



Service for mining and mineral
processing industries
Keep production running

Focus on your everyday challenges We focus on your equipment



The mining and mineral processing industry faces many challenges today: rising costs of exploration, development in remote areas and under extreme conditions, volatile market prices, health and safety of workers as well as stringent environmental regulations. To meet these major challenges you need equipment that operates efficiently and reliably. Ideally without any effort on your part. ABB helps you to focus on your everyday work, while we concentrate on maintaining your equipment. We provide you with a comprehensive service portfolio covering all major processes from quarry to dispatch – to keep your production running.

ABB has been working for the mining and minerals industry for more than 60 years. Over the past six decades we have not only improved entire plant processes, but also developed tailored solutions for particular problems our customer have to handle. Through a long series of innovations we have consistently raised the bar in plant performance.

Both our experience and expertise are embedded in our service portfolio – a portfolio that is designed to meet all customer requirements and to ensure that your plant operates at peak productivity and cost efficiency.

Our comprehensive portfolio ranges from long-term service agreements to individual service products like spare parts, training, engineering and consulting. It also includes state-of-the-art technologies such as remote services and solutions for retrofits.

With an ABB service agreement you minimize the risk of costly unscheduled breakdowns, extend the life cycle of your equipment, optimize process performance and achieve operational excellence from a global leader in power and automation technologies. Our objective is to ensure that you get the most out of the money you spend on service.

Make ABB your preferred partner for service: Protect and optimize your assets.

Responsibility in a changing world

With a reliable partner



Corporate social responsibility

Our work does not stop at your front door. As a responsible corporate citizen, ABB is mindful of its role in contributing towards the society in which it operates. We want to make a difference where it matters most. ABB supports education programs in the mining countries to help expanding the number of skilled local personnel – your future work force. We also support local community programs that aim to improve environmental care.

Safety first

ABB considers the importance of employee, plant and process safety as top priority. Risk assessment forms an integral part of our service concept: Before we perform any on-site or remote service we check all health and safety issues to guarantee you that disruptions are minimized.

Protect, predict, prevent

Long-term service agreement

The way to protect and optimize your assets is through predictive, preventive and corrective maintenance. ABB offers a comprehensive long-term service agreement – tailored to your needs – to ensure that your investment is protected and asset performance is maintained at the highest level.

Long-term service agreement

Our long-term service agreement (LTSA) is the most efficient way to manage the life cycle needs of your equipment from quarry to dispatch. Furthermore, within this agreement you reduce maintenance costs and make them predictable. An LTSA combines one or more service products in a simple agreement that is customized to meet your site-specific requirements for preventive, predictive and corrective maintenance.

The LTSA complements your in-house resources. It provides you with the expertise and support of ABB's highly skilled service engineers. Thanks to our large installed base we fall back on a unmatched experience in installing and maintaining systems and processes.

ABB recommends to combine following service products in an LTSA:

- Scheduled maintenance
- Remote diagnostic services
- Training
- Spare parts lists and kits
- Engineering and consulting

Collaboration and consultation are key elements of an LTSA. The agreement includes a dedicated ABB life cycle manager who – in cooperation with your own service team – plans, coordinates, manages and executes all ordered services.

Communication and escalation plans are a vital part of the agreement, as are progress meetings to follow up on open issues, quarterly management reports with agreed key performance indicators, and on-demand yearly site assessments. And, most importantly, we offer flexibility – the ability to respond quickly to emergencies and adapt our schedule to meet modifications in your production or maintenance needs or shutdown schedule.

Benefits

- Optimized asset performance
- Reduced and predictable maintenance costs
- Fast emergency response
- Single point of contact: a dedicated ABB life cycle manager

A service portfolio for all your needs

ABB's distinct services out of the box

Comprehensive, but flexible. With ABB as your preferred service partner you have the choice: Choose the services that meet your requirements and we provide an agreement tailored to your needs.

Field services

ABB's field services focus on equipment enhancement and overall plant and safety performance, thus reducing the risk of disruptive life cycles and overall cost of maintenance. ABB offers a comprehensive range of field services: They include on-demand site inspections, scheduled or on-demand maintenance (predictive, preventive and corrective), emergency repairs, extended on-site start-up support, long-term on-site support, and detailed field service reports.

