Sandvik is a high-technology engineering group with world-leading positions in selected areas - tools for metal working, advanced materials technology, and mining and construction. We are represented in 130 countries.

Sandvik Mining and Construction represents one third of the overall Sandvik Group and serves a broad range of customers in construction, mineral exploration, mining and bulk materials handling. Our construction expertise covers quarrying, tunneling, demolition and recycling and other civil engineering applications. Our mining products and services support customers on the surface and underground, in all mineral, coal and metal mining applications from exploration to ore transportation.
EXPERIENCE AND LEADERSHIP
Nowhere is the breadth and depth of Sandvik’s expertise more apparent than in the handling of bulk materials. Since our 19th century roots, we have developed into a global industry leader. Wherever bulk material is handled, you will find Sandvik present. A focal area is the systems and needs surrounding the mining industry. You also find us in downstream operations, such as ports, power plants and mills, with an approach tailored for each application.

UNDERSTANDING THE WHOLE MINING PROCESS
Excavation, transportation, sizing, stockyard storing, homogenization and reclamation are all part of the mining processes we support. Our offering includes consulting, systems design, engineering, procurement, erection and support, for turn-key projects, individual new equipment or upgrades and modernizations. Sandvik applies mining and automation technologies to help you best utilize your assets. We design and manufacture the full range of conveyor components used in materials handling equipment, whether for new systems or replacement parts to any existing equipment.

OUR CUSTOMERS ARE OUR PARTNERS
Our goal is to make our customers more successful through long-term cooperation and partnerships. That success comes from efficient process design, innovative engineering and a dedication to reliability. The Sandvik brand has always stood for productivity and quality. Through the well developed Sandvik Mining and Construction organization, we also have the global parts logistics and local services to keep the continuous mining processes running.
Continuous open pit soft rock mining systems

A continuous soft rock process starts with a bucket wheel excavator. The mined material, overburden or other material, such as lignite, is then transported from the pit on conveyors. Overburden material is typically dumped on the other side of the pit across from the mine face.

Sandvik has a long history as a leading supplier of soft rock mining systems. We supply a multitude of different machines, with various purposes and capabilities to facilitate the continuous process. Our engineering and mining experts design the correct system for each specific mine, using one of the two following techniques.

AROUND THE PIT SYSTEM
In this technique, the conveyor system transports the material along three sides of the pit. Because each mine operation is unique, Sandvik’s engineering and mining experts design the correct system for each specific operation.

The bucket wheel excavator, through an installed conveyor system, discharges overburden into the receiving chute of a hopper car. To minimize distance and height issues, a beltwagon can work as a mobile link to the mobile hopper offering greater flexibility. A conveyor system, specially adapted to the topographic conditions, transfers the material around the pit to a crawler-mounted spreader which discharges the waste material in the dumping area. Sandvik’s around the pit systems:

- Adapt to different mining and deposit conditions
- Provide shiftable or mobile conveyors
- Accommodate long distances between mines and dump areas

CROSS PIT SYSTEM
In this specialized system, to be used as an across the pit conveyor, the excavator extracts overburden material and feeds it via conveyors to a spreader. The spreader conveys the waste material directly across the open pit and onto the developing dumping area. Sandvik’s cross pit systems:

- Produce the shortest distance and time for conveying material
- Mines deeper reserves economically
- Meet requirements of certain geographical conditions at the dump site
In-Pit Crushing and Conveying
IPCC systems

In a continuous hard rock process, drilling and blasting are still utilized. But unlike the traditional load and truck haul process, the materials transportation from the pit is continuous. The process includes in-pit crushing plants, a conveying system and spreader to dispose of waste material in a dumping area.

Sandvik draws on a wealth of experience and expertise for designing and installing the most effective and economical systems in hard rock mining. These include three different processes which, using fixed, semi-mobile or fully mobile in-pit crushing plants, are tailored to your specific mine. Our offering covers drilling, in-pit crushing and all materials handling systems, with an extensive list of references demonstrating our competence and understanding of customer needs.

