

# Switchgear and Switchboard Apparatus Market Report: Trends, Forecast and Competitive Analysis to 2031

https://marketpublishers.com/r/S23C5FEAA5D1EN.html

Date: December 2024 Pages: 150 Price: US\$ 4,850.00 (Single User License) ID: S23C5FEAA5D1EN

### Abstracts

2 – 3 business days after placing order

Switchgear and Switchboard Apparatus Trends and Forecast

The future of the global switchgear and switchboard apparatus market looks promising with opportunities in the gas insulated & air insulated markets. The global switchgear and switchboard apparatus market is expected to grow with a CAGR of 6.6% from 2025 to 2031. The major drivers for this market are the growing global demand for energy, expansion of renewable energy generation capacity, and increased demand for these products in residential and commercial construction.

Lucintel forecasts that, within the power rating category, medium voltage (2-36 kV) is expected to witness the highest growth over the forecast period.

Within the type category, gas-insulated switchgear is expected to witness higher growth.

In terms of regions, APAC is expected to witness the highest growth over the forecast period.

Gain valuable insights for your business decisions with our comprehensive 150+ page report.

Emerging Trends in the Switchgear and Switchboard Apparatus Market

Switchgear and Switchboard Apparatus Market Report: Trends, Forecast and Competitive Analysis to 2031



The switchgear market is undergoing significant transformation, driven by key trends that enhance grid reliability, support renewable energy integration, and improve sustainability. Smart grid integration is revolutionizing the market with digital and automated systems enabling real-time monitoring and fault detection, driving demand for advanced digitally enabled switchgear. The growth of renewable energy systems, including solar, wind, and energy storage, is creating a need for sophisticated electrical distribution equipment to manage variable outputs and ensure grid stability. Additionally, the increasing adoption of gas-insulated switchgear (GIS) offers compact, reliable solutions for space-constrained urban areas. Automation and digitalization are also on the rise, with IoT-enabled switchgear providing real-time data for improved decision-making and predictive maintenance. Lastly, the shift toward sustainable, eco-friendly technologies, including alternatives to harmful gases like SF6, is reshaping the market as environmental concerns and regulatory pressures drive demand for greener solutions.

Smart Grid Integration: The adoption of smart grid technology is revolutionizing the switchgear market. With digitalized and automated systems, utilities can monitor and control electrical grids in real time, improving fault detection and response. This trend is leading to increased demand for advanced, digitally enabled switchgear and switchboard apparatus that support smart grid functionality and enhance grid reliability.

Growth of Renewable Energy Systems: Switchgear and switchboard apparatus are increasingly being integrated with renewable energy systems like solar, wind, and energy storage. These technologies require advanced electrical distribution equipment capable of managing variable energy outputs and ensuring grid stability. The shift towards green energy solutions is driving innovation in switchgear design and demand for equipment that supports these systems.

Increased Adoption of Gas-Insulated Switchgear (GIS): Gas-insulated switchgear is gaining traction due to its compact size, higher reliability, and ability to operate in harsh environments. GIS offers advantages in urban areas with limited space and is being increasingly adopted in medium and high-voltage applications. This trend is especially prominent in countries with space constraints and growing energy demand, like Japan and China.

Automation and Digitalization: Automation in switchgear systems is becoming



increasingly common, allowing for enhanced control, monitoring, and diagnostics. Digital switchgear systems, which incorporate sensors and IoT capabilities, provide real-time data, enabling better decision-making, predictive maintenance, and reduced downtime. This trend is boosting the demand for smarter, automated switchboards that provide increased operational efficiency.

Shift Toward Sustainable and Environmentally Friendly Solutions: Environmental regulations and the growing need for sustainable solutions are driving the adoption of eco-friendly switchgear technologies. These include alternatives to SF6 gas, which is a potent greenhouse gas. As industries and governments prioritize sustainability, the development and adoption of greener switchgear options are expected to rise, reshaping the market toward environmentally responsible products.

These trends—smart grid integration, renewable energy growth, GIS adoption, automation, and sustainability—are reshaping the switchgear and switchboard apparatus market. The transition toward more efficient, flexible, and eco-friendly systems is propelling market demand, focusing on digitalization and renewable energy integration.