Remote services and spare parts

Regardless of where your production site is located, ABB is never far away. Through round-the-clock telephone support, remote access connections and efficient spare parts management, ABB provides rapid response and fast solutions to ensure that your plant equipment performs optimally and cost effectively.

Training and special services

Whatever equipment needs to be maintained – hoist, shovel, conveyor, gearless mill drive, ring-gearless mill drive or your electrical and control equipment – we do everything to help you protect your investment. Our extensive training programs are developed to continuously improve staff expertise. With our proven engineering and consulting services we help you to enhance system performance. Furthermore, our upgrades guarantee you state-of-the-art software and automation solutions.

Benefits

- Optimized asset performance
- Increased availability and reliability of equipment and systems
- Fast and easy access to technical experts 24 hours a day, 365 days per year
- Improved knowledge transfer through skilled workforce

Long-Term Service Agreement (LTSA)				
Site audit	Inventory audit	Condition monitoring	Competence development	Evolution & upgrades
Long-term scheduled maintenance	Spare parts lists and kits	Periodic maintenance	Training partnership	
Long-term on-site support	On-demand spares	Troubleshooting	On-site	Engineering, optimization & consulting
Extended start-up support	Emergency spares	Supportline	Classroom	
On-demand service				
Field services	Spare parts services	Remote services	Training services	Special services

Beyond the standard

Services for mineral processing plants



Complex systems and equipment, different environmental conditions and complicated production processes – to maintain a mineral processing plant efficiently you need expertise and experience. ABB offers highly skilled staff and comprehensive services to fulfill your needs.

Your motor: high-performing personnel

Efficient and effective maintenance of electrical and control equipment is based on the need to minimize operational risk and increase system availability. Therefore, our service professionals are always on your side – as knowledge advisors. They are trained and certified to ensure predictable and smoothly performed processes.

Today the mining industry is aiming at consistent operational excellence. One key factor to achieve this goal is optimally skilled staff. A staff that knows the risk of obsolescence. A staff that is aware of possible structural failures. A staff that can manage inventory and product life cycle costs. And a staff that reacts immediately, if turnarounds are advisable. With us you get highly trained personnel. Thanks to our proven training programs and long lasting experience your team will be a pro-active contributor to operational excellence. Your benefits are measurable: Minimized extra costs for extended shutdowns or unexpected outages as well as early root cause analysis and optimized production processes.

Advanced performance services

We know the challenges mining companies face today. And we invest in technology and human resources helping you to tackle these challenges. Our powerful service solutions provide state-of-the-art information management, advanced process control and operation management. These services make all manufacturing data related to operations visible and integrate them in one central operation center.



There is always room for improvement and we can detect it in your plant, too. With our ABB Mineral Plants FingerPrint™ – our structured plant audit – we diagnose ABB equipment, your manufacturing processes and plant reliability practices. And we derive a basis to optimize all three. FingerPrint™ identifies how well process automation is being maximized and production processes are controlled. It also delivers a basic benchmark of reliability practices. The resulting report provides recommendations for optimizations with estimated return on investment (ROI).

Smart Electrical Maintenance™

Until recently the challenge in maintenance was to acquire data. Today, the bottleneck is the processing of that data and the next stage will be to convert information into knowledge. To monitor and assess operating parameters of a device, we provide useful information that enables the identification of faults at an early stage. This asset optimization is integral to the delivery process of our contract.

With our long-term and performance-based contractual maintenance services we aim to improve productivity and overall profitability of the plant through world-class management and execution of maintenance. We strive to identify inefficiencies and duplications in manpower and material with our unique services. The Smart Electrical Maintenance™ is delivered seamlessly through strategic partnerships and alliances with our clients to ensure all expectations for quality, timeliness and safety are met. KPIs form the backbone to measure our performance.

Benefits

- Improved compliance and safety performance
- Total cost control – predictable annual costs, cash flow and payment procedures
- Pro-active approach with purpose-built maintenance procedures
- Optimized throughput and automated work processes with continuous asset monitoring

We offer the entire range of services including solutions for equipment, enterprise and optimization. For peace of mind we recommend bundling all services you need into one long-term service agreement (LTSA).

