



ABB Electrification Service

Our service expertise, your advantage



**We keep operations
running safely and
reliably, while saving
energy every day**



Introducing ABB Navigate

Helping you navigate
the critical challenges of:

Reliability



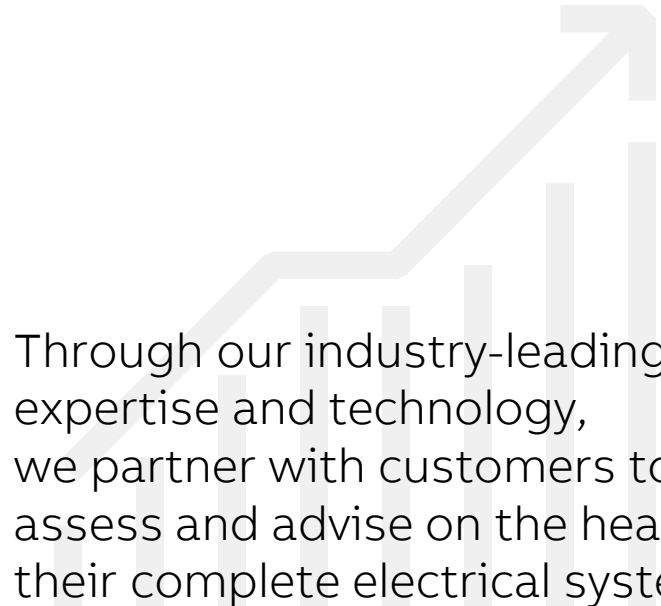
**Safety &
Security**



**Energy &
Carbon**



Reliability assessments



Through our industry-leading expertise and technology, we partner with customers to assess and advise on the health of their complete electrical systems to ensure new levels of reliability.

Electrical System Health Check

Evaluates and inspects key electrical assets. Covers hardware, software and spare parts.

Operational Benchmarking

Identify industry's best maintenance practices, compare with current practices, and provide actionable recommendations for improvement.

Full-Service History

Review the service history and actions in the electrical system for the creation of logbooks.

Upgrade Assessment

Provides a roadmap for equipment upgrades and retrofit program to extend the lifetime of the asset.

Spare Parts Assessment

Provide expert support in identifying parts based on equipment condition and criticality.

Lifecycle Assessment

Provides insight into equipment status and identifies associated production risks due to limited or obsolete offerings.

Single-line Diagram Update

Assessment and data collection to update obsolete single-line diagram.

Digital Maturity

Evaluates digital adoption or convergence of maturing technologies for improved operational efficiency.

Reliability assessments

Protect your investment and avoid costly downtime



Our service expertise

- An ABB site assessment provides a detailed insight into current power system condition, helping to make better decisions on ways to improve the reliability and boost your system overall performance
- The site assessment report presents a reliability plan with cost-benefit analysis, recommendations, and prioritization of best practices, quick wins, and easily implementable solutions



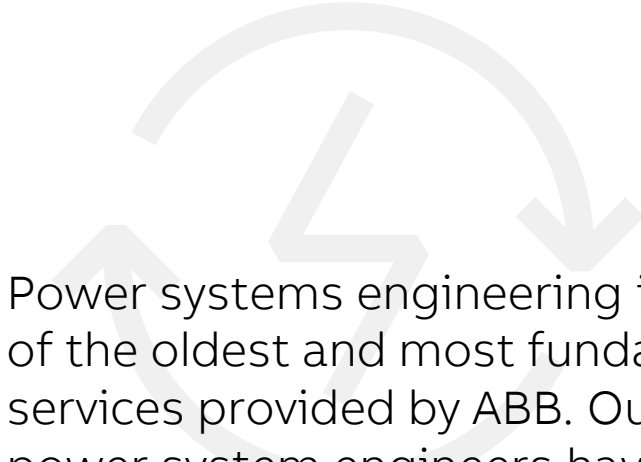
Your advantage

- **Cost savings** – uncover opportunities to prevent costly downtime and production interruptions
- **Risk mitigation** – identify potential risks and develop mitigation plans to prevent incidents
- **Access to leading industry best practices** – Trained and certified engineers to assess your system and provide advice tailored to your site condition

[MORE INFORMATION](#)



Power system studies



Power systems engineering is one of the oldest and most fundamental services provided by ABB. Our power system engineers have unprecedented expertise gained from over 100 years of working with a wide range of customers and utilizing pioneering techniques.

Short-Circuit

Determines the fault current that will flow through the power distribution system in the event of a short circuit at a specific location.

CT/VT to Sensors

Evaluates current and voltage transformers characteristics to verify that the instrument transformers are designed as per system requirements and are suitable for the desired protection or metering function.

Load Flow

Examines the steady-state operation of an electrical system under multiple scenarios. The key objective of this analysis is to assess the voltage magnitude, along with the real and reactive power flows within the system.

Harmonic

Analyzes the current and voltage distortions in electrical power systems due to non-linear loads.

Protection Coordination

Determines the optimal settings of an electrical system ensuring that devices like relays and breakers function in a coordinated manner. This minimizes the impact of faults on the electrical system.

Diagnostic

Engineering review to determine the root cause of power system issues.

Motor Starting

Analyzes the motor load, and the connected power system through the range of operation.

Power Quality

Analyzes power quality issues, identify root causes, and provide recommendations for power quality improvement.

Power system studies

Solid base for the long-term trouble-free operation



Our service expertise

- Our engineering study provides in-depth analysis and evaluation of your electrical infrastructure. We identify potential issues, recommend improvements, and offer tailored strategies to enhance the system performance, resilience and cost-effectiveness.



Your advantage

- **Maximize uptime** – ensure the system is reliable under all operating conditions
- **Cost savings** – optimize system's performance and efficiency
- **Make informed decisions** – using valuable insights for infrastructure expansion, system upgrade, and plan for future load growth

[MORE INFORMATION](#)



Safety & Security services

Protect your investment
and avoid costly downtime

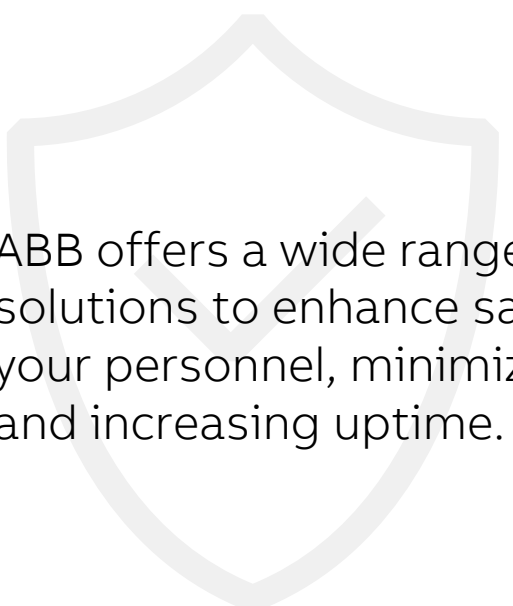


ABB offers a wide range of solutions to enhance safety for your personnel, minimizing risk and increasing uptime.