Recent Developments in the Switchgear and Switchboard Apparatus Market

Recent developments in the switchgear and switchboard apparatus market are transforming electrical distribution systems, driven by digitalization, sustainability, and renewable energy integration. The rise of digital switchgear, incorporating smart sensors and communication technologies, is enabling real-time monitoring and enhanced efficiency, fueled by the growing demand for smart grids. Gas-insulated switchgear is expanding in medium and high-voltage applications, especially in urban areas with space constraints, offering superior performance and safety. As renewable energy systems like solar and wind become more integrated into grids, the need for switchgear that manages variable energy outputs is increasing. Additionally, the push for sustainable solutions is promoting the adoption of SF6-free and eco-friendly switchgear technologies. Finally, the growth of smart grids and automation, with IoT and AI capabilities, is improving grid reliability, predictive maintenance, and operational efficiency. These trends are driving greater flexibility, reliability, and environmental responsibility in the switchgear market.

Rise of Digital Switchgear: Digital switchgear, which incorporates smart sensors and communication technologies, is becoming more prevalent. These systems



enable utilities and industries to monitor and manage power systems in realtime, improving efficiency and reducing downtime. The increased demand for smart grid systems is pushing further adoption of digital switchgear solutions worldwide.

Expansion of Gas-Insulated Switchgear (GIS): GIS is increasingly being used in medium and high-voltage applications due to its compact design and superior performance in urban environments. This trend is particularly evident in countries with dense populations, such as Japan and China, where space is limited. GIS also supports enhanced safety and operational reliability in challenging conditions.

Integration of Renewable Energy: As renewable energy systems like solar and wind become more integrated into national grids, the demand for switchgear systems that can manage variable energy output is rising. These systems must provide reliable energy distribution and storage management. The global push toward clean energy is driving innovation in switchboard apparatus for renewable integration.

Focus on Sustainable and Environmentally Friendly Solutions: In response to environmental concerns and stricter regulations, the industry is shifting toward sustainable switchgear solutions. SF6-free gas-insulated switchgear and other eco-friendly technologies are gaining traction. This shift aligns with global sustainability goals and addresses concerns about the environmental impact of traditional switchgear technologies.

Growth of Smart Grid and Automation: The shift toward smart grids and automation is significantly influencing the switchgear market. Smart switchgear systems equipped with IoT and AI capabilities enable real-time data transmission and predictive maintenance. This development is particularly important for utilities and industries seeking to enhance grid reliability, reduce outages, and improve operational efficiency.

Recent developments in digitalization, GIS adoption, renewable energy integration, sustainability, and automation are reshaping the Switchgear and Switchboard Apparatus market. These advancements are driving greater efficiency, flexibility, and eco-friendliness in electrical distribution systems, and will continue to influence the market for years to come.



Strategic Growth Opportunities for Switchgear and Switchboard Apparatus Market

The switchgear market is poised for significant growth driven by several key opportunities linked to global trends in energy, technology, and infrastructure. The increasing adoption of smart grids presents a major opportunity for companies to provide advanced digital switchgear capable of real-time monitoring, fault detection, and improved grid reliability. The global shift toward renewable energy sources creates demand for specialized switchgear solutions to manage the variable outputs of wind, solar, and energy storage systems. Additionally, the rise of industrial automation, along with the electrification of transport networks, is driving the need for automated, reliable switchgear that ensures efficient power distribution and supports electric vehicle infrastructure. The growing use of energy storage systems further enhances the demand for specialized switchgear that can effectively manage stored energy. These trends offer substantial growth prospects for companies that can provide innovative, flexible, and sustainable switchgear solutions across these evolving sectors.

Smart Grid Solutions: With the increasing adoption of smart grids globally, there is a growing need for advanced switchgear systems that can support these grids. Digital switchgear, capable of real-time data exchange, monitoring, and fault detection, presents significant growth opportunities. As utilities focus on improving grid reliability, switchgear companies can capitalize on this trend by offering smart solutions.

Renewable Energy Integration: The global shift towards renewable energy sources presents a key growth opportunity for switchgear and switchboard apparatus manufacturers. These systems must handle the intermittent nature of renewable energy generation. Developing switchgear solutions for wind, solar, and energy storage applications offers significant potential in markets prioritizing green energy solutions.

Industrial Automation: As industries move toward greater automation, the need for automated switchgear systems increases. Automation improves operational efficiency, reduces downtime, and provides predictive maintenance capabilities. Companies in the switchgear market can benefit by providing automationcompatible solutions for industries such as manufacturing, automotive, and energy.

Electrification of Transport: The growing demand for electric vehicles and



electrification of public transport systems is driving the need for high-quality switchgear to ensure safe and efficient power distribution. As EV infrastructure expands, the demand for smart, reliable switchgear that can support electric transportation networks will continue to rise.

