

Gas-Insulated Switchgear Market Forecasts to 2034 – Global Analysis By Installation Type (Indoor GIS and Outdoor GIS), Voltage Rating, Configuration, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Gas-Insulated Switchgear Market is accounted for \$30.3 billion in 2026 and is expected to reach \$55.3 billion by 2034 growing at a CAGR of 7.8% during the forecast period. Gas-insulated switchgear (GIS) is a high-voltage electrical apparatus that relies on insulating gas, typically SF6 or eco-friendly alternatives, to achieve effective insulation and arc interruption within a compact sealed enclosure. It is designed for substations requiring high reliability and minimal space usage compared with conventional air-insulated systems. GIS provides strong operational safety, reduced maintenance needs, and excellent performance in polluted or challenging environments. It is widely implemented in power grids, industrial facilities, and renewable energy networks. Its enclosed structure ensures durability, prevents contamination, and extends operational lifespan, making it a preferred solution for modern electrical distribution systems worldwide applications globally.

According to IRENA (International Renewable Energy Agency), Global renewable energy capacity reached 3,870 GW at the end of 2023, with solar PV contributing 1,419 GW, wind power 1,017 GW, and hydropower 1,267 GW.

Market Dynamics:

Driver:

Grid modernization and renewable energy integration

The transformation of electrical networks through modernization initiatives and the rising incorporation of renewable energy sources are significantly driving GIS demand. With the increasing penetration of wind and solar power, grid systems require advanced switchgear capable of managing fluctuating power flows and ensuring operational stability. Gas-Insulated Switchgear offers strong insulation, reliable switching performance, and adaptability to complex grid conditions. It is widely used in smart grid projects and infrastructure upgrades aimed at improving efficiency and reliability. Governments and utilities are investing in upgrading outdated transmission systems, further encouraging GIS deployment as a key component of next-generation energy networks globally.

Restraint:

High initial cost of GIS

One of the key barriers to the growth of Gas-Insulated Switchgear is its high upfront investment requirement. GIS technology involves complex engineering, specialized components, and sealed gas-insulated systems, which make it more costly than traditional air-insulated alternatives. In addition, installation requires expert technicians and supporting infrastructure, further raising total project expenses. This creates affordability challenges for utilities in developing and price-sensitive markets. Even though GIS can reduce long-term maintenance and operational costs, the initial capital expenditure discourages adoption. Consequently, many regions with limited financial resources continue to rely on conventional systems, slowing down broader market penetration and expansion globally overall.

Opportunity:

Urban infrastructure development and underground power systems

The expansion of urban infrastructure and growing use of underground power transmission systems create strong opportunities for Gas-Insulated Switchgear. With increasing urban density, there is a rising demand for compact and efficient electrical solutions that require minimal space. GIS is well-suited for underground substations because of its sealed structure, safety advantages, and ability to operate in harsh environments. Many cities are moving power infrastructure below ground to enhance reliability and reduce surface congestion. This shift is particularly important in large metropolitan areas where land is limited. As urbanization continues to grow, GIS adoption is expected to increase significantly worldwide.

Threat:

Emergence of alternative technologies

The rise of substitute insulation technologies is becoming a significant challenge for the Gas-Insulated Switchgear industry. New solutions, including vacuum-based systems and environmentally friendly gas mixtures, are being developed to replace traditional SF6-based GIS. These innovations aim to deliver similar performance while reducing environmental harm. As awareness of sustainable energy solutions increases, utilities may gradually shift toward these alternatives. This transition could decrease demand for conventional GIS products and affect established market players. Although these technologies are still in development stages, continuous advancements and regulatory support for green solutions may accelerate their adoption, increasing competitive pressure across the GIS market globally.

Covid-19 Impact:

The COVID-19 pandemic created both challenges and recovery opportunities for the Gas-Insulated Switchgear market. In the early stages, lockdowns and restrictions disrupted manufacturing operations, delayed supply chains, and postponed infrastructure and power projects. Workforce shortages and logistical constraints further slowed the deployment of GIS systems. However, demand rebounded as governments introduced stimulus programs and focused on strengthening energy infrastructure. The need for uninterrupted power in critical sectors such as hospitals and data centers supported continued usage. As economies recovered, investments in grid modernization increased, driving renewed growth and faster adoption of GIS solutions across global utility and industrial applications.