[MORE INFORMATION](#)

Electrical Safety Risk Assessment

Evaluates system condition, electrical hazards and recommend protective measures to maintain a tolerable level of risk.

Arc Flash Mitigation

Products and services to minimize arc flash risk in both new and existing facilities, ensuring low incident energy, prevention of at-risk activities, reduced probability of an event, and minimized risk to personnel.

Arc Flash Risk Assessment

Determines the required level of arc-rated personal protective equipment (PPE) necessary for work involving energized equipment.

Disaster Recovery

Comprehensive condition assessment to ensure the safe and efficient restoration of your business operations following a natural disaster.

Electrical Safety Training

Our training equips personnel working in electrical environment with a comprehensive understanding of safe work practices, hazard identification and standards application when working with electricity.



Electrical Safety Risk Assessment

Protect people and assets from potentially dangerous situation and hazard



Our service expertise

We thoroughly evaluate your system condition, identify potential dangers, and offer tailored advice to protect your workforce and maintain compliance with safety standards.

- **Select one section or the entire electrical system** to be evaluated
- Get a **comprehensive report** outlining risks and mitigation options



Your advantage

- **Enhanced safety** – identify potential safety hazards, reducing the risk of electrical safety incidents and fires
- **Compliance with regulations** – identify gaps or non-compliance issues
- **Safeguard your reputation** – commitment to safety attracts and retain clients who value responsible business practices



Arc Flash Risk Assessment & Mitigation

Protect people and assets from potentially dangerous situation and hazard



Our service expertise

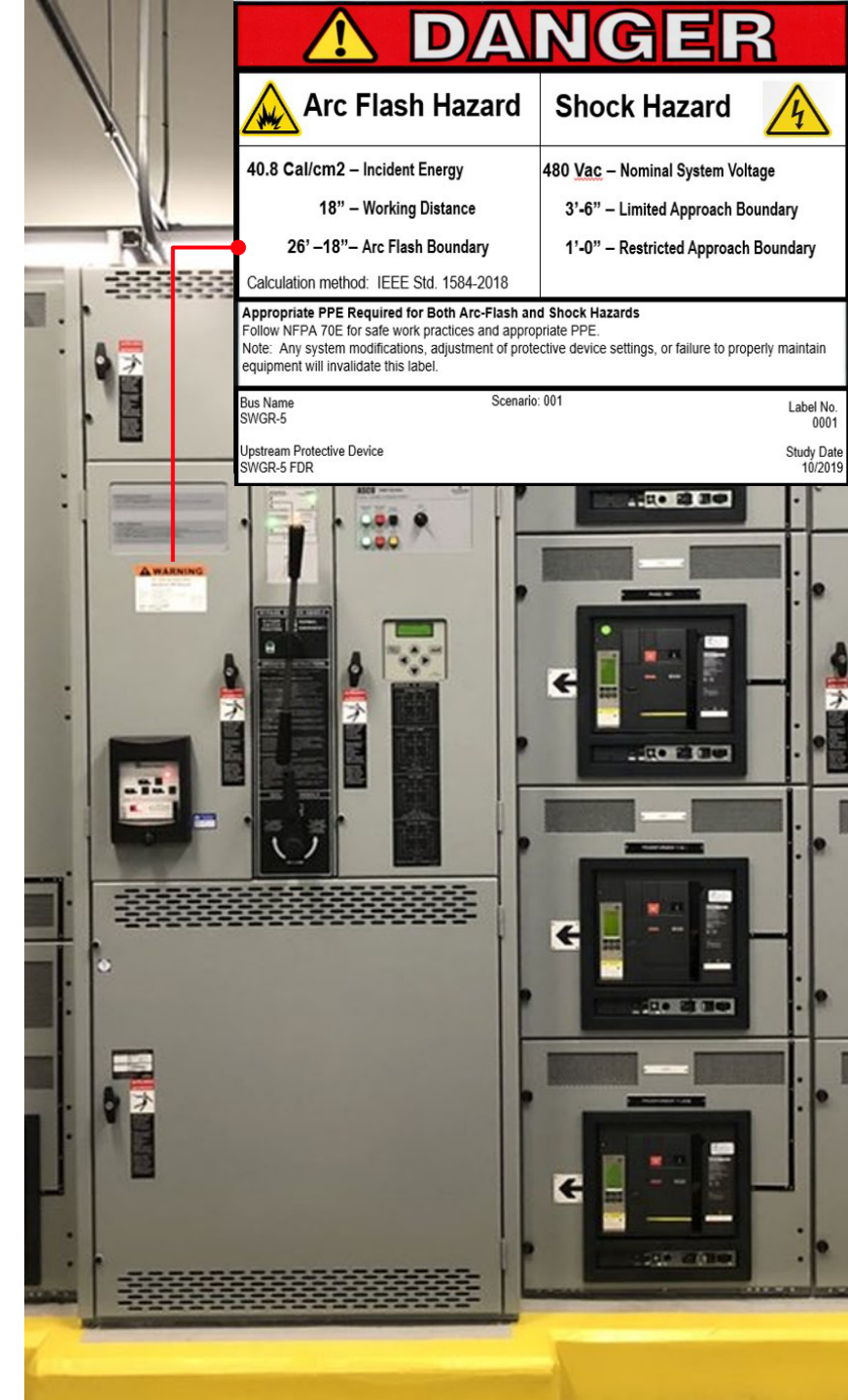
Determine the arc flash hazard risk / category at all relevant locations in the electrical system

- Arc flash energy E
- Arc flash boundary DB
- Required level of PPE
- Predicted arc fault current
- Assess the risk and consequences of installed or newly planed equipment
- Mitigation options, such as protection relay (coordination) upgrade, arc flash detection, and arc flash elimination
- Training of on-site personnel is also available



Your advantage

- Make it easier for personnel working in the Electrical System to understand the hazards and risks associated with arc flash, and use the appropriate PPE required
- Understand level of risk and mitigation options
- Achieve compliance with a safer working environment
- Reduce risk of downtime



! DANGER	
Arc Flash Hazard	Shock Hazard ⚡
40.8 Cal/cm2 – Incident Energy	480 Vac – Nominal System Voltage
18" – Working Distance	3'-6" – Limited Approach Boundary
26' – 18" – Arc Flash Boundary	1'-0" – Restricted Approach Boundary
Calculation method: IEEE Std. 1584-2018	
Appropriate PPE Required for Both Arc-Flash and Shock Hazards Follow NFPA 70E for safe work practices and appropriate PPE. Note: Any system modifications, adjustment of protective device settings, or failure to properly maintain equipment will invalidate this label.	
Bus Name SWGR-5	Scenario: 001 Label No. 0001
Upstream Protective Device SWGR-5 FDR	Study Date 10/2019

Electrical Safety Training

Protect people and assets from potentially dangerous situation and hazard



Our service expertise

An electrical safety awareness training in accordance with industry best practices and relevant International Standards. Learn to:

1. Prepare for the Work
2. Clearly identify the work location
3. Disconnect all sources and secure against re-connection
4. Verify the installation is dead
5. Carry out earthing/short circuiting
6. Provide protection against adjacent live parts
7. Complete a Permit to Work & "Walk the Permit"

