

The Modern Grid

Nearly every facet of the electric power industry has undergone significant change over the past decade. What was once a centralized, one-way system is rapidly evolving into a dynamic and interconnected network. The modern grid is characterized by a diverse generation mix, an explosion of technological advances in things like automation, sensors and data analytics, and platforms that allow consumers to better understand and control their energy use.

Local Generation

Local solar, storage and wind help shave peaks and improve reliability.

Power Generation

Advanced gas turbines, hybrid renewable plants and system digitalization are improving uptime and reliability.

Transmission Lines

Composite-core conductors boost line capacity and reduce sag.

Step-Down Transformer

Smart distribution transformers enable remote monitoring and predictive maintenance.

Step-Up Transformer

Smart and solid-state step-up transformers improve visibility, functionality and reliability.

Distribution Lines

Advanced materials and composite cores improve strength and reduce thermal expansion.

Transmission Substation

Digital substation gear allows better monitoring and automation.

Distribution Transformers

High-efficiency cores and digitally enabled transformers reduce load loss and improve resilience.

Meter

Advanced meters allow real-time data transmission and two-way communication.

Consumer and Commercial Use

Distributed energy resources and Internet of Things devices allow users to better manage energy use.

Breaker Box

Smart panels enable real-time circuit-level monitoring and remote control.

Wiring

Structured wiring combines power and data cables to support smart home automation.

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