The compact GIS segment is expected to be the largest during the forecast period

The compact GIS segment is expected to account for the largest market share during the forecast period owing to its strong suitability for modern urban power systems and limited-space installations. It is widely used by utilities because of its small size, dependable performance, and simpler installation process compared to full-scale GIS solutions. Rising urbanization and the expansion of underground electrical networks have further strengthened its adoption. Compact GIS also offers an effective balance between operational efficiency and affordability, making it attractive for a broad range of regions. Its adaptability to existing grid infrastructure and growing demand in smart city

projects reinforce its leading position in the global market.

The transportation segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the transportation segment is predicted to witness the highest growth rate, driven by the expansion of rail networks, metro systems, and electrified mobility infrastructure. Increasing investments in high-speed trains and urban transit projects are boosting the need for compact and reliable power distribution systems. GIS is preferred in this sector due to its safety, durability, and suitability for space-constrained environments like underground stations and tunnels. Additionally, the shift toward sustainable and electrified transportation is further supporting demand. As a result, transportation is emerging as the fastest-growing application segment in the global GIS market.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share owing to rapid urban growth, industrial expansion, and continuous development of power infrastructure in major economies like China, India, Japan, and South Korea. Large-scale investments in renewable energy projects, smart grids, and urban transit systems are significantly boosting demand for GIS solutions. High population density and space constraints in urban areas further encourage the adoption of compact switchgear technologies. Additionally, supportive government policies aimed at electrification and modernization of electrical networks are strengthening market growth.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, driven by large-scale upgrades of aging electricity infrastructure and strong investments in smart grid development. Utilities in the region are prioritizing improved grid stability, efficiency, and resilience, which is increasing demand for advanced GIS technologies. The growing use of renewable energy, particularly wind and solar power, is also boosting the need for adaptable and compact switchgear systems. Furthermore, stringent regulatory frameworks and efforts to reduce energy losses are encouraging modernization of transmission networks. Together, these factors make North America the fastest-expanding region in the GIS market globally.

Key players in the market

Some of the key players in Gas-Insulated Switchgear Market include ABB, General Electric, Siemens, Schneider Electric, Eaton, Mitsubishi Electric, Hitachi Energy, Toshiba Energy Systems & Solutions, Fuji Electric, Hyundai Electric, Hyosung Heavy Industries, Nissin Electric, CG Power and Industrial Solutions, CHINT Group, Pinggao Electric, Sieyuan Electric, XD Electric and Crompton Greaves.

Key Developments:

In December 2025, Mitsubishi Electric Corporation announced that it has invested in and signed a strategic alliance agreement with Tulip Interfaces, Inc., a Massachusetts, USA-based leader no-code platforms for system operations without programming to support manufacturing digitalization. Tulip Interfaces is also an expert in introducing manufacturing-targeted microservices, which divide large-scale systems into small, independent services to enable flexible development and operations.

In December 2025, ABB and HDF Energy have signed a joint development agreement (JDA) to co-develop a high-power, megawatt-class hydrogen fuel cell system designed for use in marine vessels. The project targets use of the system on various vessel types, including large seagoing ships such as container feeder vessels and liquefied hydrogen carriers.

In November 2025, Schneider Electric announced a two-phase supply capacity agreement (SCA) totaling \$1.9 billion in sales. The milestone deal includes prefabricated power modules and the first North American deployment of chillers. The announcement was unveiled at Schneider Electric's Innovation Summit North America in Las Vegas, convening more than 2,500 business leaders and market innovators to accelerate practical solutions for a more resilient, affordable and intelligent energy future.

Installation Types Covered:

Indoor GIS

Outdoor GIS

Voltage Ratings Covered:

Medium Voltage (?36 kV)

High Voltage (36-245 kV)

Extra High Voltage (> 245 kV)

Configurations Covered:

Hybrid GIS

Compact GIS

Full GIS

Applications Covered:

Transmission

Distribution

Generation Integration

Renewable Energy Integration

End Users Covered:

Power Utilities

Industrial

Commercial & Residential

Transportation

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

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