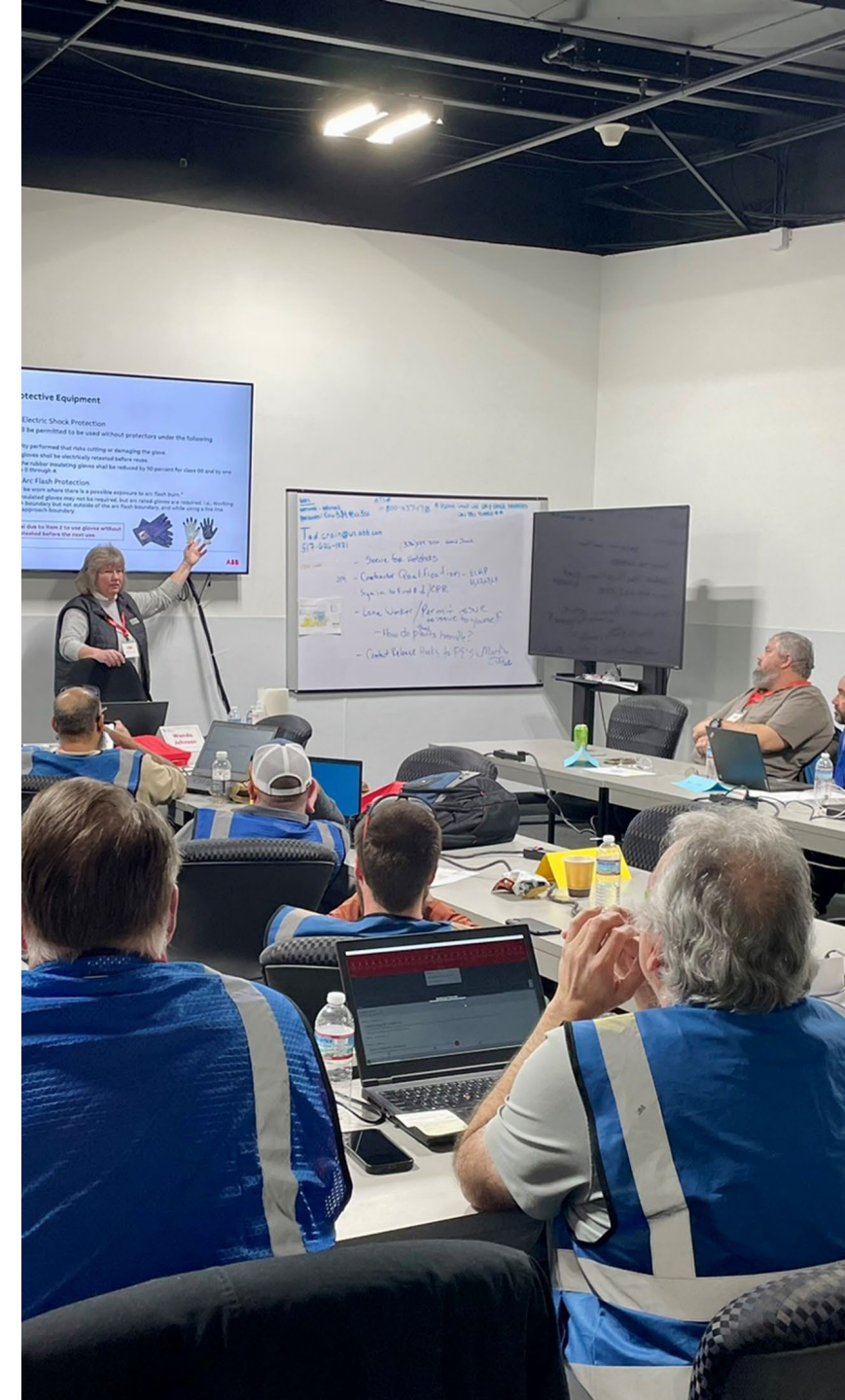


Your advantage

Personnel working on electrical system are knowledgeable of the hazards, risks and mitigation requirements when with working in the electrical system

- Understand basic electrical principles
- Identify hazards associated with electricity
- Identify safe work practices to eliminate hazards
- Understand and apply international standards when working with electricity

Reduce risk of electrical incidents.



Cyber Security services

Uncovering risks to begin a mitigation strategy

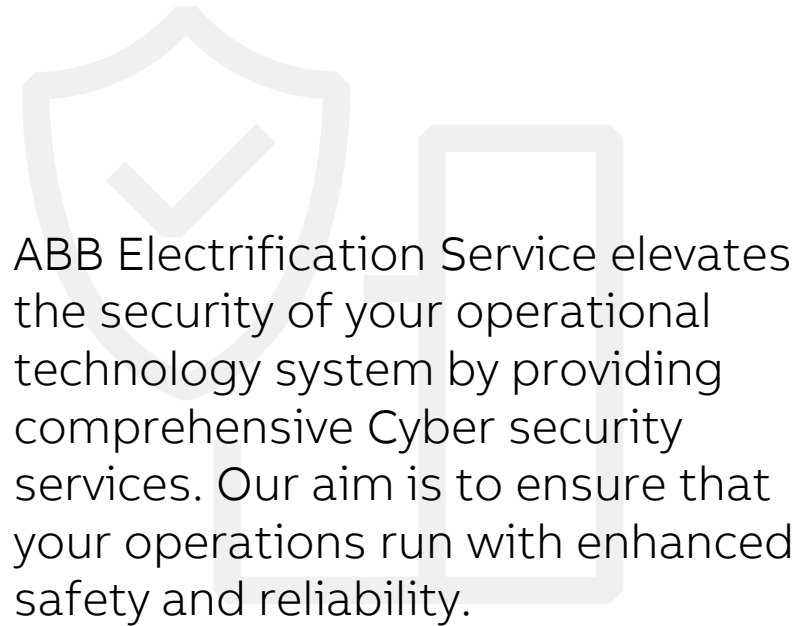


ABB Electrification Service elevates the security of your operational technology system by providing comprehensive Cyber security services. Our aim is to ensure that your operations run with enhanced safety and reliability.