IN-PIT CRUSHING WITH FULLY-MOBILE PLANTS
A newly developed fully-mobile crushing plant makes IPCC method a better alternative to traditional truck haulage due to lower operating costs, higher energy efficiency and reduced CO2 footprint. Sandvik improvements to IPCC help ensure higher production and profitability, while reducing dust, noise and pollution. With a unique and compact design, the new PF300 series is expected to result in a big breakthrough as an essential part in IPCC and offers significant benefits for our customers' mining applications. This patent-pending technology is capable of crushing up to highest capacities, making it applicable for various materials.

IN-PIT CRUSHING WITH FIXED AND SEMI-MOBILE PLANTS
In this method, trucks are used to transport material from the mine face to the in-pit crushing plant, often moving between levels when using semi-mobile plants. As mining advances, the hauling distance to the crusher plant increases, eventually requiring the crusher and shiftable conveyors to be relocated.
Sandvik specialized equipment for bulk materials handling support continuous mining processes for soft and hard rock.

**BUCKET WHEEL EXCAVATORS PE100-PE200 SERIES**
Sandvik bucket-wheel excavators are designed to strip overburden and mine coal, lignite and various soft minerals continuously. Controlled by state-of-the art PLC systems with extensive automation possibilities, they have ergonomic, user-friendly interfaces for operator comfort, quick familiarization and sustained high productivity. Since they are of modular construction and custom-built, our bucket wheel excavators are easy to optimize for different applications.

**BELTWAGONS PB100-PB300 SERIES**
Sandvik beltwagons, or mobile transfer conveyors, are designed to form a flexible, adjustable, synchronized bridge between the bucket wheel excavator and the bench conveyor in order to ensure a continuous, uninterrupted flow of material from open pit mining operations.

**SPREADERS PA100-PA300 SERIES**
The purpose of the spreader is to receive overburden from the haulage conveyor and dump it in an orderly and efficient manner. The extensive line of Sandvik spreaders ranges from 30 m (100 ft) to more than 350 m (1 150 ft) in length corresponding with machine service weights of, respectively, 50 to 4 000 metric tons (55 to 4 410 short tons). Rail or track-mounted tripper cars, usually part of the spreader package and also delivered from Sandvik, are used to transfer the material from the haulage conveyor to the spreader.

**TRANSPORT CRAWLERS PT SERIES AND AUXILIARY EQUIPMENT**
Sandvik transport crawlers are special vehicles used to relocate heavy mine equipment and plants, such as conveyor drive stations and semi-mobile crushing plants safely and economically over rough terrain and/or poor ground conditions. The load carrying capacities of our transport crawlers range from 150 to 1 500 metric tons (165 to 1650 short tons).

**FULLY-MOBILE CRUSHING PLANTS PF300 SERIES**
The PF300 is a completely new fully-mobile crushing plant with compact design for on-face mining applications which can be equipped with different Sandvik crusher types, for any client’s uniquely varied demands. The stability concept allows loading of the crusher via hydraulic- or rope shovels without any temporary support, keeping the system fully mobile and rock solid under all conditions while machine oscillation is significantly reduced. This not only keeps availability at a high level, but also improves the positioning of the machine. The PF300 can either work in combination with a beltwagon or loading bridge as the connecting downstream link to the face conveyor, for capacities from 2000 to more than 12 000 metric tons per hour (2200-13 200 short tons per hour).

**SEMI-MOBILE CRUSHING PLANTS PX100-PX200 SERIES**
Sandvik semi-mobile crushing plants consist of movable modules and can be shifted to follow the development of the mine site. Crushers represent the core of semi-mobile crushing plants. Depending on the application, various types of crushers can be utilized including the sizer, hybrid, double-roll-, gyratory- or jaw crusher. The throughput capacity can be more than 10 000 metric tons per hour (11 000 short tons per hour), the maximum feed size up to 1500 mm (60 in) and the crushing ratio up to 1:5. Feed materials include coal, ore, limestone, oil sands, gypsum, chalk and similar materials.

