

Substations

Flexible, reliable EPC solutions built from powerful experience

ABB has been designing and building substations for more than 100 years. In that time we have supplied thousands of substations for all voltage levels and climates, from the most congested downtown cities, to some of the most remote locations on earth.

We engineer, build, deliver and service complete installations, with dedicated substation project management capabilities, both locally and around the world.

Engineering simplicity

Connecting critical loads to the electrical grid requires significant planning and engineering to ensure a constant, reliable supply of power. Our comprehensive knowledge, extensive experience and continuous innovation enable us to provide optimized turnkey substation solutions that help power plants to generate, cities to grow, industries to expand, schools to connect, and homes to be powered.

Our global footprint and local presence ensures complete support throughout the life of the substation. Our specialty is making projects easier for our customers, regardless of the project size or scope. From ultra-high transmission substations to industrial electrification projects, ABB is a partner you can rely on.



Substation application experience

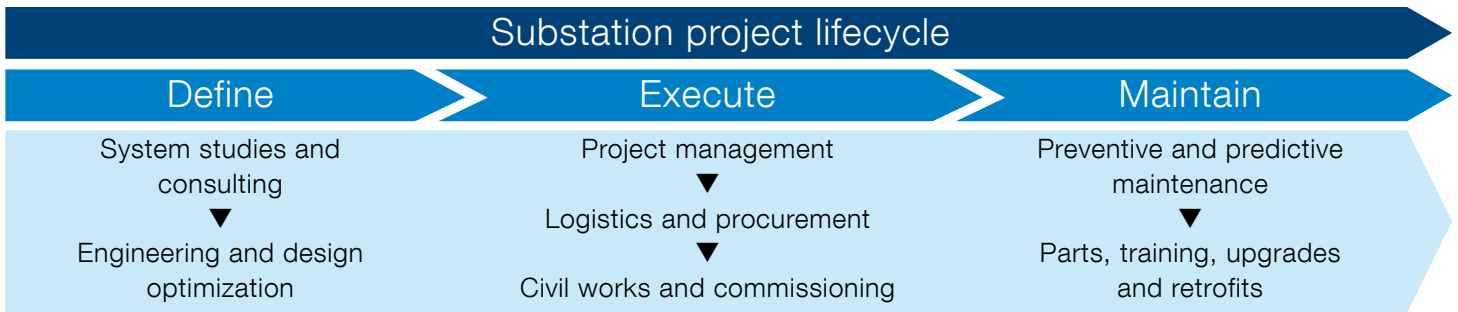
Utilities	Boosting transmission capacity and addressing growing demand for electricity through greenfield projects as well as the modernization of existing substations
Industrial	Creating a reliable supply of power that supports efficient use and management of electricity, facility wide
Renewables	Facilitate the integration, transmission and distribution of cleaner energy while helping to strengthen grid reliability and secure power supplies

Power and productivity
for a better world™



EPC Capabilities

From innovation engineering through flawless project execution



Upfront planning and system studies.

Every project has a unique set of requirements and goals. ABB's planning experts are able to provide an in-depth analysis of your system and its performance characteristics. From load flow and dynamic stability analysis, to system protection and controls coordination, we uncover the true potential of your critical assets, while managing risks. Our goal is to provide the optimal solution that enables maximized value of assets and financial investments.

Substation optimization: from design to delivery

Through upfront system design and consultation, our team will take into account all functional requirements and customer preferences, while exploring possible alternative solutions to deliver the most optimal substation configuration. We perform complete primary and secondary engineering from design and short-circuit calculation to the engineering of the digital substation automation systems.

Project management and execution

Building out the electrical grid has two recurring themes: increasing complexity and constant change. In order to be competitive, productive and profitable, experienced professionals are required to successfully execute a project. ABB's highly qualified team of internationally certified project and site managers oversee engineering, manufacturing, site assembly and testing to ensure that the project goals and milestones are realized.

Logistics and procurement

Working with ABB ensures thorough supply chain management and coordination. As an ISO-9001 certified company, our prequalification process for both ABB and non-ABB suppliers, along with our oversight of onsite logistics, assures our customers that their project is meeting all necessary requirements.

Civil works and commissioning

Prior to construction, ABB carefully evaluates the site to assess the requirements and the support needed to achieve on-time delivery in a safe and cost effective manner. With our highly trained and certified site and project managers, partnering with regional and local contractors, we are able to determine potential challenges along the way, and prepare for the unexpected. We have the resources to execute projects of any complexity, from greenfield projects in open fields to brownfield retrofits in densely populated metropolitan areas.

Simplified service contracts

ABB's close management of all the major assets within the substations can reduce O&M costs through our simplified warranty process. With a complete portfolio of services from training, to troubleshooting to upgrades and retrofits, ABB has the product experience and the project capabilities to keep warranty issues at a minimum and keep the substation fully operational.



Value delivered

Streamlined and simplified, for the lowest risk project experience

+ One contract with costs clearly defined

Single source provider for managing the design, engineering, procurement, installation and commissioning with upfront risk identification and management

+ Lowest project risk

Technical reliability coupled with professional project management for risk mitigation, scope control and schedule assurance

+ Innovative and flexible substation designs

GIS, AIS, hybrid and modular design options allow for flexible substation layouts to accommodate any environment

+ Designed to meet all reliability and safety standards

Easily meet federal and local standards, avoiding substantial fines from regulators and securing the safe operations of your critical assets

+ Integrating cutting-edge grid technology

Leverage existing and emerging technologies to ensure grid reliability and maximize operational performance

+ Fast track completion of project

Ability to fast track substation projects and offer modular packages held to the latest performance, reliability and safety standards

+ Save on operation & maintenance costs

With direct access to substation equipment experts, ABB provides robust system designs that are managed under one warranty contract to guarantee performance

+ World class safety record

Proactive 'safety through design' program that incorporates safety into the entire project lifecycle, from preliminary engineering through construction and facility service life

Portfolio of technologies

Greenfield, hybrid, expansion or retrofit... a solution for every requirement



AIS Substations

Cost-efficient, proven and reliable

ABB substations with air-insulated switchgear (AIS) provide a cost-efficient and well-proven solution without compromising on reliability.

We offer flexible layouts and designs to suit your unique business strategies.



GIS Substations

Space-saving, schedule-saving and lifecycle saving

The robust, low-maintenance gas insulated switchgear (GIS) design minimizes the substation footprint making it suitable for indoors, densely populated urban areas and in harsh environments.

ABB is the world's leading supplier of GIS substations with a vast base of installations.



Modular Substations

Standard design, short delivery time and minimal site works

Modular substations offer smaller foot-print designs in standardized, container-sized and skid mounted modules.

These are manufactured, assembled and tested at the factory, allowing easy transport and fast, ready-to-connect installation, commissioning and flexible aesthetics.



Grid technology

Automation, controls, power quality and energy storage technologies

For increasing grid complexity along with an expanding generation profile, ABB offers the latest technology to manage power demands and grid reliability.

From software to power electronic technology, we have a complete tool kit of solutions that support supply and demand.

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