

Power Technologies from ABB

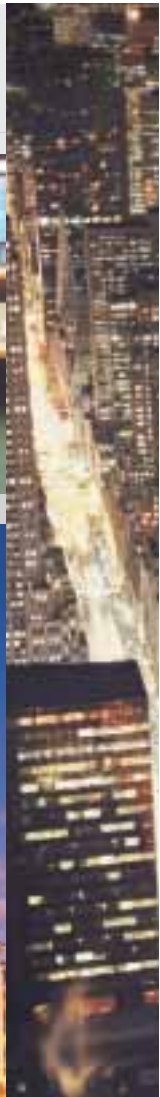
Innovative products, reliable systems
and integrated solutions.



ABB

Innovations

for utilities and



Innovations for today's markets are solutions to the challenges of tomorrow.

As a globally operating technology group, ABB provides forward-looking solutions for the core areas of our economy: public and industrial supply of electric power, heat, gas and water. Our customers benefit from our wide range of power technology products, systems and services. Combining innovation and experience, we execute turnkey projects

of any size: from planning to commissioning, from low voltage to high voltage, and from process control to enterprise management.

Our innovative and holistic designs of modular systems allow you to use your existing operating resources to maximum effect, and thus ensure secure returns on investment on today's markets.



Power and heat generation

Power transmission and distribution

Water plants and networks

Gas transport and distribution

Industrial power supply

industry



Energy is precious.

Energy conservation and reliability of supply are actual topics these days.

As a market leader in power and automation technologies, we offer our business partners in all industry branches tailored product and systems solutions that conform to the highest possible quality standards and underline our commitment to sustainability. The latest control and automation systems can be integrated in existing system environments, and provide up to date functionality for efficient and

environmentally sound operation of power plants, distribution networks and industrial processes.

Speed is not a luxury . . .

...it is a necessity. Moreover, every business needs it. Our knowledge of our customers' business and operational processes ensures, that you benefit not only from better transparency, but also from higher speed and smoother operation at all levels of your organization. This, in turn, can uncover unexpected saving potentials.

Reliable systems for cost-effective



Innovations as the basis of your success.

Established power supply systems are facing changing demands. The classical objective triangle for power supply, consisting of economy, reliability and environmental impact requires constant reorientation. Our customers can draw on our innovative power in making these adjustments.

We have traditionally used the latest technologies in our developments, prepared them for real world applications, and offered them to our customers as solutions that strengthen their positions. Past examples include the introduction of gas-insulated switchgear technology and the development of the first integrated protection and control unit for medium voltage switchgear. Today, our customers benefit, for example, from our know-how as the world market leader in vacuum circuit breakers.



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and secure power supply



In addition, ABB supplies the most compact high voltage switchgear in the world and has comprehensive experience with transformers of various voltage and capacity levels. Our many years of experience with HVDC solutions were applied in the innovative SVC Light, which is used to regulate reactive power very rapidly and ensure voltage stability.

In thermal power plants, state-of-the-art control processes not only minimize fuel input and emissions, but also improve the controllability of the power plant. These processes therefore make an important contribution to sustainable power supply.

Solutions for the world



Modern concepts for power and heat generation.

We are important partners to general contractors, main equipment and process suppliers, and provide competitive, proven solutions for new plants, rehabilitations, upgrading and services. Our integration experts contribute not only their specialist knowledge in instrumentation, automation and electrical engineering, but also have a profound expertise of power plant process technologies.

Numerous solutions facilitate holistic optimization: engineering and turnkey supply, all from one source.

Optimum support for network infrastructure.

The smooth and efficient function of transmission and distribution networks for electrical power, gas and water is of essential importance to the economy as a whole.



