Engineering efficiency in mining
Enhancing safety, reliability and sustainability
Tackling mining’s diverse challenges

The machines and equipment used in mining must provide reliable, safe and efficient operation in challenging and hostile environments. Together with extensive mining experience and a wide portfolio of life cycle services, ABB is well positioned to tackle the industry’s most demanding situations.

Lower operational overheads…
- Operational costs must be controlled without comprising safety of plant, personnel or end product.
- All production machinery across all applications must have higher reliability than previous generations to provide increased production time. Breakdown is not an option so unplanned downtime must be eliminated.

... through advanced maintenance regimes
- Soft starting and accurate torque control prevents shock loading, leading to less wear and tear on gears, belts and driven machines. Variable speed drive (VSD) modernization services offer a new life to old aging assets while economically ensuring lowest life cycle cost.
- ABB Ability™ Condition Monitoring services deliver accurate, real-time information about VSD, motor and mechanical equipment conditions, to ensure equipment is available, reliable and serviceable.
- ABB’s global service network and service agreements relieve pressure on in-house teams and increase speed of response to critical issues.
- ABB Ability™ Smart Sensor’s condition monitoring functionality warns of impending failures, long before they happen, reducing unplanned downtime.

Becoming more competitive…
- Operations must remain profitable even in tough market conditions. Increasing production efficiency by digitizing with ABB Ability™ helps that happen.
- Personnel safety increases when people are removed from harm’s way by using remote or autonomously operated equipment.
- Improving air quality by reducing contaminants and increasing the quality of ventilation improves employee health.
- Providing a modern, technology supported workplace that is competitive with other industries helps attract the most talented employees.

... through better stewardship of our mineral resources
- A smaller CO₂ footprint through more efficient energy use and management. ABB Ability™ Energy Optimization services reduce CO₂ emissions and help gain cost savings through reduced electricity consumption.
- Increased use of electrically driven machines reduces diesel emissions and the potential for fuel spills.
- Reduce waste heat entering the atmosphere by using more efficient digitally controlled processes.

Meeting global safety regulations…
- International standards for hazardous areas such as IEC, MA, MSHA and others, together with regional certifications, improves safety in mining.
- In the EU, ATEX directives cover the Essential Health and Safety Requirements (EHSRs) for products used in potentially explosive atmospheres.

... demands the best-in-class technology
- VSDs and electric motors need to be rugged and reliable, with systems protecting against arc flash.
- VSDs must have safety enhancing features like the integrated SIL 3/PL e certified functional safety modules.
- An ATEX approved AC motor and AC drive combination gives safe, economical and effective control of any motor-driven application.

“... We see technology as key to improving safety levels in mines…”

Overseeing diverse application safety needs…
- Using diesel engines underground presents safety, health and ventilation challenges.

... with the safest and most reliable solutions…
- VSDs play a key role in ventilation on demand (VOD) by ensuring that the right amount of fresh air is available in the right area without increasing flow in areas that do not need it.
- The latest technology in underground drills, load haul and dump machines (LHDs) and personnel transport, uses VSDs and battery powered electric motors to replace diesel engines, greatly reducing ventilation demands and increasing safety.

Health and safety managers

”The presence of hazardous areas requires the safest and most reliable products to decrease the risk of fire or gas ignition.”

Production managers

“Our production targets must meet the high-quality specifications our customers demand: on-time, efficiently and safely.”

From production efficiency to quality output to operational targets…
- Operational efficiency can be improved by controlling costs such as energy use and peak penalty charges to introducing more automation and reducing manpower.
- To meet ever stricter production targets, mining equipment cannot break down. Any risk of application failure must be anticipated using real-time data gathered from the process.
- Customers demand the highest quality end-product, which calls for automated, on-line sampling systems that give instant and accurate feedback.