Hoist your productivity to a higher level

Services for underground mining



A mine hoist system is an extensive investment and an important component in the mining process. To get the most out of your investment and to run your production on an optimal level, your hoist system needs to operate reliably and efficiently. ABB protects and optimizes your systems: With our hoist services we maintain, monitor and analyze your hoist system regularly or on demand. ABB delivered its first complete mine hoist in 1937. Since then, more than 600 units have been installed all over the world. And thanks to our global presence and long experience we provide services – locally or from a remote location.

Optimize process performance

A hoist is an enormous carrier in your mine: Each day it runs with high speed while carrying heavy loads. This outstanding performance requires a strong basis – advanced and proven technology for drive, control and brake systems. To keep your hoist operating optimally, you need qualified maintenance personnel and fast access to competence and support. ABB offers mine hoist services for condition and performance control. Thanks to our long lasting experience we have the unique capability to provide service for entire mechanical and electrical mine hoist systems of all types. State-of-the-art solutions allow us to support you around the clock and around the globe.

Modernizations and upgrades

Your installed mine hoist system is wearing out? Upgrade it – with the help of ABB. We have performed numerous upgrades and modernizations of existing mine hoists. Our modernization service includes electrical as well as mechanical upgrades for all systems.



Spare parts and component services

Mining is a capital intensive industry, investments in equipment are expensive and every downtime is a disaster. ABB components are designed, manufactured and tested to ensure long lasting life cycle and extraordinary reliability. Especially when they are optimally maintained. Our hoist service team can advise your staff on effective maintenance programs like preventive maintenance kits and optimized spare parts inventories. However, if a failure occurs and equipment suddenly needs to be renewed, time is money. To support you in the best possible way: Our parts are always available – just call the ABB team close to you.

Competence development

Trained and skilled personnel is essential for your economic success. Our training and certification programs help you to succeed. The program aims to provide target group-oriented training for both – customers and ABB employees – in running, maintaining and commissioning the variety of mine hoist systems provided by ABB.

Benefits

- Guaranteed fast access to ABB experts
- Identification of needs for improvements and upgrades
- Prioritized as a contract customer
- Fast detection of abnormal conditions in an early stage

To provide you the entire range of underground mining services we are continuously developing new services like Hoist Mechanical FingerPrint™, ventilation on demand and electrical truck services. For peace of mind we recommend bundling all services you need into one long-term service agreement (LTSA).

Utilizing all your potential

Services for open-pit mining and material handling



Whatever your business is handling – from coal to copper ore, from iron ore to overburden – to be successful in the fields of open-pit mining and bulk material handling you need a strong partner. We offer you over 50 years of experience in delivering electrical and automation equipment for open-pit mining and high-volume bulk material handling. By using the know-how of the entire ABB network, we ensure that even the most challenging requirements are fulfilled. In addition, ABB also offers the advantage of a long-standing partnership with many of the most renowned international mining and construction companies.

Our focus: your success

As a strong partner committed to your success we provide you with a wide range of services during and after final delivery: 24 hours a day, 365 day a year. We strive to ensure you have uninterrupted operations and the rapid delivery of any spare part. Whether it is the reconstruction of your existing mobile machines or sophisticated services such as remote and expert based analysis of your mining assets – ABB is your answer. We develop and implement individually tailored solutions that work with highest reliability.

For optimal productivity of your equipment – both today as well as tomorrow – each of our solutions is based on robust ABB information technology engineered for mining applications.



Material handling machine retrofits

Although mechanical components of open-pit mining equipment often remain in good shape for years, the life span of their associated electrical and automation components is usually exhausted in an earlier stage. The optimal solution for this mismatch is an electrical reconstruction which incorporates the usable mechanical components of the machine. ABB has conducted many reconstruction projects around the world, with solutions that set new standards in terms of controllability, reliability, safety as well as maintenance. We guarantee: Our experienced team will find the best solution for your machines, too.