Offline assessment

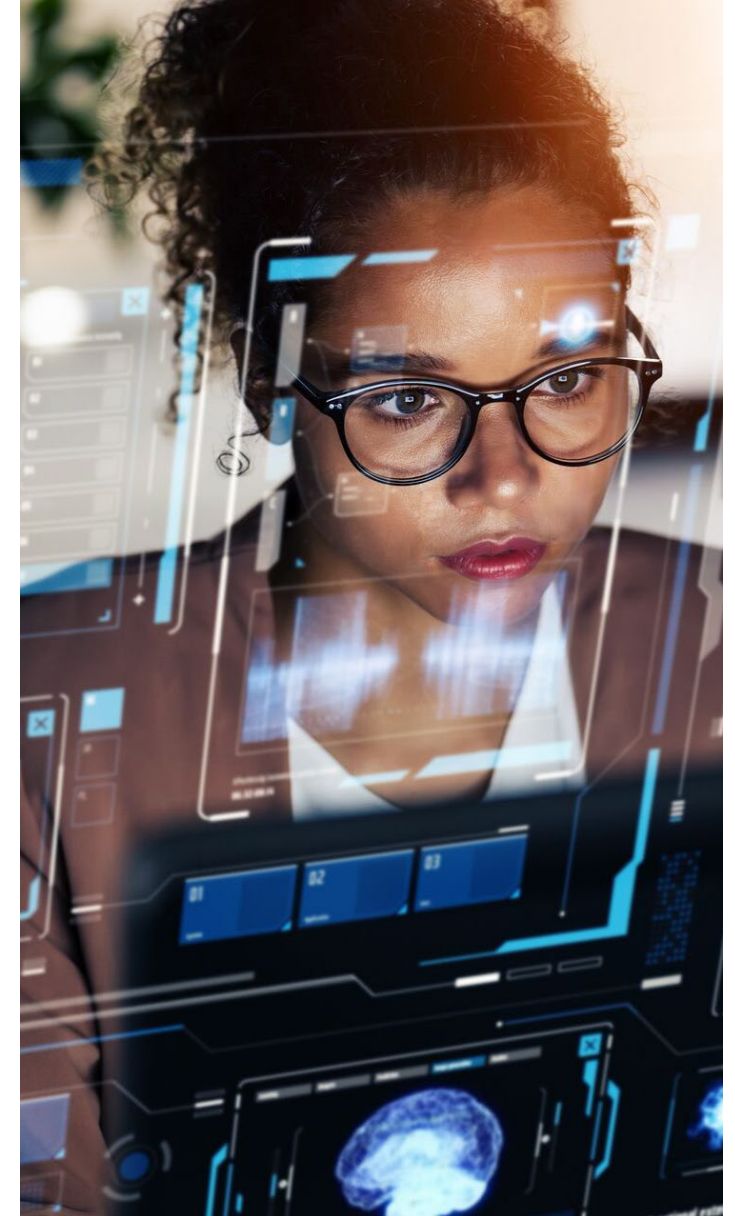
Identifies security risks in OT system and highlight their level of compliance with regulations.

Online assessment

Network vulnerabilities and threat detection, threat scoring and ranking, attacks identification, individual device vulnerability mapping.

Realtime protection

24/7 ongoing monitoring of vulnerabilities and threats against the OT network and devices.



Cyber Security services

Uncovering risks to begin a mitigation strategy



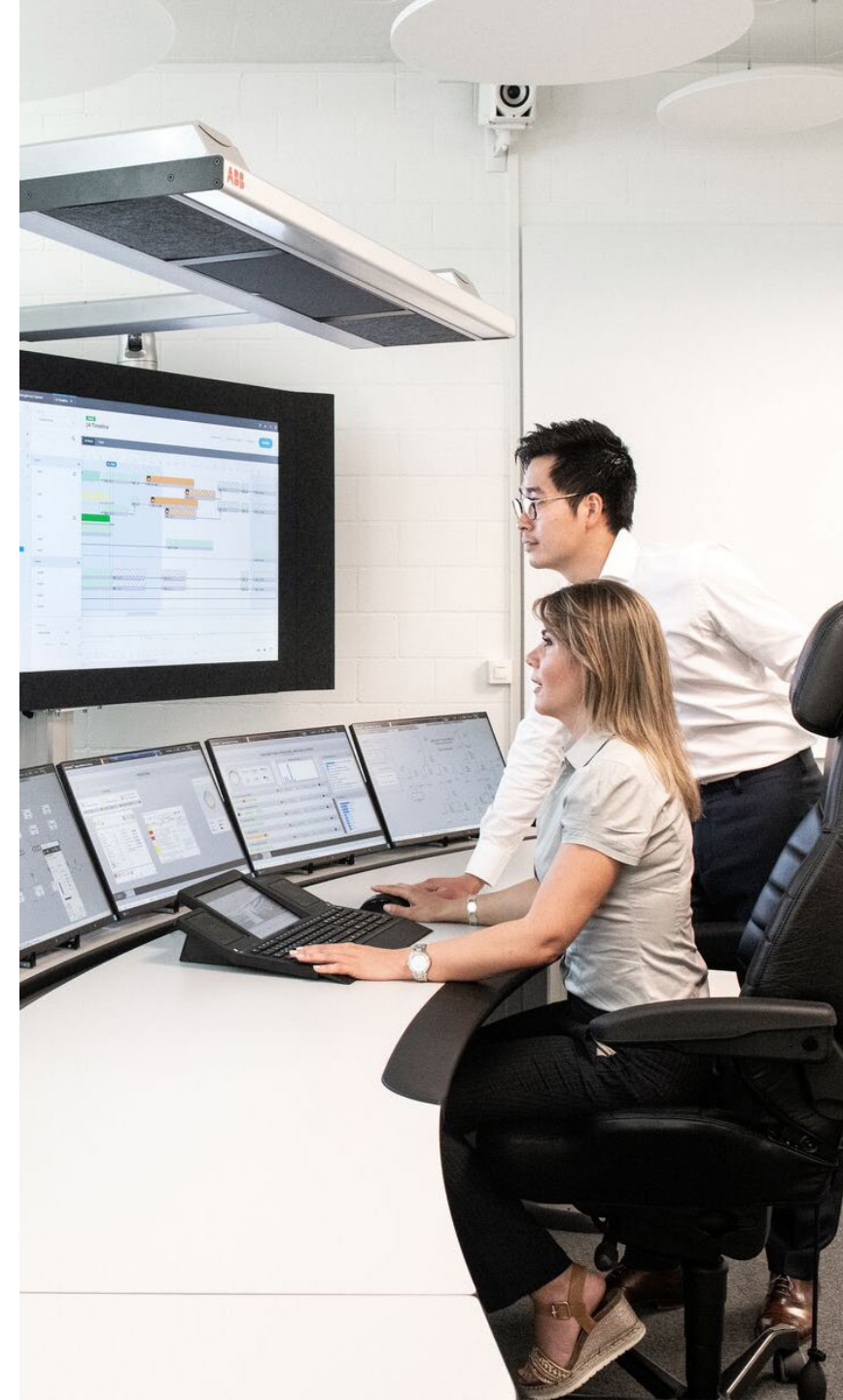
Our service expertise

- An ABB cybersecurity assessment gives a detailed insight into current security risks in your OT system, helping you to detect vulnerabilities, prevent possible attacks and ensure compliance with regulations



Your advantage

- **Safety** – ensure the safety of your workers, protecting them from serious injury and preserving their lives
- **Protects the environmental** – reduce the risk of releasing hazardous materials into the surrounding environment
- **Uninterrupted production** – minimize the risk of financial implications due to disruptions
- **Regulatory compliance** – prevent fines and sanctions from regulatory bodies due to failure to meet security standards and compliance requirements

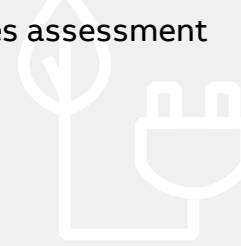


Energy & Carbon

Through our industry-leading expertise and technology, we partner with customers to assess and advise on the sustainability of their complete electrical distribution plant to ensure new levels of operational efficiency.