... digitalization and automation bring better intelligence
- Multiple inputs and outputs (I/Os) allow a variety of process information to be extracted from VSDs, motors and mechanical products and adds intelligence to the motor-driven application.
- Open fieldbus systems allow easy digitalized product integration to any PLC or similar plant control systems, giving greater insight, Information and better production control.
- Accurate torque control and rotational speed regulation eliminate process interruptions and contribute towards high end product quality across all applications, while saving energy.
- ABB Ability™ Life Cycle Assessment services help to maintain a high quality, performance and availability of operations, in a predictable manner.

Maintenance managers

“We need the most reliable products and systems to avoid unplanned shutdowns.”

Engineering managers

“We need to increase mine sustainability and reduce our impact on the environment.”
Tuning the mining process

From surface to underground mining, there are hundreds of motor-driven applications that benefit from speed and torque control. Benefits include energy saving, higher uptime, extended machinery lifetime and improved safety.

1. **OPEN PIT MINING**
   - Used to mine the likes of copper, gold and iron, where the ore body is large and the minerals are widely dispersed in the host rock.
   - Applications:
     - Drill rigs
     - Track-mounted electric shovels
     - Diggers and rubber-tired front-end loaders
     - Haul trucks
     - Stackers and reclaimers
     - Primary crushers: fixed and mobile types
     - Conveyors systems
   - Requirements:
     - Open pit operations use the bench-mining approach, in which a series of benches or terraces forms the cone shaped open pit.
     - Each bench gives access to a 10 to 15 m highwall. Side benches are created for hauling the overburden around the pit to the reclamation area.

2. **DRILLING AND BLASTING**
   - Mobile track-mounted drilling machines drill holes spaced at regular intervals which are filled with explosives and blasted.
   - Applications:
     - Drilling machines
   - Requirements:
     - During blasting, up to 2 million tonnes of rock are loosened at a time.

3. **REMOVING ORE**
   - Large electric shovels are used for loading the ore onto trucks which are then hauled to the processing facility. The shovel’s buckets can hold up to 44 m³ of rock, weigh 1,100 tonnes and operate at up to 13.8 kilovolts (kV).
   - Applications:
     - Large electric shovels
     - Diesel powered haulage trucks
     - Electric trolley assisted diesel trucks
   - Requirements:
     - Loaded trucks take the ore to crushers for further size reduction.

4. **DREDGING**
   - Large alluvial deposits are mined by floating dredgers and washing plants capable of excavating the gravel, processing it in the washing plant and stacking the tailings away from the dredge pond.
   - Applications:
     - Pumps
     - Bucket line
     - Dragline
   - Requirements:
     - Pumps remove material from the pond floor and transport it through a floating pipeline to a nearby plant where the ore is processed. Waste is returned to the pond.
     - Bucket line dredgers consist of a continuous line of buckets that scoop the material from the gravel bed at the edge of the dredge pond, raising it to the top of the washing plant mounted in the hull.
     - Backhoe dredgers are smaller and less efficient and employ a single bucket that digs the gravel and is swung over the feeder hopper of a floating washing plant like the layout in a bucket line dredge, although usually smaller.
Improving the efficiency of mining operations

Mine operators, machine builders and equipment suppliers need to select a motor-drive package that increases productivity, lowers energy consumption and maximizes equipment lifetime.