Energy Storage Systems: As energy storage systems become more widespread, switchgear solutions capable of managing and distributing stored energy will be crucial. Batteries and other storage technologies require specialized switchboard apparatus for optimal performance. Companies that provide switchgear solutions for energy storage systems are positioned to capitalize on this growing market segment.

The strategic growth opportunities in the switchgear and switchboard apparatus market lie in smart grid solutions, renewable energy integration, industrial automation, EV infrastructure, and energy storage systems. These applications will continue to drive demand for innovative, reliable, and eco-friendly switchgear solutions across various industries.

Switchgear and Switchboard Apparatus Market Driver and Challenges

The switchgear and switchboard apparatus market is influenced by various technological, economic, and regulatory factors. Key drivers include innovations in digitalization, renewable energy integration, and the increasing focus on energy efficiency. However, challenges such as high costs, space limitations, and stringent environmental regulations are affecting market dynamics.

The factors responsible for driving the switchgear and switchboard apparatus market include:

Technological Advancements in Automation: Advances in automation and digital technology are driving the growth of the switchgear market. Automated systems, which offer better control, monitoring, and predictive maintenance, are becoming a standard in industrial and utility applications. These systems improve efficiency, reduce operational costs, and enhance system reliability.

Push for Energy Efficiency: Governments and industries are increasingly focused on improving energy efficiency, especially in grid systems. The demand for energy-efficient switchgear solutions, such as gas-insulated switchgear and



digital systems, is growing. These solutions help optimize energy use, reduce losses, and improve grid reliability, making them a critical driver in the market.

Integration of Renewable Energy: As more countries invest in renewable energy, the need for switchgear systems that can integrate and manage variable power outputs becomes essential. Wind and solar energy systems require advanced switchgear to ensure stable and reliable energy distribution. This transition to renewable energy is one of the key drivers in the market.

Urbanization and Infrastructure Growth: Rapid urbanization and infrastructure development, particularly in emerging markets, are creating demand for more sophisticated switchgear and switchboard systems. The need for reliable power distribution in growing cities and industrial centers is driving the demand for advanced switchgear technologies.

Regulatory Pressure for Sustainability: Stricter environmental regulations are pushing industries toward adopting more sustainable technologies. SF6-free switchgear and other environmentally friendly solutions are becoming increasingly popular. Compliance with sustainability regulations is a key driver in the market, influencing both production and consumer preferences.

Challenges in the switchgear and switchboard apparatus market are:

High Capital and Operational Costs: The initial investment and maintenance costs for advanced switchgear systems, especially those with smart technology, can be prohibitively high. This is a significant barrier for small utilities and industries with limited budgets. The challenge is to make advanced systems more affordable without compromising performance.

Space Constraints: Space limitations in urban environments or industrial settings can restrict the installation of large switchgear units. Designing compact, efficient systems that meet performance standards in limited spaces is a key challenge for manufacturers, particularly in densely populated areas.

Environmental and Safety Regulations: Tighter regulations around emissions and safety, especially concerning hazardous materials like SF6 gas, are pushing for the development of greener alternatives. Meeting these stringent requirements while maintaining the functionality and safety of switchgear



systems is a challenge that manufacturers must address.

The switchgear and switchboard apparatus market is driven by technological advancements, energy efficiency goals, and renewable energy integration. However, challenges such as high costs, space limitations, and environmental regulations require manufacturers to innovate continuously. Addressing these drivers and challenges will shape the future of the market and foster the growth of more sustainable, efficient solutions.

List of Switchgear and Switchboard Apparatus Companies

Companies in the market compete on the basis of product quality offered. Major players in this market focus on expanding their manufacturing facilities, R&D investments, infrastructural development, and leverage integration opportunities across the value chain. Through these strategies switchgear and switchboard apparatus companies cater increasing demand, ensure competitive effectiveness, develop innovative products & technologies, reduce production costs, and expand their customer base. Some of the switchgear and switchboard apparatus companies cater

ABB

Bharat Heavy Electricals

CG Power and Industrial Solutions

Eaton

General Electric

Havells India

Hitachi

Hubbell

Hyosung

Hyundai Electric & Energy Systems



Switchgear and Switchboard Apparatus by Segment

The study includes a forecast for the global switchgear and switchboard apparatus market by power rating, type, and region.