Conveyor belt monitoring services and consulting

Knowing your equipment will help to avoid unexpected and fatal failures in the conveying systems. We offer on-line monitoring services for the most critical failure modes, like belt longitudinal cracks, misalignment, critical wearing, severe damages, speed and slip as well as excessive temperature. The data collected during the monitoring times deliver valuable information about the conveying systems. They also provide you with a reliable maintenance time frame for a planned action and condition-based approach. The use of the proper platform for this mining asset management enables tracking, full view dashboard, messaging services as well as remote monitoring and diagnostic services.

Benefits

- Customized and periodic diagnosis report with predictive focus
- Remote connection to ABB conveyor analysts
- Predictable maintenance costs
- Optimized equipment performance

We offer you the entire range of material handling services like training, troubleshooting, preventive maintenance, SupportLine, remote monitoring and spare parts as well as specific service solutions. For peace of mind we recommend bundling all services you need into one long-term service agreement (LTSA).

Get the most out of your investment

Services for grinding applications



ABB has been manufacturing variable-speed drive systems for more than 40 years. Over the past four decades we have delivered more drive systems for grinding applications than any other supplier. Our worldwide experience in grinding allows us to supply optimized mill drive solutions that have consistently set new productivity records. The demands on grinding applications rise constantly: higher speed, bigger drives, heavy load and huge environmental challenges. To meet your economic goals a smoothly running mill is a must. And to keep your mill operating optimally you need a strong service partner – a partner like ABB.

Maximize system life cycle

Even though a mill is running reliably, there can be a lot of potential for improvement. However, it requires distinctive experience and an in-depth knowledge of your grinding systems to detect what can be optimized. With our field services we focus on equipment enhancement and safety performance, thus reducing the risk of disruptive life cycles. We offer a comprehensive range of services to meet all conceivable requirements. They include on-demand site inspections, scheduled or on-demand maintenance, emergency repairs, extended on-site start-up support, long-term on-site support, and detailed field service reports. These vital on-site services are performed by ABB service personnel trained in the latest diagnostic, repair and maintenance practices. The most comfortable way to have all needed services ready, is to bunch them in one long-term service agreement (LTSA). To make your maintenance costs predictable we offer you a three-year LTSA.

Remote services

Wherever your mine is located, it is essential that you can count on your service supplier, whenever you need support. We ensure you service 24/7/365: Our remote services portfolio offers the choice of two products to give you access to ABB experts or receive continuous monitoring of your drive systems via secure connections.



ABB SupportLine

ABB SupportLine gives you access to the most comprehensive and advanced telephone support program in the market. This round-the-clock service puts you in immediate contact with our technical support engineers who have the knowledge, experience and resources to handle your support request immediately.

Remote diagnostics

Remote diagnostic services (RDS) combine remote connectivity, advanced monitoring and diagnosis, data security and global technical support in a simple, widely proven package. The package includes on-line troubleshooting, periodic maintenance and condition monitoring:

- RDS troubleshooting: ABB experts are linked to the operators' HMI via a secure remote access connection to enable on-demand problem solving.
- RDS periodic maintenance reports: ABB engineers perform scheduled health and condition examinations of the drive systems through periodic inspections. After each inspection you receive a detailed report with recommendations on preventive maintenance actions.
- RDS condition monitoring: Addresses both preventive and predictive maintenance by concentrating all available data sources in one place and transforming the data into valuable information relating to the health and operational status of the drive system. Condition monitoring is based on proven state-of-the-art ABB technology and runs automatically in the background, without interfering with existing hardware and software.

Benefits

- Increased availability and reliability of equipment
- Reduced maintenance – planned and unplanned
- Immediate remote access to the drive system from any place in the world
- Predictable maintenance cost thanks to LTSA

We offer you the entire range of grinding application services like training, spare parts, inventory checks, engineering and consulting as well as specific service solutions. For peace of mind we recommend bundling all services you need into one long-term service agreement (LTSA).

