power generation directly supports the growth of the excitation systems market. As the global demand for electricity continues to rise, there is a need for increased power generation capacity. This demand is driven by population growth, urbanization, and industrial development. To meet the growing power requirements, new power plants, both conventional and renewable, are being constructed. Excitation

systems are essential components of power generators, ensuring stable and reliable power output. As the number of power generation installations increases, so does the demand for excitation systems. According to Statista, in 2018, the global electricity generation was 26,746 terawatt-hours and the demand for power generation is increased significantly and the electricity generation reached 29,165 terawatt-hours in 2022. Additionally, growing investments in renewable energy projects, especially in hydropower sector is anticipated to create the lucrative opportunity for the market during forecasted period. However, the complex design leading to difficulty in maintenance of excitation systems stifles market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Excitation Systems Market study includes Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. North America dominated the market in 2022 owing to the rising investment in building and refurbishing hydroelectric generation stations, surging demand for synchronous machines, and booming industrial sectors in the region. Whereas, the Asia Pacific is anticipated to grow with the highest CAGR during the forecast period, owing to factors such as the government reforms and policies to speed up clean energy transformation, high demand for synchronous machines in marine industry, increased requirement for high-efficiency equipment to reduce carbon emissions, and massive investment in mining industry.

Major market player included in this report are:

Weg Group

Voith Gmbh & Co. Kgaa

Basler Electric Company

Siemens AG

Mitsubishi Electric Corporation

ABB Ltd

Fuji Electric Co., Ltd.

Andritz AG

Tenel, S.R.O.

General Electric

Recent Developments in the Market:

In Nov. 2020, ABB received a contract to deliver excitation systems and speed regulation for four generator units at the Governador Jos? Richa hydropower plant on the Iguazu River. Predictive diagnostics were used by the solution to help Copel (Companhia Paranaense de Energia) improve the visibility of its operational data.

Global Excitation Systems Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered – Type, Controller Type, Application, End User, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Type:

Static

Rotational

By Controller Type:

Analog

Digital

By Application:

Synchronous Generator

Synchronous Motor

By End User:

Power Generation

Other Industrial

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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