Energy

- Energy consumption assessment
 - Historical analysis
 - Site assessment
- Energy efficiency analysis
- Operational practices assessment



Carbon

- Carbon Footprint Calculation
 - Scope 1 – Direct emissions
 - Scope 2 – Indirect emissions
 - Scope 3 – Supply chain emissions
- Gaps Assessment



Establish sustainability strategy

- Definition of emissions goals
- Realtime tracking
- Complying with regulations



Net Zero Advisor

- 5-years investment plan
- Energy efficiency procurement & carbon reduction
 - Battery energy storage system
 - Carbon offset



Energy assessment

Do more with less by improving energy efficiency



Our service expertise

- An ABB energy assessment gives a detailed insight into current energy consumption, helping to make better decisions on ways to save energy, lower CO₂ emissions and boost your company's overall sustainability
- The energy assessment report presents an energy management plan with cost-benefit analysis, recommendations, and prioritization of best practices, quick wins, and easily implementable solutions



Your advantage

- **Cut energy waste and costs** – identify energy intensive applications in your plant, find ways to cut energy waste and obtain an estimate of potential cost savings
- **Reduce CO₂ emissions** – discover potential CO₂ emission reductions, the benefit towards meeting local environmental regulations and how it can help to meet sustainability goals
- **Minimal disruption to operations** – the assessment is carried out without any impact on your facility's operations



Carbon assessment

Secure resources by reducing carbon footprint



Our service expertise

- An ABB carbon assessment gives a detailed insight into current carbon footprint, helping to make better decisions on ways to reduce environment impacts, lower CO₂ emissions and boost a company's overall sustainability
- Carbon assessment report quantifies the greenhouse gas (GHG) emissions associated with:
 - Scope 1 – direct emissions
 - Scope 2 – indirect emissions
 - Scope 3 – value chain emissions



Your advantage

- **Cut carbon emissions and costs** – identify areas of inefficiency, finds way to cut resource waste and obtain an estimate of potential cost savings
- **Reduce CO₂ emissions** – discover potential CO₂ emission reductions, the benefit towards meeting local environmental regulations and how it can help you meet sustainability goals
- **Minimal disruption to operations** – the assessment is carried out without any impact on your facility's operations



Care services

We're available 24/7 to care for and support our customers' electrical products.

From installation & commissioning to maintenance, repairs and spare parts to training and remote assistance – we take care of our customers' installed base to maximize their electrical supply for improved productivity and profitability.

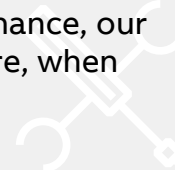
Installation & commissioning

Our engineers and technicians have the best product know-how to ensure faster start-up and reliable performance of your electrification system.



Repairs & maintenance

From augmented reality and remote service solutions to preventive, risk-based and predictive maintenance, our global service network is there, when and where you need us.



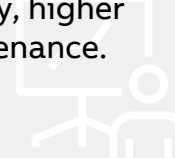
Spare parts

Genuine original spare parts, upgrade kits and service boxes are available for current and legacy products to ensure they continue to perform optimally for years.



Training

Our dedicated training programs will enable you to operate ABB equipment expertly with enhanced safety, higher reliability and reduced maintenance.



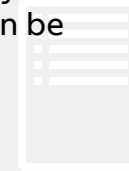
Advanced services

ABB Ability™ digital solutions portfolio help you unlock the full potential of your equipment and deliver value securely and sustainably.



Support agreements

ABB Power Care 2.0 is the most efficient way to manage the entire life cycle of large electrical systems and can be customized to each factory's requirement.



Installation & commissioning

Getting it right from the start



Our service expertise

- A clearly defined program to ensure the safe, professional and comprehensive commissioning of investment
- Delivered by certified personnel



Your advantage

- Minimized installation and commissioning time and cost – trained and certified personnel provide efficient project turnaround
- Safe and controlled start-up methodology
- Validity of product warranties is ensured
- Solid base for the long-term, trouble-free and efficient operation

[MORE INFORMATION](#)



Repair & maintenance

To get equipment back on-line as soon as possible



Our service expertise

On-site repair:

- Fast on-site response times to minimize the disruption to production; supported by local field service engineers

Workshop repair:

- Workshops are staffed with professional engineers, supported by our design experts and global service network



Your advantage

- Get equipment back on-line as soon as possible
- Repairs are completed to the latest standards, including equipment for explosive atmospheres, with original certification maintained
- Flexible approach to meet demanding time schedules
- High standards of safety and waste management throughout the repair process

[MORE INFORMATION](#)



Collaborative operations for electrical systems – CLOSER

Immediate first level support delivered through augmented reality



Our service expertise

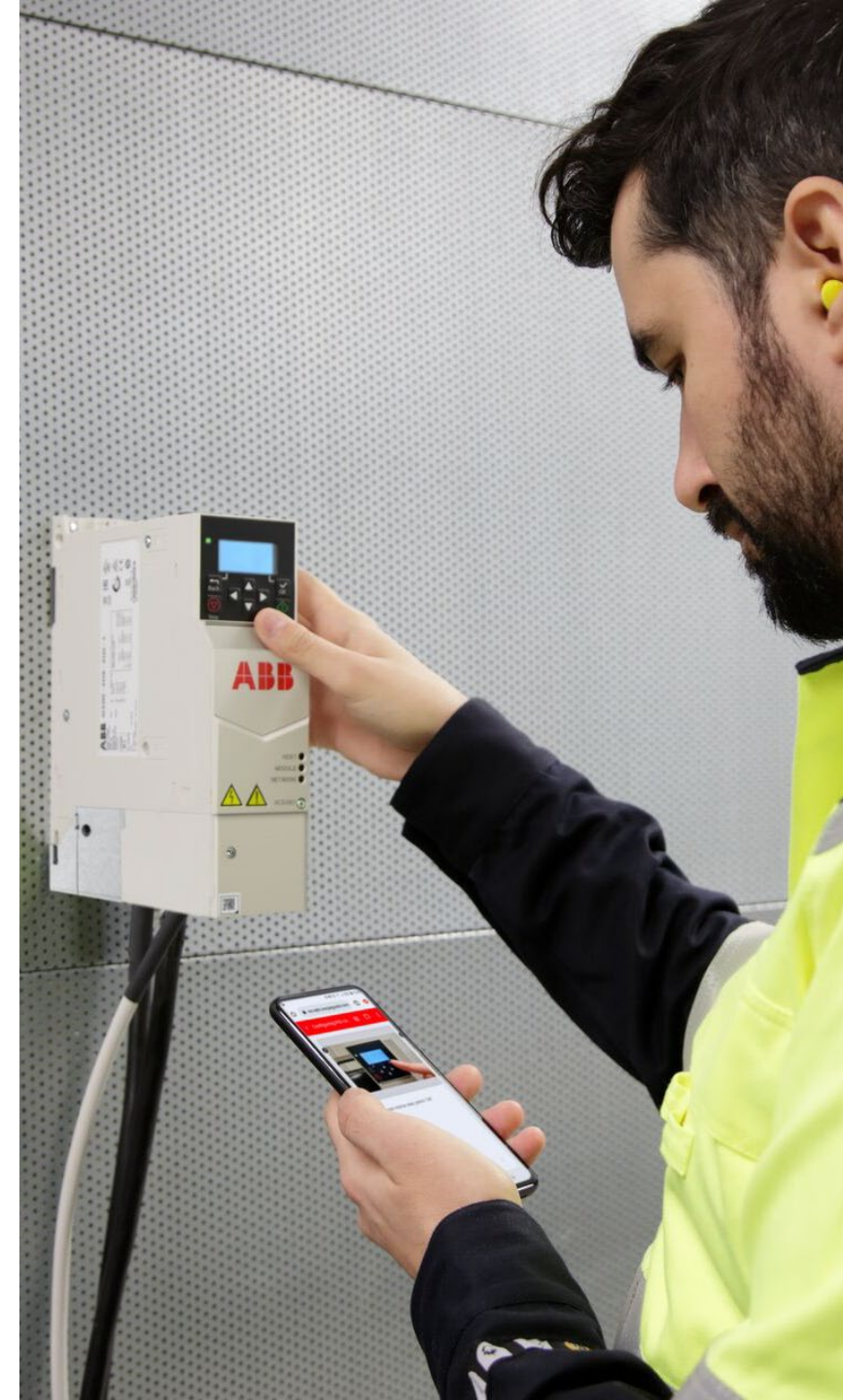
- On-site engineers can use their mobile device to access visual troubleshooting guides via an immersive augmented reality experience
- With its built-in augmented reality, CLOSER tool provides a fast and efficient way to guide site-engineers on self-implemented operations