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Solution</th>
<th>Benefit</th>
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<tbody>
<tr>
<td><strong>Surface and underground drills</strong></td>
<td>- Strict environmental regulations demand more energy-efficient and environmentally friendlier drilling techniques.</td>
<td>- Varying ground conditions requires a motor that can adjust its speed continuously.</td>
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<td>- Motor-drive package regulates drill motor speed to ensure optimum performance based on ground conditions, bit pressures and percussion rates.</td>
<td>- Electric motor used instead of hydraulic or pneumatic motor.</td>
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<td>- Driving motor speed, depending on conditions, uses less energy compared to hydraulic or pneumatic drilling systems.</td>
<td>- Extends drill life and reliability with lower energy use and environmental impact.</td>
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<td>- Drives control the draglines’ travel, slew, dragging, conveying and hoisting, enabling entire operation to match the overburden requirements.</td>
<td>- Reduces the use of hydraulic liquids or compressed air, lowering environmental impact and increasing safety.</td>
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<td>Soft starting of various motors eliminates high starting currents and helps increase productivity of machine and other mine site equipment.</td>
<td>- Reduces overall cost of ownership.</td>
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<td>- Regenerative drives in draglines recover braking energy when reducing slewing speed.</td>
<td>- Prolongs belt lifetime and reduced stress on belt splices, resulting in higher availability.</td>
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<td>Lower energy use and less wear on draglines motors and mechanical parts.</td>
<td>- Power grid is protected from voltage drops by regulating inrush current when starting motors.</td>
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<td>- Reduces mechanical stresses on motors and machines, reducing maintenance needs.</td>
<td>- Slow starts of pump systems eliminate water hammer pressure spikes and resulting damage.</td>
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<td><strong>Compressors</strong></td>
<td>- Pipe bursts caused by variations in air pressure and wasted energy through air leaks.</td>
<td>- High current demand when starting a compressor can cause disturbance in the power network.</td>
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<td>- High current demand when starting a compressor can cause disturbance in the power network.</td>
<td>- Drive controls compressor motor speed and maintains constant air pressure in the pipeline, with significant reduction in air leakages.</td>
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<td>Variation in air pressure affects compressor performance.</td>
<td>- Drive controls the compressor ramp up and motor in-rush current, which reduces power network disturbances.</td>
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<td>- Maintains air pressure at desired level with high energy efficiency and minimal maintenance.</td>
<td>- Reduces air leakages by eliminating pressure peaks.</td>
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<td>- Reduces mechanical stresses and prolongs lifetime of compressor and entire air pipeline system.</td>
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<td><strong>Crushers</strong></td>
<td>- Huge mechanical stress on crusher and motor caused by crushing large rocks.</td>
<td>- Uninterrupted throughput with reduced mechanical stress, maximizes uptime.</td>
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<td>- Crusher motor speed and torque control prolongs lifetime of machine.</td>
<td>- Reliability and high efficiency of ABB motor drive systems.</td>
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<td>- Direct torque control (DTC) detects heavy loads and limits applied torque to safe levels.</td>
<td>- Reduces load and disturbances on the grid.</td>
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<td>- Drive smoothly reverses direction of crusher, rotating back and forth to breakdown hard-rock without jamming the crusher.</td>
<td>- Reduces wear and tear, improves reliability and prolongs crusher lifetime.</td>
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<td>- Drive provides nominal torque in entire operating speed range, assisting in starting crushers in weak network.</td>
<td>- Prolongs belt lifetime and reduced stress on belt splices, resulting in higher availability.</td>
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<td><strong>Fans</strong></td>
<td>- Underground mines demand control of air flow for fresh air and removal of emissions, dust, heat and gases produced during mining.</td>
<td>- Faster control of air flow by controlling speed of fan motors with drives.</td>
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<td>- Man and secondary ventilation fans are among largest consumers of electric power, having a direct impact on cost of production.</td>
<td>- Drives are more energy-efficient control method, ensuring significant energy savings compared to any other control technique.</td>
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<td>Critical resonant frequencies cause wear and tear to fans.</td>
<td>- To eliminate critical resonant frequencies, drives programmed to jump over them.</td>
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<td><strong>Conveyors and feeders</strong></td>
<td>- Risk of belt slipping or breaking.</td>
<td>- Drives protects belts and other mechanical equipment through smooth and accurate motor speed and torque control.</td>
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<td>- Loads are variable with frequent stops and starts leading to power grid experiencing voltage drops when starting large motors.</td>
<td>- Drive controls starting acceleration to prevent belt slippage, reduce peak belt tensions and provides accurate and fast load sharing when multiple drives are located on a single conveyor.</td>
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<td>- Downhill conveyors may require regenerative braking.</td>
<td>- Braking energy generated by motors and drives on regenerative conveyors is fed back into electrical network where it is available for use by other equipment.</td>
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<td>Drive provides nominal torque in entire operating range of speed.</td>
<td>- Conveyors can be run at low speeds for maintenance, belt changes or avoidance of ice build-up.</td>
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<td>Drive controls the compressor ramp up and motor in-rush current, which reduces power network disturbances.</td>
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<td><strong>Stacker-reclaimers and spreaders</strong></td>