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of power technologies

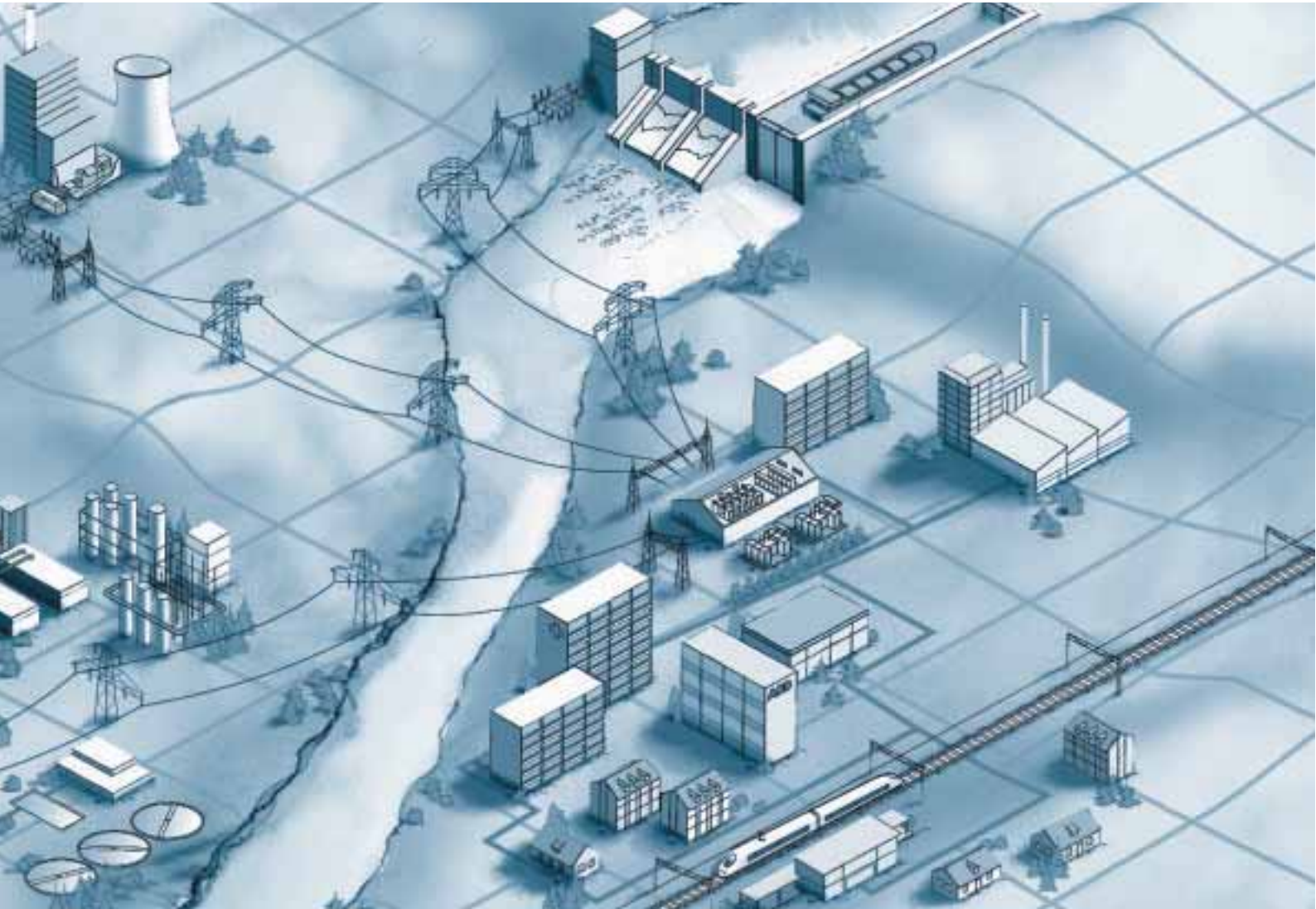


ABB is the company with the greatest experience in products and systems for electrical power transmission and distribution. Over and above that, we offer comprehensive solutions for gas and water distribution systems, derived from our knowledge of network management as well as our broad product offerings in the automation and instrumentation areas. From process control technology to enterprise management, we are the ideal partner for network operators who are more and more spanning different sectors in an effort to focus on their core competence of construction, operation and maintenance of networks.

We consider the life cycle.

We consistently design integrated solutions that reduce complexity and thereby decrease risk for our customers. Their companies' processes are at the center of our thinking and we support them through solutions based on a full life cycle perspective: from fundamental analysis, through planning and implementation, right up to services. In doing so, we protect investments by preserving existing systems.

Powerful arguments

Electrifying



Medium voltage switchgear



Low voltage switchgear



Distribution transformer



Cable accessories



Medium voltage switchgear



Generator circuit breaker

Low voltage

- Control cabinets
- Distribution systems
- Switchgear and control devices
- Switchgear systems

Medium voltage

- Air and gas-insulated switchgear
- Circuit breakers
- Distribution transformers (IEC and ANSI, dry-type and liquid-filled)
- Generator circuit breakers and high current systems
- High-speed transfer devices
- I_s -limiters
- Load break and disconnect switches
- Plastic-insulated power cables and cable accessories
- Switching devices for motors and drive systems
- Current and voltage transformers and sensors
- Medium voltage fuses
- Power capacitors
- Surge arresters
- Vacuum interrupters and embedded poles

Our product portfolio.