Your advantage

- Minimized downtime – rapid troubleshooting process reduces equipment downtime
- Lower maintenance costs – faster resolution of problems with reduced travel time and costs
- Improved personnel safety – fewer human errors caused by complex or unfamiliar tasks
- Connection with an ABB technical expert – if further assistance is needed, through RAISE

[MORE INFORMATION](#)



Remote assistance for electrical systems – RAISE

Simplify troubleshooting with live and interactive support from an ABB expert



Our service expertise

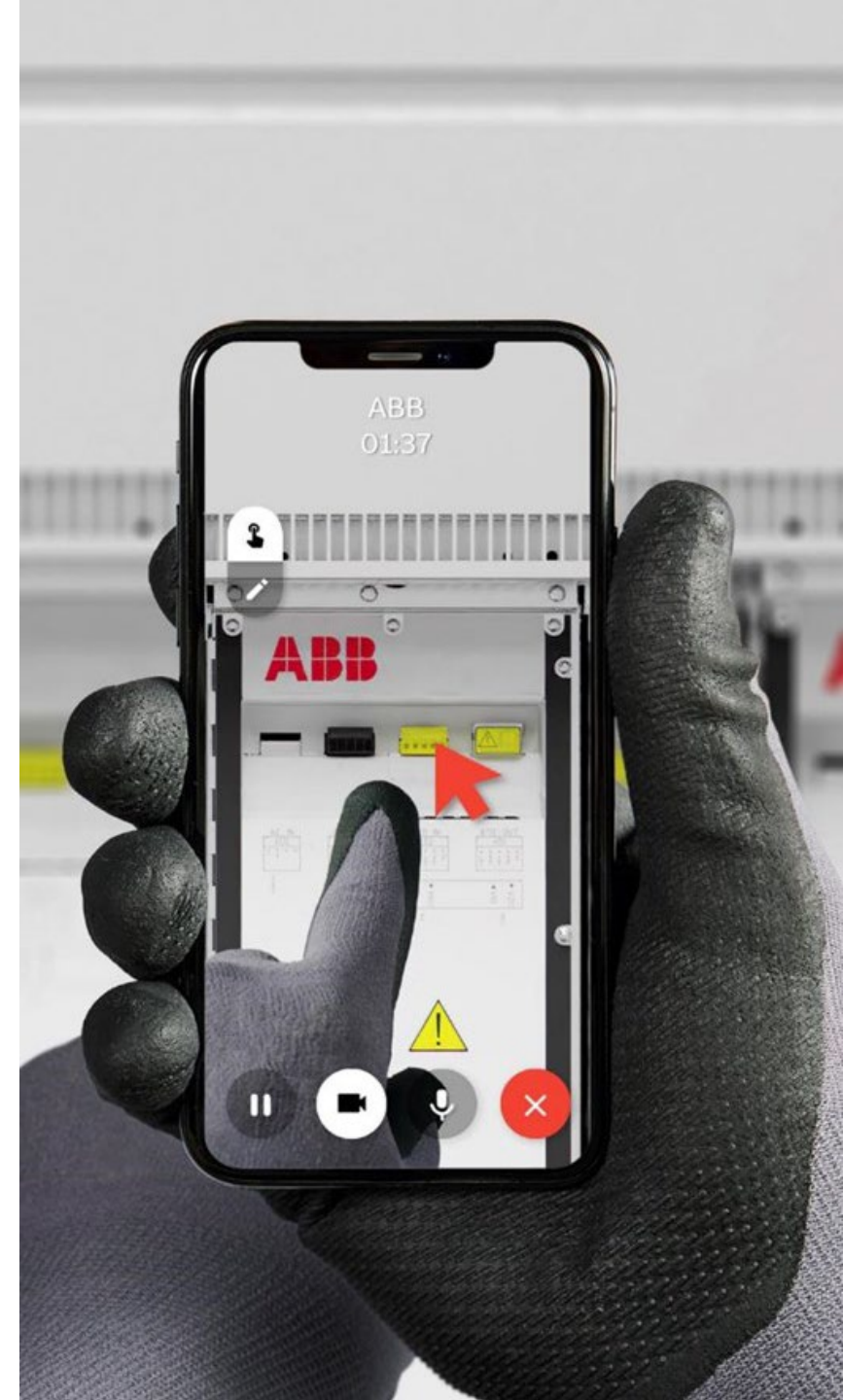
- On-site engineers can use their mobile device to access remote visual guidance from an ABB expert, by simply clicking on a received text message or email link
- With its built-in augmented reality, the Remote Assistance tool provides a fast and efficient way to navigate to the heart of an equipment issue



Your advantage

- **Minimized downtime** – rapid troubleshooting process reduces equipment downtime
- **Lower maintenance costs** – faster resolution of problems with reduced travel time and costs
- **Improved personnel safety** – fewer human errors caused by complex or unfamiliar tasks
- **Easy to use tool** – no special hardware or software required

[MORE INFORMATION](#)



Spare parts

Right part, right place, right time



Our service expertise

- Full support of parts for ABB equipment
- Expert support in identifying parts based on equipment condition and criticality
- E-business accessibility 24/7
- Inventory access service – ABB manages your spare parts stock, either on your site or at ABB's facilities. This cost-efficient service means that the required part is always available