Solutions that focus on your success

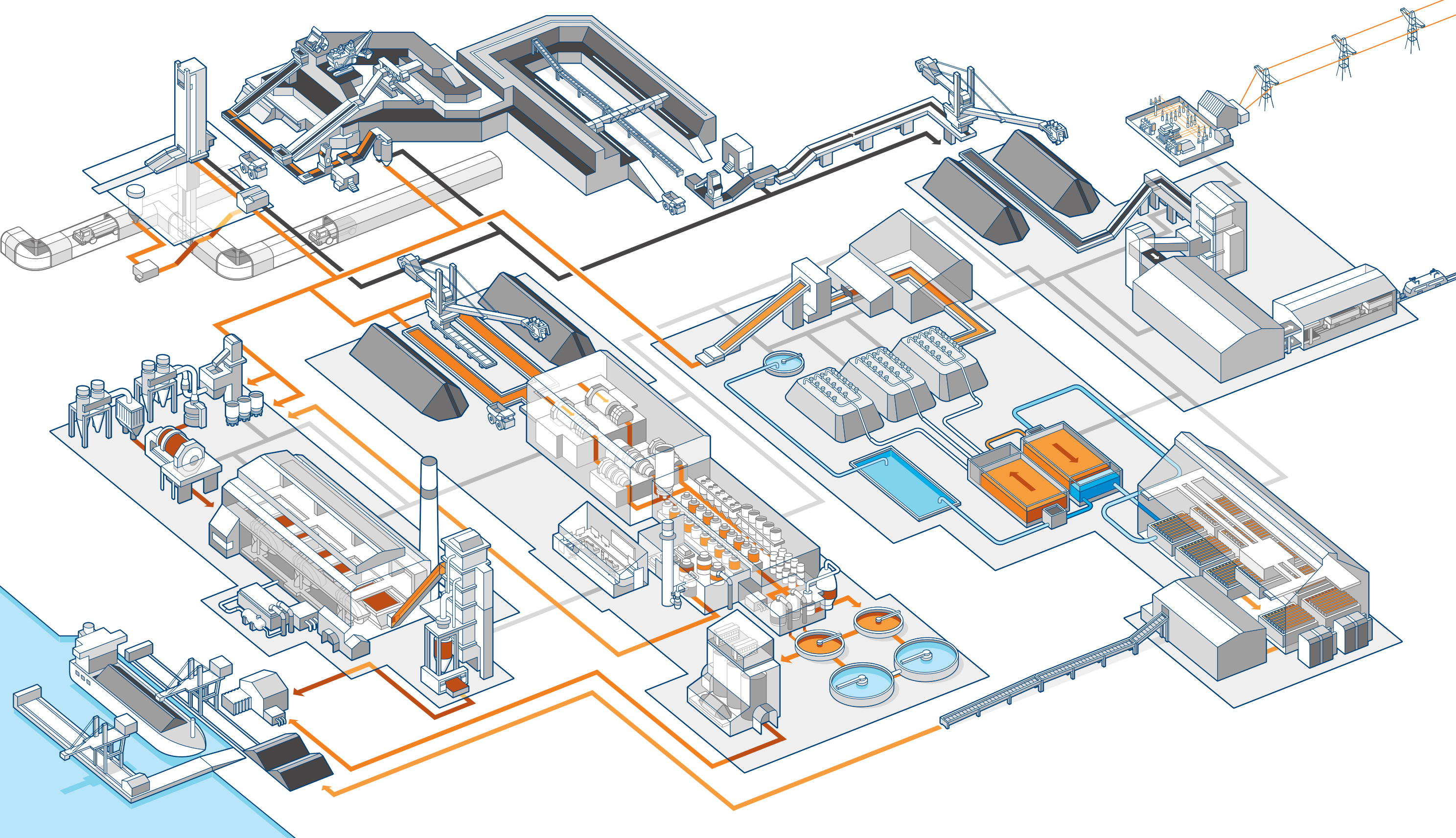
ABB's distinct service portfolio



1 Mineral processing plants – comprehensive services for your entire process | 2 Underground mining – entire range of mine hoist services | 3 Open-pit mining and material handling – tailored services to maximize the life cycle of your mining equipment | 4 Grinding solutions – knowledge, experience and expertise bundled in our grinding services to optimize your assets



5 Remote services – sophisticated remote solutions performed by our highly skilled staff | 6 Field services – we analyze and improve your plant processes | 7 ABB SupportLine – we are just a phone call away | 8 Training and consulting – with us you can build on highly trained personnel



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ABB's Mining business unit is represented in the following countries:

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For contact details, please visit our website:

www.abb.com/mining



Overview mining & mineral processing

Power and productivity
for a better world™