From low voltage through medium voltage, high and extra-high voltage up to turnkey installations.

Our many years of experience in applying innovative products in day-to-day service allow us to achieve maximum customer satisfaction. The ABB product range is based on a modular design philosophy, which creates an endless variety of combinations. These systems-oriented product families are easy to order, assemble and install.



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solutions



Laying of submarine cables



Phase-shifting transformer



FACTS



High voltage switchgear



High voltage switchgear

High and extra-high voltage

- Cable accessories
- Current and voltage transformers
- FACTS
- Gas-insulated switchgear
- Industrial transformers
- Outdoor switchgear
- Phase-shifting transformers
- Power transformers
- Surge arresters
- XLPE insulated high and extra-high voltage power cables

Turnkey systems

- Complete high and extra-high voltage cable systems
- HVDC systems
- Modular, prefabricated installations
- Network integration of wind parks
- Distribution and transmission substations

Modular and functionally integrated concepts for switchgear and transformer stations offer reliability and security for deregulated energy markets.

As a company with worldwide operations, we additionally offer not only access to international know-how, but also comprehensive solutions meeting various standards and requirements.

Flexible systems and We are there for you,



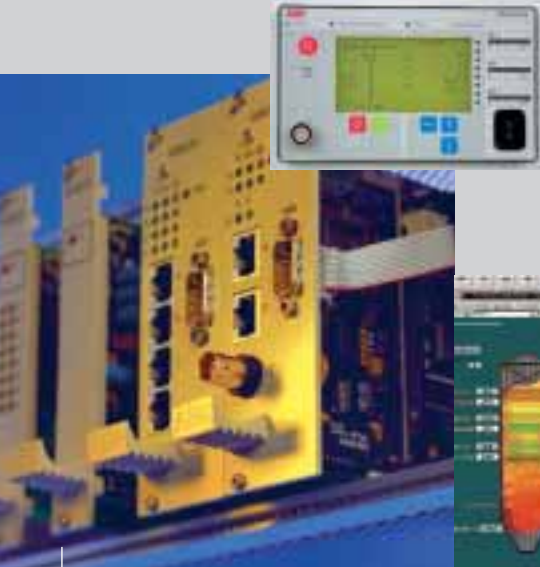
EMSR Systems



Grid connection of wind parks

Protection and control systems on process level

- Automation systems for water plants and networks
- Automation systems for waterways
- Information management and optimization
- Instrumentation, drives, switching and actuator technology
- Power plant automation systems
- Protection and control units for switchgear
- Substation automation systems
- Telecontrol systems



Control room

Complete systems

- Complete electrical control and instrumentation systems for
 - power plants
 - water and waste water facilities
 - waterways
 - pumping stations
- Network management systems for
 - transmission and distribution grids
 - multi utilities



Station automation



Optimization

Our scope of supplies and services. From protection and control technology on process level to complete systems.

Decentralized control, protection and data acquisition are the basis of every system's operation management process. ABB offers one of the largest portfolios of compatible products for process automation and data acquisition in the electrical power and heat generation sectors, for power and gas transmission and distribution systems as well as water plants and networks.

The world's energy markets are merging. Larger and larger networks must be managed reliably and far-reaching decisions regarding energy trading and power plant operation must be made more and more rapidly. ABB has responded to customers' needs to make fast decisions about the optimum use of operating resources with products and solutions just as IndustrialIT for Power Generation offering end-to-end compatibility of all products and systems from the process level right through to decision-making systems.



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services – worldwide.



Maintenance



Diagnosis



Maintenance



Repairs



Services

- Cable laying and installation of cable accessories
- Consultancy
- Diagnosis
- ERP integration
- High voltage and high power tests
- Installation and commissioning
- Maintenance agreements
- Network studies and tools
- Remote diagnosis and servicing
- Repairs
- Retrofit
- Software upgrades
- Spare parts
- System extension and migration
- System planning
- Tools for maintenance planning
- Training
- Training simulators
- Waste disposal and recycling

Lifecycle services.

Our products and systems are complemented by comprehensive services – round the clock. It is our aim to strengthen the competitiveness of our customers in the long term on a basis of partnership and co-operation. The range of services extends from status-orientated maintenance and cost-effective spare parts supplies through optimized fault management to hardware and software upgrades and the performance of horizontal and vertical integration.

You can benefit from our worldwide presence, from customer care through manufacturing, delivery and service.

ABB is a leader in power and automation technology and enables its customers in utilities and industry to improve their performance while lowering environmental impact.



ABB Power Technologies

For contact details,
please refer to the
group web site:
<http://www.abb.com>

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