Your advantage

- Genuine spare parts incorporating the latest design upgrades
- “One-stop-shop” – availability of different spare parts from one stock
- Optimized part kits for maintenance and part packages for unexpected situations
- One year warranty for individual spare parts and spare part kits
- Doorstep delivery – global network of ABB offices and third-party channel companies allows efficient delivery of spare parts

MORE INFORMATION



Training

The right knowledge, at the right time
to get the job done



Our service expertise

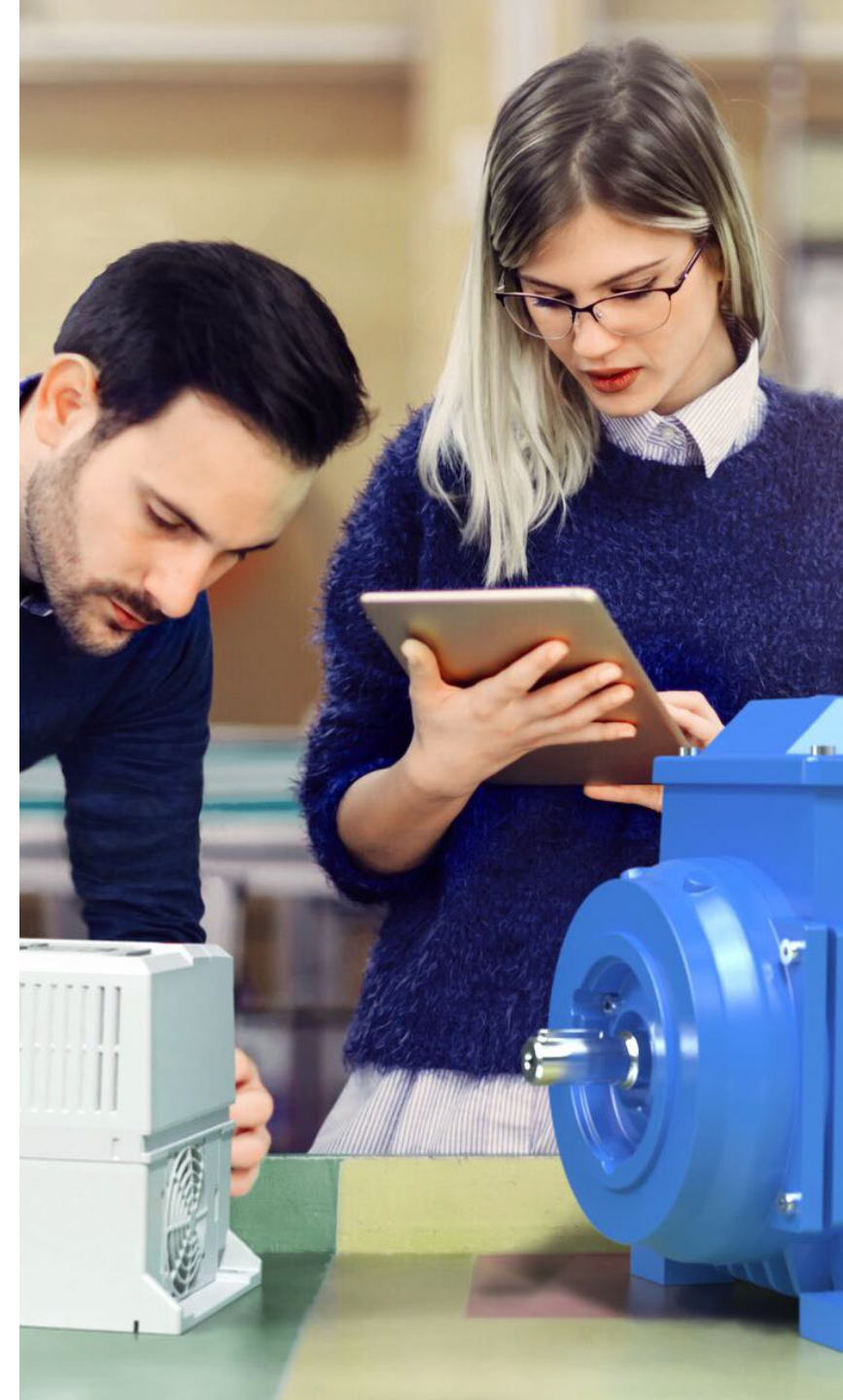
- Comprehensive range of standard and customized training, covering product knowledge, cost of ownership, operation and maintenance.
- The offer includes a combination of videos, e-learning and classroom trainings, depending on the topic and your need.



Your advantage

- Quick response and decision making due to increased knowledge of product design, operations and maintenance
- Reduced downtime, higher asset availability and fewer maintenance issues through better management by trained personnel
- Access to ABB's wealth of knowledge, because a skilled and efficient workforce is your plant's best asset

[MORE INFORMATION](#)



Support agreement

Customized services for maximum availability



Our service expertise

ABB Power Care agreement offers a modular concept of customer support based on five service packages:

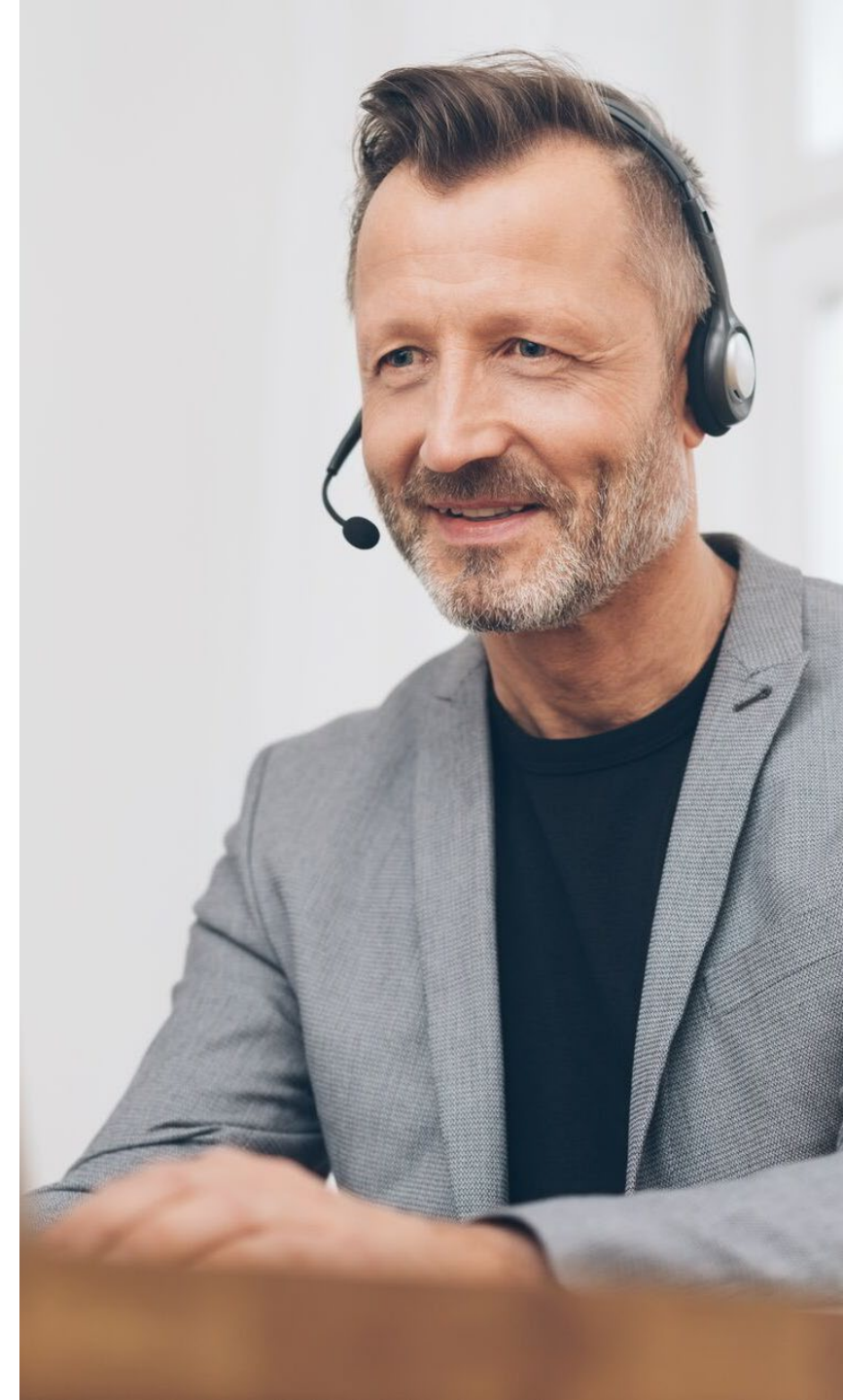
- Emergency & Troubleshooting
- Diagnosis and Condition Assessment
- Maintenance
- Skills Development
- Sustainability & Security