<td>Continuous pressure to reduce stacking and reclaiming times, lower operational and maintenance costs and maximize plant uptime.</td>
<td>- Drives for motor speed control ensures efficient stacking and reclaiming, substantially lowering energy consumption, reducing wear and tear and prolonging machine lifetime with improved uptime.</td>
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<td>Drive allows for high-tolerance stacking, matching fluctuations in system pressure and maximizing plant uptime.</td>
<td>- Improved productivity through lower energy use and reduced downtime.</td>
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<td><strong>Pumps</strong></td>
<td>- Water hammer must be avoided.</td>
<td>- Eliminates pressure peaks in pipelines due to soft starting.</td>
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<td>- Up to 20 percent of a mine’s total energy consumption is used by pumps.</td>
<td>- Efficient operation of pumps, pipes, joints and valves.</td>
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<td>- High-density, abrasive and corrosive substances in slurry means pump parts wear out quickly and maintenance and energy costs are high.</td>
<td>- Reduces noise and increases motor and pump life.</td>
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<td>Pump speed can be adjusted to match fluctuations in system parameters such as flow rate, static head and settling velocity.</td>
<td>- A drive adjusts pump speed so that the flow is above critical velocity preventing blockages and avoiding a shutdown of the plant.</td>
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<td>Controlling pump motor speed with a drive brings substantial energy savings compared to on/off control, throttling or any other control method.</td>
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<td>Winches: • Belt slipping and breaking causes considerable downtime. • Constant rope tension is essential for keeping dredger firmly in desired position. • Dredger is moving continually and requires ease of control to maximize efficient operation.</td>
<td>• Winch drives control belt tension, avoiding breakages. • Drives replace costly hydraulic winch controllers, eliminating high maintenance costs, pollution risk and energy inefficiency while improving overall system reliability. • Drives enable easy and accurate maneuverability of dredger.</td>
<td>• Constant belt and rope tension for prolonged equipment lifetime. • Reduced noise levels, lower energy and maintenance costs plus elimination of hydraulic liquid leakages. • Ease of dredger positioning increases operating efficiency.</td>
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<td>Mine hoists: • Uninterrupted operation is critical to allow movement of miners and material and as an evacuation route in emergencies. • Gearbox failures, wear and tear of ropes and hoist mechanics as well as energy inefficiency have a negative impact on mine's profitability and safety.</td>
<td>• Drives vary speed of hoist motors providing smooth and accurate hoist operation throughout the entire speed range. • ABB motors, drives and mechanical power transmission products have intelligent remote monitoring and diagnostics system which delivers important information on equipment status and possible maintenance tasks needed. • Drives feature redundancy to allow for continued hoist operation at half speed and under Full load if required.</td>
<td>• Enhanced safety and high reliability for improving mine productivity. • Excellent energy efficiency, prolonged equipment lifetime and reduced maintenance cost. • Monitoring mine hoist equipment allows personnel to schedule preventive maintenance, thus increasing safety and reliability of operations.</td>
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<td>Mills: • To sustain production, mills must operate continuously. • With dual pinion mills, the load must be shared equally between the two pinions. • Torque pulsations and peak torques during startup create high stresses on network and mechanical equipment.</td>
<td>• Drive control lets mills easily react to changes in ore characteristics and throughout. Speed of mill can be tuned for optimal grinding and maximum throughput. • Drives ensure an accurate and coordinated load sharing. • Drives provide a smooth ramp up and deliver high starting torque for current drawn.</td>
<td>• There is no need to change mechanical components if ore characteristics change. More efficient use of the grinding power. • Accurate load sharing reduces component wear and increases reliability. • Low starting currents and high starting torque enable a smooth startup of mill, even when fully loaded.</td>
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<td>Trucks and loaders: • Increasing fuel prices, pressures to limit exhaust gas emissions and underground ventilation costs are leading to alternatives for conventional trucks and loaders with mechanical transmission systems.</td>
<td>• Drives and motors can propel trucks and loaders and control the movement of truck beds and loader buckets. • Offer higher efficiencies than diesel engines and eliminate heat and exhaust generated by diesel engines, thereby reducing ventilation needs. • Mobile drive solution for full- and hybrid electric working machines have IP 67 enclosure and can tolerate 4 g vibrations and 30 g shocks.</td>
<td>• Faster driving speed, lower fuel consumption, minimized need for maintenance and reduced noise and gas emissions.</td>
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<td>Locomotives and trains: • Stringent safety requirements, type of transported material, amount of load, driving conditions and track profile set different challenges on operating mine trains.</td>
<td>• Controlling locomotive and train motors using drives brings flexible train operation irrespective of load and environmental factors.</td>
<td>• Safe and environmentally friendly materials transportation. • Safe and comfortable working conditions, lower energy bill and reduced maintenance costs.</td>
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<td>Flotation cells: • Mineral recovery and cleaning of flotation concentrates require robust motors to increase uptime and reliability. • Corrosive operating conditions require robust motors to increase uptime and reliability. • Vibration due to belt slipping or misalignment condition causes downtime.</td>
<td>• Severe duty premium efficient motors designed for belt driven or coupled to a gear reducer, vertical or horizontal mounting. • ABB Ability™ Smart Sensor technology installed on the motor frame for condition monitoring.</td>
<td>• Increased uptime and reliability with industrial severe duty motor specifications. • Premium efficient severe duty motors deliver lower energy consumption. • Remote monitoring of electric motor condition with ABB Ability™ Smart Sensor technology.</td>
</tr>
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</table>
**Features and functions benefiting mining applications**