**STATIONARY CRUSHING PLANTS PZ100-PZ200 SERIES**
Stationary processing plants are specially designed for many years of use in one single, fixed location. To meet the individual requirements for a stationary processing plant, the entire plant is designed and set up in accordance with prevailing local conditions, for throughput capacities of more than 10 000 metric tons per hour (11 000 short tons per hour), usable for coal, overburden, and processing of harder materials such as copper ore and iron ore. Depending on the application, various types of crushers can be utilized including the sizer, hybrid, double-roll, primary gyratory- or jaw crusher.
Sandvik has a highly skilled projects division specializing in the design, manufacture, installation and commissioning of conveyor systems for a full range of applications. We also upgrade and modernize systems and supply a comprehensive range of quality components and spare parts.

OVERLAND CONVEYORS PC100 SERIES
Sandvik is recognized worldwide for its developments in long overland conveyors with both horizontal and vertical curves. Co-operating with the natural lay of the land, our long-distance systems provide a cost-efficient and more environmentally friendly alternative to trucking for transportation of bulk materials. Our innovative technology also reduces noise and dust emissions. Our overland conveyors have ranged from 1 to 13 km (0.6 to 8 miles) as a single flight, operating at belt speeds of 2.5 to 7 m/s (8.2 to 23 ft/s).

MINE CONVEYORS PC300-PC400 SERIES
Our systems for open pit mines include fixed (PC400), shiftable, semi-mobile and fully mobile track-mounted conveyors (PC300), always tailored exactly to specialized needs. Based on a modular concept that greatly facilitates relocation or expansion as the mine develops, our system can expedite and optimize the process of material removal, redistribution and stacking.
Transportation systems depend on the consistent functioning of conveyor components. Sandvik’s complete conveyor offering includes components with an emphasis on performance and reliability, for light, medium and heavy-duty applications. Through innovation in design and manufacturing techniques, we provide operations and maintenance personnel with products that support modern mining practices, both as original components or as replacements in existing systems.

**HEAVY DUTY TRANSPORTATION**

Highly demanding conditions for rollers, frames or complete idlers (rollers and frames) are often encountered in stripping and handling of overburden material and in processing and transportation of coal, iron ore, and other mined materials. Individual conveyors often transport 20,000 metric tons per hour (22,000 short tons per hour) and overland conveyors can have up to 100,000 rollers in a single system. Sandvik’s component business has grown up in this environment; we understand the importance of reliability and the cost of failures.

Thanks to our global strength, and close-to-customers manufacturing on several continents, our rollers and idlers are delivered to suit a range of differing standards and specifications including European, Australian, Asian, African and American standards and dimensions. Sandvik’s low-noise rollers support operations in sensitive environments.

Pulleys must effectively and reliably transfer the drive motor load to the belt as well as provide support for changes in the belt direction. In-house design software, coupled with our dedicated research and development activities, ensure that we supply the optimum pulleys for each application. Sandvik supplies conveyor pulleys in diameters over 2,000 mm (80 in) diameter, suitable for the most extreme operating tensions. These can be coupled with Sandvik’s takeup devices, both vertical and horizontal, which make it easy to maintain the pre-set belt tension for optimal load transportation with less slippage and reduced wear.

**HIGH-SPEED CONVEYING**

High belt speeds bring additional challenges to rollers in bearing life, noise and power demands. Our latest commitment to lead in this field is the revolutionary HM150 formed roller, designed to operate in applications up to 11 m/s (36 ft/s) and capacities up to 52,000 metric tons per hour (57,300 short tons per hour). Based on innovative and new design principles, formed rollers operate longer, more quietly and consume less energy than traditional high-speed rollers.
Conveyor components

loading points

A poorly designed or integrated transfer point can lead to product spillage, impact damage on conveyor belts, dust emission and poor belt tracking. Sandvik’s design expertise and complete offering for loading points components provide a smooth transition from chute to belt.