Switchgear and Switchboard Apparatus Market by Power Rating [Analysis by Value from 2019 to 2031]:

Medium Voltage (2-36 kV)

High Voltage (above 36 kV)

Low Voltage (up to 1 kV)

Switchgear and Switchboard Apparatus Market by Type [Analysis by Value from 2019 to 2031]:

Gas Insulated

Air Insulated

Others

Switchgear and Switchboard Apparatus Market by Region [Analysis by Value from 2019 to 2031]:

North America

Europe

Asia Pacific

The Rest of the World

Switchgear and Switchboard Apparatus Market Report: Trends, Forecast and Competitive Analysis to 2031



Country Wise Outlook for the Switchgear and Switchboard Apparatus Market

The global switchgear and switchboard apparatus market is evolving in response to increased demand for reliable electrical distribution systems, innovations in automation, and the push for renewable energy integration. Countries like the United States, China, Germany, India, and Japan are at the forefront of these developments, driven by industrial growth, urbanization, and sustainability goals.

United States: The U.S. market is seeing significant investments in smart grid technology and automation, enhancing the performance of switchgear and switchboard apparatus. Utilities and industrial sectors are increasingly adopting digital and automated systems to improve grid reliability, energy efficiency, and fault detection. This trend is accelerating with the adoption of renewable energy sources, requiring advanced electrical infrastructure.

China: China is ramping up the production and adoption of advanced switchgear systems as part of its infrastructure modernization and commitment to cleaner energy. The market is driven by the country's large-scale renewable energy projects and rapid urbanization. China's focus on energy storage and smart grids is also pushing demand for smarter, more efficient switchgear and switchboard apparatus.

Germany: Germany continues to innovate in the switchgear market, especially with advancements in high-voltage switchgear used in renewable energy integration. The country's emphasis on energy transition has led to an increased demand for switchboards that support distributed energy systems, energy storage, and grid stabilization. The shift toward electrification in sectors like transportation also impacts the switchgear demand.

India: India's switchgear market is growing due to increased investments in power infrastructure, particularly in rural electrification and smart grid projects. As the country expands its renewable energy capacity, especially solar and wind, there is an increasing need for reliable electrical distribution equipment. India's focus on improving energy efficiency and reducing transmission losses is also driving market growth.

Japan: Japan's market is seeing high demand for switchgear solutions that support the country's energy-efficient buildings and industrial automation. There is a growing focus on smart and digital switchboards that facilitate remote



monitoring and control. Japan's emphasis on disaster resilience and renewable energy integration also drives the adoption of advanced switchgear and switchboard apparatus.

Features of the Global Switchgear and Switchboard Apparatus Market

Market Size Estimates: Switchgear and switchboard apparatus market size estimation in terms of value (\$B).

Trend and Forecast Analysis: Market trends (2019 to 2024) and forecast (2025 to 2031) by various segments and regions.

Segmentation Analysis: Switchgear and switchboard apparatus market size by power rating, type, and region in terms of value (\$B).

Regional Analysis: Switchgear and switchboard apparatus market breakdown by North America, Europe, Asia Pacific, and Rest of the World.

Growth Opportunities: Analysis of growth opportunities in different power ratings, types, and regions for the switchgear and switchboard apparatus market.

Strategic Analysis: This includes M&A, new product development, and competitive landscape of the switchgear and switchboard apparatus market.

Analysis of competitive intensity of the industry based on Porter's Five Forces model.

If you are looking to expand your business in this or adjacent markets, then contact us. We have done hundreds of strategic consulting projects in market entry, opportunity screening, due diligence, supply chain analysis, M & A, and more.

This report answers following 11 key questions:

Q.1. What are some of the most promising, high-growth opportunities for the construction materials market by power rating (medium voltage (2-36 kV), high voltage (above 36 kV), and low voltage (up to 1 kV)), type (gas insulated, air insulated, and others), and region (North America, Europe, Asia Pacific, and the Rest of the World)?

Q.2. Which segments will grow at a faster pace and why?

Switchgear and Switchboard Apparatus Market Report: Trends, Forecast and Competitive Analysis to 2031



Q.3. Which region will grow at a faster pace and why?

Q.4. What are the key factors affecting market dynamics? What are the key challenges and business risks in this market?

Q.5. What are the business risks and competitive threats in this market?

Q.6. What are the emerging trends in this market and the reasons behind them?

Q.7. What are some of the changing demands of customers in the market?

Q.8. What are the new developments in the market? Which companies are leading these developments?

Q.9. Who are the major players in this market? What strategic initiatives are key players pursuing for business growth?