ABB offers an extensive range of devices for motor control, from softstarters and programmable drives as well as energy efficient and flameproof motors. Choosing the right products and features is essential to combat extreme working conditions, such as high temperature variations, humidity, vibration, high altitude, dust, corrosives and weak network conditions.

### Variable speed drives

**Soft starting and stopping and reversing of motor**
- Eliminates voltage fluctuations in supply network, high starting currents and reduces mechanical stress during starting and reversing.
- Savings through smaller cables and supply switchgear, minimal wear and tear of mechanics.
- Improves reliability and prolongs application lifetime.

**Accurate speed regulation**
- From running at crawling speed to smooth change of direction of rotation to synchronizing all motor speeds.
- Reduces energy consumption, prolongs lifetime, lowers operational and maintenance costs.

**Dynamic torque regulation**
- Full torque precisely controlled throughout entire speed range.
- Enables high starting torque and eliminates torque peaks.
- Less maintenance, lower costs, high uptime and increased productivity.

**High power factor**
- Lower reactive power consumption and no compensation equipment needed.
- Lower installation costs and substantial energy savings.

**Jump-over of critical frequencies**
- Speeds causing mechanical resonance are automatically skipped.

**PID control**
- No need for external PID controller.
- Avoids costs for additional components.

**Flexible user interface**
- Easy connection to any automation system through multiple fieldbus adapters.
- Reduces installation and programming costs.

**Regenerative braking**
- Braking energy is fed back into electrical network.
- Lower energy bill.

### Electric motors

**NEMA and IEC severe and Mine duty induction motors**
- For use in surface and underground applications, in hard-rock and coal mines.
- Can be certified for explosive atmospheres based on IEC or MSHA regulations.
- Constant high torque and full speed range.
- Vertical and horizontal mounting, belt driven or direct flange coupled.
- Operate at 50 or 60 Hz, low or medium voltages, air- or water-cooled.
- IEC ratings of IE2, IE3, IE4 efficiency levels and above minimize operating energy.
- Operate direct-on-line, soft starter and variable speed drives.
- IP66 mechanical protection and robust cast iron construction is available.
- Corrosion resistant paint specially formulated modified epoxy paint with UV protection.