Your advantage

- Rapid resolution – With a service contract you ensure priority and access to technical support services 24/7 – whenever you need it
- Local contacts near you – You can reach your local ABB to ensure a quick response. If the case requires deeper investigation, it is escalated for higher level of expertise
- Process availability – Getting your questions answered quickly ensures that your process runs smoothly with reduced maintenance time and cost

[MORE INFORMATION](#)



Modernization services

ABB Electrification Service helps customers take the efficiency and reliability of their electrical assets to the next level through extensions, upgrades and retrofits. Our modernization services reduce total cost of ownership, maximize customer revenue, and deliver safer, smarter and more reliable solutions that get the most out of existing assets and typically extend their lifespan for another 20-30 years.



Extensions, upgrades & retrofits

Our services help you to extend the life of your electrical system with the next generation of hardware and software, exchange worn parts and outdated components, while maintaining the original plant and equipment configuration.



Replacements

We replace outdated or damaged assets, such as switchgear and modular systems, with an equivalent or better solution that extends the life cycle of the product and reduces downtime.



End-of-life services

We can advise you on a replacement procedure for ABB equipment at the end of its useful life in a way that minimizes waste and meets all local environmental regulations. In certain countries, we also manage the decommissioning of waste electrical and electronic equipment.



Extensions, upgrades & retrofits

Optimal performance and lifetime extensions



Our service expertise

- Assets modernization service unlocks the latest features of LV/MV system, by installing state-of-the-art control systems within proven and existing designs. An engineered solution for upgrading the systems can help minimize investment costs, and reduce the downtime required
- Modernization service can also enhance the efficiency and reliability of the system, bringing it in-line with the latest advancements in technology



Your advantage

- **Performance improvements** – A control upgrade enables the use of the latest technology and control algorithms, improving reliability and efficiency
- **Guaranteed life-cycle services** – All services, including the provision of spare parts, technical support and training, are available following a life-cycle upgrade
- **Securing operational reliability** – The process continues to operate with the highest reliability, guaranteed by the latest control platforms and the replacement of ageing components
- **Digitalization with ABB Ability™** – Providing actionable data that can be used to improve the performance of applications

[MORE INFORMATION](#)



Replacements

Seamless transition between old and new products



Our service expertise

- When a circuit breaker, contactor or relays needs to be replaced, we help you to select the optimal replacement with the correct features for your application to ensure a seamless transition between old and new product
- We help replace obsolete equipment entirely, partially or step-by-step with minimized impact on your primary processes



Your advantage

- Expert support in selecting replacement units
- Access to original drawings and specifications for ABB products
- Option to select based on energy calculations
- Reduced life-cycle costs
- Increased reliability, availability and safety

[MORE INFORMATION](#)



End of life services

Support through the entire life cycle of your electrical equipment



Our service expertise

- ABB service can help customers even in the final phase of use of their LV and MV equipment
- We partner with our customers to enable circularity and a focus on sustainability through responsible decommissioning, disposal and recycling of any ABB or non-ABB equipment to achieve both safety and environmental outcomes



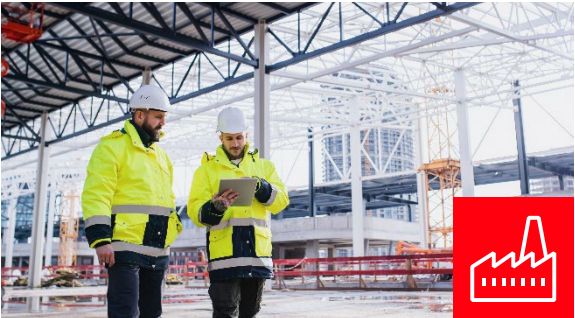
Your advantage

- We work closely with local certified partners to safely transport and dispose of products for maximize the number of recycled materials
- Certificate of disposal provided, with CO₂ saving calculated from the activities
- Environmentally compliant management of hazardous SF₆, regenerated and re-used, accordingly to IEC 60480:2019
- Compliant with local regulation – WEEE management

MORE INFORMATION



Electrification Service at a glance



Who we serve



- Utility
- O&G
- Buildings
- Metals & Mining
- Transportation
- Data Centers
- F&B
- Others



50
Countries across
3 regions



3,000+
World-class
service
professionals



37
Workshops



>4,900+
Retrofitting
solutions
available



17 mln
Devices installed
globally



>4 mln
Fours of support
every year



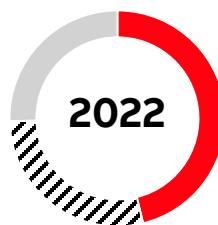
What we offer



- Extensions, Upgrades & Retrofits
- Spares & Consumables
- Maintenance
- Installation & Commissioning
- Replacement
- Technical Support & Repairs
- Service Agreements
- Advanced Services



Where we sell



- EMEA
- Americas
- Asia



What we service



>100
Local standards



>150
Product lines

Industry segments

Our extensive industry experience, combined with our global network of service experts, guarantees that you will always have a reliable partner nearby to support your market-specific needs



Scan the QR code to learn more
or contact your local ABB expert

Renewables



Chemicals



Oil & Gas



Metals



Data Centers



Transportation



Mining & Minerals



Buildings



Food & Beverage



Utilities



ABB