Q.10. What are some of the competing products in this market and how big of a threat do they pose for loss of market share by material or product substitution?

Q.11. What M&A activity has occurred in the last 5 years and what has its impact been on the industry?



## Contents

#### **1. EXECUTIVE SUMMARY**

# 2. GLOBAL SWITCHGEAR AND SWITCHBOARD APPARATUS MARKET : MARKET DYNAMICS

- 2.1: Introduction, Background, and Classifications
- 2.2: Supply Chain
- 2.3: Industry Drivers and Challenges

#### 3. MARKET TRENDS AND FORECAST ANALYSIS FROM 2019 TO 2031

3.1. Macroeconomic Trends (2019-2024) and Forecast (2025-2031)

3.2. Global Switchgear and Switchboard Apparatus Market Trends (2019-2024) and Forecast (2025-2031)

- 3.3: Global Switchgear and Switchboard Apparatus Market by Power Rating
  - 3.3.1: Medium Voltage (2-36 kV)
  - 3.3.2: High Voltage (above 36 kV)
  - 3.3.3: Low Voltage (up to 1 kV)
- 3.4: Global Switchgear and Switchboard Apparatus Market by Type
  - 3.4.1: Gas Insulated
  - 3.4.2: Air Insulated
  - 3.4.3: Others

#### 4. MARKET TRENDS AND FORECAST ANALYSIS BY REGION FROM 2019 TO 2031

- 4.1: Global Switchgear and Switchboard Apparatus Market by Region
- 4.2: North American Switchgear and Switchboard Apparatus Market

4.2.1: North American Market by Power Rating: Medium Voltage (2-36 kV), High Voltage (above 36 kV), and Low Voltage (up to 1 kV)

- 4.2.2: North American Market by Type: Gas Insulated, Air Insulated, and Others
- 4.3: European Switchgear and Switchboard Apparatus Market

4.3.1: European Market by Power Rating: Medium Voltage (2-36 kV), High Voltage (above 36 kV), and Low Voltage (up to 1 kV)

- 4.3.2: European Market by Type: Gas Insulated, Air Insulated, and Others
- 4.4: APAC Switchgear and Switchboard Apparatus Market
  - 4.4.1: APAC Market by Power Rating: Medium Voltage (2-36 kV), High Voltage (above



36 kV), and Low Voltage (up to 1 kV)

4.4.2: APAC Market by Type: Gas Insulated, Air Insulated, and Others

4.5: ROW Switchgear and Switchboard Apparatus Market

4.5.1: ROW Market by Power Rating: Medium Voltage (2-36 kV), High Voltage (above 36 kV), and Low Voltage (up to 1 kV)

4.5.2: ROW Market by Type: Gas Insulated, Air Insulated, and Others

#### 5. COMPETITOR ANALYSIS

- 5.1: Product Portfolio Analysis
- 5.2: Operational Integration
- 5.3: Porter's Five Forces Analysis

#### 6. GROWTH OPPORTUNITIES AND STRATEGIC ANALYSIS

6.1: Growth Opportunity Analysis

6.1.1: Growth Opportunities for the Global Switchgear and Switchboard Apparatus Market by Power Rating

6.1.2: Growth Opportunities for the Global Switchgear and Switchboard Apparatus Market by Type

6.1.3: Growth Opportunities for the Global Switchgear and Switchboard Apparatus Market by Region

6.2: Emerging Trends in the Global Switchgear and Switchboard Apparatus Market6.3: Strategic Analysis

6.3.1: New Product Development

6.3.2: Capacity Expansion of the Global Switchgear and Switchboard Apparatus Market

6.3.3: Mergers, Acquisitions, and Joint Ventures in the Global Switchgear and Switchboard Apparatus Market

6.3.4: Certification and Licensing

#### 7. COMPANY PROFILES OF LEADING PLAYERS

#### 7.1: ABB

- 7.2: Bharat Heavy Electricals
- 7.3: CG Power and Industrial Solutions
- 7.4: Eaton
- 7.5: General Electric
- 7.6: Havells India



7.7: Hitachi

7.8: Hubbell

7.9: Hyosung

7.10: Hyundai Electric & Energy Systems



#### I would like to order

Product name: Switchgear and Switchboard Apparatus Market Report: Trends, Forecast and Competitive Analysis to 2031

Product link: https://marketpublishers.com/r/S23C5FEAA5D1EN.html

Price: US\$ 4,850.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

#### Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <u>https://marketpublishers.com/r/S23C5FEAA5D1EN.html</u>