**Medium voltage slip-ring motors**
- Suitable for high starting torques, low starting current and overload capability of 2.8 to 3 times nominal torque. Brush lifting devices available for constant speed applications to reduce brush wear and maintenance.

**Synchronous motors**
- Suitable for long, high powered overland conveyors, mills, hoists, large compressors, fans and pumps.
- Provide high power and torque and unity power factor for reduced energy consumption.

**Permanent magnet motors**
- Use of high torque low speed permanent magnet motor may eliminate the need for a gear-box which significantly reduces maintenance, increases system reliability and efficiency.

**Traction motors**
- Protection class up to IP69
- 50 g shock load
- Ex certified motors

**Synchronous reluctance motors (SynRM)**
- Provides higher energy efficiency and greater speed accuracy than induction motors.
**Packages**

- Low voltage permanent magnet motor and drive
  - High torque at low speeds.
  - Coupled directly to pump.
  - Eliminates use of gearboxes, belts and pulleys.
  - Avoids losses incurred in mechanical transmission equipment.
  - Significantly reduces maintenance needs of the system, increased system efficiency reduces power cost.

- Conveyor packages
  - Pulleys, bearings, couplings, reducers and other components.
  - Reduces engineering and procurement time.
  - Lowest total cost of ownership.

**Softstarters**

- Easy to use
  - Ensures low stress start every time, either with a normal voltage ramp or with more advanced torque control for linear torque acceleration.

- Harsh environment use
  - Ensure uninterrupted production in dusty or wet environments with IP66 keypad and coated electronics.

- Variable speed
  - Run motor in three different speeds - helpful during maintenance inspections.
  - Reduces inrush current compared to a DOL start.

- Motor protections
  - Built-in electronic overload (EOL) protection.
  - Locked rotor protection.
  - Standstill brake function - gives motor a braking force to be able to withstand external forces.

**Safety mounted bearings**

- Patented shaft attachment designs that provide faster and safer installation and removal.
- Industry-leading seal technology.
- ABB Ability™ Smart Sensor for mounted bearings provides an option to wirelessly monitor temperature and vibration.
- End covers are available to increase safety by preventing injury during operation.

**Couplings**

- Complete line of couplings for all bulk material handling applications including grid, gear, elastomeric, sleeve, menu, moment and fluid.

**Controlled Start Transmission (CST)**

- Reliable and rugged gear reducer with multi-plate wet clutch located on low speed side of gearbox, transmitting motor torque to driven load.
- Acts like a shock absorber and dampens belt tension spikes.
- Gearbox, motor, conveyor components and belt splices are protected.
- Clutch is PLC controlled so soft starting with long acceleration ramps are standard and load sharing between multiple motors are included.
- CST is the original “smart reducer” with numerous performance sensors located at key points on the machine. These are fully monitored by the PLC and are remotely transmitted to the operators control room.

**Mounted bearings**

- Patented shaft attachment designs that provide faster installation and removal.
- Minimum vibrations.
- Eliminating fretting corrosion.
- Industry-leading seal technology that includes multiple layers of sealing protection and advanced materials, ensuring maximum protection against contaminants.

**Enclosed gearing**

- Heavy duty gearboxes utilize AGMA bearing specifications with industry leading seal technology to withstand shock loads and provide increased service life.

**Pulleys**

- Drum pulleys in heavy duty or mine duty construction with lagging that includes SBR, neoprene or C-Lag in various thicknesses.
- Ceramic lagging is available as vulcanized or cold bonded.
- Wing pulleys with HE or XT style hubs for tail pulley applications requiring rugged durability with maximum belt cleaning.
- Engineered class pulley can handle belt tension requirements of a conveyor. Available with HE, XT, or Bikon shaft locking devices. End disc designs include integral hub, profiled, turbine, or T-section.
- Drum and wing pulley constructions available in heavy duty, mine duty extra, or engineered class. Engineered class includes an extended two year warranty.
- Tapered bushed and keyless shaft locking devices available.
- Integral hub, profiled, turbine, and T-section end discs designs.
- All common lagging materials available (SBR, DLAG, neoprene, FOS, ceramic, EPDM, and others).
- Proprietary DLAG lagging compound provides 73 percent higher abrasion resistance than SBR.
From the mine to the cloud and beyond

ABB Ability™ Condition Monitoring for powertrains optimizes the performance and efficiency of rotating equipment. It enables full transparency on all parameters for drives, motors, mounted bearings, gearing and pumps.

