

Excitation Systems Market by Type (Static and Brushless), Controller Type (Analog and Digital), Application (Synchronous Generators and Synchronous Motors), End User (Power Generation, Heavy Industries, and OEMs) and Region - Global Forecast to 2026

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Abstracts

The excitation systems market is estimated at USD 2.7 billion in 2021 and is projected to reach USD 3.4 billion by 2026, at a CAGR of 4.4% from 2021 to 2026. Rapid growth in the power sector is the key to the economic development of a country. Electricity is a key ingredient for the growth of various industries such as oil & gas, mining, utilities, chemicals, cement, and manufacturing. The increasing demand for power requires the upgrading and expansion of transmission and distribution infrastructure. This has increased the demand for synchronous machines in various end-use applications such as hydro, thermal, and nuclear power plants.

Energy saving and power factor correction abilities are the advantages provided by synchronous machines, which have played a key role in their increasing popularity. The rising popularity of synchronous machines has, in turn, driven the growth of excitation systems. Synchronous machines require excitation systems as they play a key role in controlling the voltage output, protect the stator and rotor, and adjust plant voltage and reactive power automatically. Complex design that creates difficulty in maintenance is expected to restrain the market growth.

“The brushless excitation systems segment is expected to grow at the highest CAGR from 2021 to 2026”

Brushless excitation systems are expected to emerge as the largest growing market. In brushless excitation systems, the field current is supplied to synchronous machines without using slip rings and carbon brushes. As these systems do not require carbon brushes, losses due to contact resistance are low, thus resulting in low maintenance as compared to static excitation systems.

“Digital excitation systems are expected to emerge as the largest segment based on controller type”

Digital excitation systems provide a significant improvement in generator performance by improving transient as well as dynamic stability. Easy conversion of analog-to-digital controls is likely to be the major factor fostering the demand for digital control systems during the forecast period. Analog systems continue to get older; many utilities have decided to upgrade their analog systems with newer technology. Thus, analog controllers are likely to become obsolete, and digital excitation systems are likely to be a good economical solution during the forecast period.

“Asia Pacific is expected to grow at the highest CAGR from 2021 to 2026”

The Asia Pacific region is estimated to be the largest and fastest growing market for excitation systems, followed by North America and Europe. China, which accounted for a major share of the Asia Pacific market in 2017, is projected to grow at the highest CAGR from 2021 to 2026. The increase in demand for excitation systems in the Asia Pacific region can be attributed to the growing demand for uninterrupted and reliable power supply in the region. As it is the most populated region in the world, Asia Pacific witnesses a high demand for electricity. According to the Asian Development Bank (ADB), energy demand is projected to be almost double in Asia Pacific by 2030. The increasing investments in renewable energy projects are also anticipated to support the growth of excitation systems market in the region.

Breakdown of Primaries:

In-depth interviews have been conducted with various key industry participants, subject matter experts, C-level executives of key market players, and industry consultants, among other experts, to obtain and verify critical qualitative and quantitative information, as well as to assess future market prospects. The distribution of primary interviews is as follows:

By Company Type: Tier 1- 60%, Tier 2- 25%, Tier 3- 15%

By Designation: C-Level- 35%, Director Level- 25%, Others- 40%

By Region: North America-25%, APAC- 21%, Europe-15%, Middle East- 10%, Africa-8%, South America-10%

Note: The tier of the companies has been defined based on their total revenue, as of 2016: Tier 1 = >USD 5 billion, Tier 2 = > USD 0.5 billion to USD 1 billion, and Tier 3 = USD 5 billion, Tier 2 Company—Revenue between USD 1 and USD 5 billion, and Tier 3 Company—Revenue

The excitation systems market is dominated by a few major players that have an extensive regional presence. The leading players in this market are ABB (Switzerland), Siemens Energy(Germany), General Electric (US), ANDRITZ Group (Austria), and Emerson (US).

Study Coverage:

The report defines, describes, and forecasts the excitation systems market, by technology, application, and region. It also offers a detailed qualitative and quantitative analysis of the market. The report provides a comprehensive review of the major market drivers, restraints, opportunities, and challenges. It also covers various important aspects of the market, which include the analysis of the competitive landscape, market dynamics, market estimates in terms of value, and future trends in the excitation systems market.

Key Benefits of Buying the Report

1. The report identifies and addresses the key markets for excitation systems, which would help equipment manufacturers review the growth in demand.
2. The report helps system providers understand the pulse of the market and provides insights into drivers, restraints, opportunities, and challenges.
3. The report will help key players understand the strategies of their competitors better and help them in making better strategic decisions.

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*Details on Business and financial overview, Products offered, Recent developments, MnM view, Key strengths/Right to win, Strategic choices made, and Weaknesses and competitive threats might not be captured in case of unlisted companies.

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