

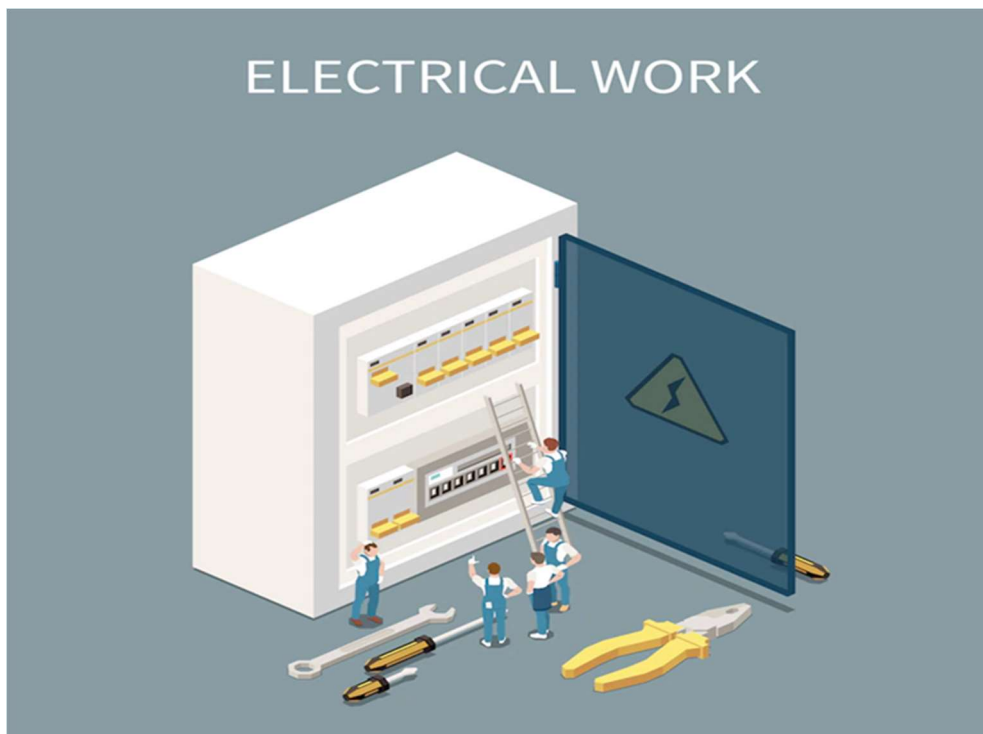
# SWITCHGEAR

Electricity has become an essential part of our daily lives. It powers almost everything we use, from appliances to machines, and ensures the smooth running of various industries. According to a report by Research and Markets, the global [switchgear](#) market is expected to reach \$161.4 billion by 2025, growing at a CAGR of 5.5% from 2020 to 2025. However, it is essential to understand that electrical equipment, such as **switchgears**, need regular maintenance to ensure their proper functioning.

## What is an Electrical Switchgear

An [electrical switchgear](#) is an important component of an electrical power system that is responsible for controlling, protecting, and isolating **electrical equipment**. It is a combination of electrical disconnect switches, fuses or circuit breakers, and protective relays arranged in a series of panels. **Switchgears** are critical in ensuring the safety of electrical equipment, operators, and maintenance personnel.

## **Importance of Regular Electrical Switchgear Maintenance**



**Ensures Safety:** The safety of personnel and equipment is of utmost importance in any electrical system. Regular **switchgear maintenance** ensures that all equipment is functioning properly and is in good condition, reducing the risk of electrical hazards, such as electrical shock, fire, and explosions.

**Avoids Costly Downtime:** **Electrical switchgear** failure can result in costly downtime and lost production. Regular maintenance ensures that any potential issues are identified and resolved before they become major problems, leading to reduced downtime and increased productivity. A study by Schneider Electric found that unplanned downtime can cost industrial companies an average of \$260,000 per hour.

**Prolongs Equipment Life:** Regular maintenance can significantly prolong the life of **electrical switchgear equipment**. Proper maintenance reduces wear and tear, ensuring that equipment runs smoothly and efficiently for longer periods.

**Enhances Efficiency:** Regular switchgear maintenance ensures that **electrical equipment** runs efficiently, leading to increased energy savings. Efficiently running equipment also ensures that the system is working at its optimal capacity, leading to better system performance.

**Compliance with Regulations:** Electrical switchgear maintenance is a legal requirement in most countries. Regular maintenance ensures compliance with regulatory requirements, avoiding costly penalties and legal issues.

**Prevents Catastrophic Failure:** Catastrophic failure of electrical switchgear equipment can have severe consequences, such as damage to equipment, loss of production, and even loss of life. Regular maintenance can prevent such failures by identifying potential issues and resolving them before they escalate.

**Cost-Effective:** Regular maintenance of electrical switchgear equipment is cost-effective in the long run. Proper maintenance ensures that equipment runs efficiently, prolonging its life and reducing the risk of expensive repairs or replacements.

#### Schneider EcoStruxure Asset Advisor for electrical distribution



Manage risk, attain operational excellence, and ensure personnel safety with EcoStruxure Asset Advisor an electrical asset management software. It evaluates live data from your critical connected assets and applies advanced analytics to identify potential failure modes. Provide actionable web dashboards, timeline reports, and recommendations with operational support for people on-site.

#### Conclusion

**Electrical switchgears** are an essential component of any **electrical power system**. Regular maintenance is crucial in ensuring safety & efficiency. A study by the National Fire Protection Association (NFPA) found that electrical failures were the second leading cause of non-confined home structure fires, resulting in an average of 440 deaths and \$1.3 billion in property damage each year.