Intelligent powertrain
The powertrain is equipped with sensors and cloud connectivity and can comprise motors, drives, mechanical components including bearings, couplings and gearboxes – and also pumps.

Turning data into valuable information
Data gathered from VSDs’ built-in sensors and loggers together with that collected from ABB Ability™ Smart Sensors fitted to motors, bearings, gearing and pumps, can be collated, stored and further accessed via the cloud. The ability to gather and analyze this data can reveal information on the status and condition of your equipment, so that you can schedule service activities more effectively.

Accessing data for analytics
Detailed information can be extracted into a company’s own portal and systems. Information on many aspects of the mining and minerals process is available, including the ability to know exactly when and how production equipment is maintained.

Detailed dashboards give full transparency so that you can take actions that lead to less downtime, extended equipment lifetime, lower costs, safer operations and increased profitability.

Gain a digital advantage
Ensuring that the right person is exposed to the right information at the right time brings:
•  Appropriate response to production challenges, minimizing operating costs and wastage of products.
•  Greater insight into various aspects of the mining production process, thereby improving quality and reducing variations, errors and waste.
•  Lower risk of production failure and change the maintenance from reactive to predictive.
Keeping your production running

From spare parts and technical support to cloud-based remote monitoring solutions, ABB offers the most extensive service offering to fit your needs. The global ABB service units complemented by external ABB Value Providers form a service network on your doorstep. Maximize performance, uptime and efficiency throughout the life cycle of your assets.

With every step of the way

Even before you buy a drive, motor, bearing or soft starter, ABB’s experts are on hand to offer technical advice from dimensioning through to potential energy saving.

When you’ve decided on the right product, ABB and its global network of ABB Value Providers can help with installation and commissioning. They are also on hand to support you throughout the operations and maintenance phases of the product’s life cycle, providing preventive maintenance programs tailored to your operational needs.

ABB will ensure you are aware of any upgrades, retrofit or replacement opportunities. If you’ve registered your drives and motors with us, then our experts will contact you advising on your best service advice. All of which helps maximize performance, uptime and efficiency throughout the lifetime of your powertrain.

Global service network 24/7

“I need operational excellence, rapid response, improved performance and sustainable life cycle management.”
With you, wherever you are in the world

Partnering with ABB gives you access to some of the world’s most innovative technology and thinking.

Global reach
ABB operates in over 100 countries with its own manufacturing, logistics and sales operations together with a wide network of local ABB Value Providers that can quickly respond to your needs. Stock availability is good, with short delivery times for many products backed by 24-hour spare parts delivery.

In addition, we work closely with the mining and minerals sector to develop custom products, services and solutions to help standardize processes across multiple sites and streamline your supply chain.

We have seven global R&D centers with more than 8,000 technologists and invest $1.5 billion annually on innovation.

End-to-end product portfolio
Alongside its variable speed drives, motors, softstarters, bearings and couplings, ABB’s automation offering includes a wide range of scalable PLCs, a selection of HMI, instrumentation and robotics. With functional safety options, from built-in safe torque off to safety PLCs, you can readily implement bespoke safety requirements.

ABB’s offering includes:
- End-to-end power and automation solutions, from power distribution, raw material receipt, to process and machine control, to end of line packaging.
- Power protection and power quality solutions to safeguard equipment and processes.
- Industry leading robotic automation solutions that improve your speed-to-market.
- A complete range of protection, connection and wire management solutions that withstand harsh environments and extreme temperature swings, and provide the reliability needed for continuous operations.

Streamline sourcing
ABB’s end-to-end product and services portfolio streamlines your sourcing and purchasing activities and standardizes production across multiple sites, saving you money on spare part inventories while reducing maintenance costs.