SPILLAGE REDUCTION

Although difficult to calculate, waste of material is a cost that needs to be minimized. Sandvik loading sections, including a range of skirting systems, are designed to assist with the sealing of conveyor loading points to prevent spillage of material whether with or without a skirt (sealingless).

CONVEYOR BELT STABILITY

At high speeds and heavy usage, conveyors must be able to operate smoothly and well aligned. Sandvik’s belt centralizing idler starts centering the return belt immediately when the slightest deviation appears. Products such as our belt tracking roller or our range of positive action trainers are suitable for both the carry and return side of both single direction and reversing conveyors.

IMPACT MANAGEMENT

Heavy material can cause considerable damage dropping onto an unsupported conveyor belt. Our impact stations include impact slider beds, with or without center rollers, as well as heavy-duty impact roller cassettes to ensure the belt is adequately supported when subjected to heavy impact loads.

WEAR PRODUCTS

Designed to extend the life of such equipment as chutes, hoppers and transfer points, sheet rubber products and rubber wear panels also help reduce noise. These can be bonded or bolted to the chute or hopper walls to provide significantly increased wear life.
Protection of personnel, equipment and environment are issues that are themselves important, but also affect operations and productivity. Conveyors can create a lot of dust, cause spillage, and intensify noise. With a variety of well thought-out products, Sandvik addresses these concerns.

**DUST SUPPRESSION**
The HX410 is an electrostatic dust suppression system which is an economical, effective and low-maintenance alternative to traditional suction and filter or water spray systems. Sandvik’s HX410 is installed directly after the transfer point, above the conveyor belt. As the material and dust are conveyed through the HX410, the dust is ionized causing it to be attracted to the inside of the housing. A vibration motor on top of the housing then returns the dust to the material flow. The design is modular to fit a range of belt widths and speeds.

**BELT CLEANING**
Sandvik manufactures a comprehensive range of primary and secondary cleaners with both tungsten tips and polyurethane blades. Suitable for dry powdery applications as well as sticky materials, our belt cleaners keep belts running efficiently, reducing the amount of material spillage. A Sandvik belt turnover system turns the belt upside down, keeping material that has adhered to the belt from dropping along the length of the conveyor.

**SAFETY DEVICES**
In collaboration with the conveyor industry, Sandvik has developed a range of safety devices for both new and existing conveyors, including electrical safety devices such as pull-wire emergency switches, belt rotation detectors, belt misalignment switches and blocked chute switches. Safety guards and a belt rip detention system can be fitted to reduce or restrict conveyor access, and a belt rip detection system to give an early warning to prevent the belt from being severely damaged.
Global technical services
for your equipment

Sandvik is active in more than 130 countries worldwide. This global strength and our local presence serve as an optimal platform to conduct service activities on all kinds of mobile machines used in surface mining operations, stockyards and bulk terminals.

Sandvik’s specialists cover all engineering disciplines and can therefore provide a totally integrated service to our customers’ unique specifications; our global coverage means we have experienced it all, hence we will be able to quickly and completely diagnose, advise, service and follow through, as needed - all you may request from one of the largest and “real” machine suppliers of materials handling systems and mining equipment.

Let Sandvik be your partner of choice to make sure to add value to your operation - throughout its lifetime. Troublefree operation will increase productivity and performance and a well maintained machine will reduce the risk of accidents. Our constant technology improvements will ensure the most knowledgeble and applicable upgrades or resolutions to your particular situation.

Sandvik offers integrated service and support

- Asset assessment
- Mechanical audits
- Structural design audits
- Electrical and control audits
- Engineering studies and failure analysis
- Modernization jobs
- Capacity enhancements
- Machine upgrades
- Rehabilitation / refurbishments
- Relocation of equipment
- Deconstruction jobs
- Training

Your benefits

- Proactive technical support
- Reduced cost of ownership
- Higher reliability and safety (fewer unscheduled stops)
- Increased availability (less downtime)
- Better service and parts forecasting
- Reduced manpower requirements
- Extended equipment lifetime

[Image of service and support offerings]