EQUIPMENT & TECHNOLOGY OFFERING

DEFINING THE FUTURE
UNDERGROUND

normet

normet.com

EXPLOSIVES CHARGING

We have gathered extensive expertise in underground charging from the launch of the first Normet charger in the 1970's. Ever since, we have continuously developed our charging equipment and solidified our place as the world-leading underground explosives charger manufacturer.

FOR SAFE AND EFFICIENT EXPLOSIVES CHARGING

Our purpose-built charging systems improve the safety and productivity of your underground operations. Our charging product range, the Charmec offering, includes equipment for charging with packaged cartridge explosives, bulk explosives like ANFO, water gel and modern, site-sensitized emulsions in environments from different-sized tunnel faces to large underground production stopes. In addition, our equipment comes with built-in storage spaces, allowing for safe transportation of explosives and detonators to the site.

THE NO. 1 CHARGING SYSTEM

Over the past 50 years, we have delivered hundreds of mobile Charmec systems to hard rock mines and civil tunnelling projects all around the world. They meet the highest safety, productivity and quality requirements and ensure that your underground explosive charging processes are cost-effective. You can depend on our chargers for low lifetime costs, superiorly safe and reliable operation and maintenance as well as consistently high resale value.

CLOSE COOPERATION WITH THE EXPLOSIVES INDUSTRY

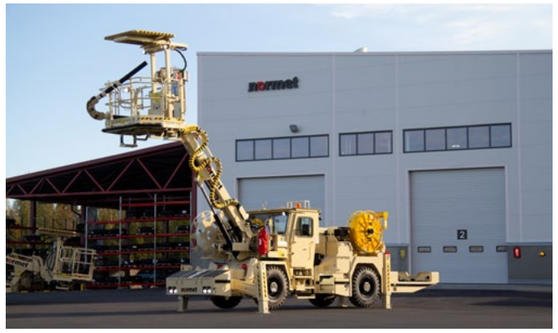
In modern emulsion charging processes, the explosive is sensitized on the charging unit at the site. Since authorities usually regard such units as explosives factories, we develop our emulsion charging module Normet ECM and related technologies in close collaboration with trusted explosives manufacturers. Even in the case of an external bulk emulsion system, we work together with the provider by carrying out cooperative processes like common risk assessments, for example, to adapt the system to our charging platform in the safest possible way. As a service business, we are able to offer mounting of an external bulk system to our platform and grant a full declaration of conformity for the result.

PROVEN TECHNOLOGY AND CARRIERS

EMULSION CHARGING

Emulsion charging is a superbly safe, highly modern and ergonomic mechanized working method. Providing up to 20-25 % total cost savings in face charging and up to 100-200 % lower charging equipment power consumption than ANFO, emulsion charging offers superior water resistance, less heat and noise exposure, and a cleaner underground environment at the work face.

Moreover, emulsion charging allows for numerous logistical advantages and process-related benefits for both drilling and blasting, such as smaller cracking zones, significantly reduced uphole rebound and side-rock dilution and, additionally, better fragmentation. Offering lower nitrate emission levels for increased sustainability, emulsion charging is the future of charging operations.



Charmec MC 605 D(V)

ANFO charging with Charmec MC 605 DA(V)

ANFO CHARGING

ANFO is a mainstream explosive in many locations around the globe, and we can support your operations with a broad offering of purpose-built ANFO charging products. Our ANFO chargers are known for their robustness and superior reliability, but we also have extensive knowledge of handling and delivering different types of powder, heavy and high viscosity ANFO.

The requirements for safe and productive uphole charging, in particular, can be extremely challenging, but we can provide you with various technologies to improve your process efficiency, increase in-hole density and reduce waste rebound. Our state-of-the-art ANFO modules are mostly bolt-on systems, enabling later switch to emulsion and back quickly and effortlessly.

EMULSION CHARGERS

- Charmec MF 605 D(V)
- Charmec MF 605 V LE SD
- Charmec MC 605 D(V)
- Charmec MC 605 V(E) SD
- Charmec LF 607 E
- Charmec LF 1105 E
- Charmec Revo LF 600 V(E)
- Charmec Revo MF 600 V(E) SD
- Normet ECM Emulsion Charging Module
- Multimec C600 Emulsion Transfer Cassette

ANFO CHARGERS

- Charmec MF 605 DA(V)
- Charmec MC 605 DA(V)
- Charmec LF 1105 A

Charmec LF 1105 A with a high-reach boom.

NORMET ECM SYSTEM

Normet ECM is our cutting-edge emulsion charging module for superiorly safe and productive development and production charging with site-sensitized bulk emulsions. Astonishingly accurate, extremely productive with a high-capacity pumping system and equipped with many safety features like automatic process termination with predefined criteria, the ECM is operated with a fast and ergonomic graphical user interface with radio control Furthermore, the optional hose pusher eliminates the physical stress of manual hose handling and makes production charging faster.

Optimized for different Charmec carriers depending on the size, available tank capacities for the Normet ECM module cover matrix payloads of 1.5, 2.2, 3, 4 and 6 tonnes.

Normet ECM 6 ton version

Charmec MF 605 D(V) with an external emulsion kit.

PLATFORMS FOR EXTERNAL EMULSION UNITS

In addition to the Normet ECM module, our broad offering covers mining and tunnelling platforms for external emulsion systems. The platforms range all the way from compact basket boomers designed for small mining headings to rigid frame twin-boomers for large civil work site tunnels. Depending on the model, our machines have payload capacities from 1 tonne to 10 tonnes for external emulsion units.

NORMET SMARTDRIVE® FOR EMULSION CHARGING

Due to its low energy consumption, emulsion charging is an excellent process for our Normet SmartDrive® architecture. Our battery-electric charging machines, the center cabin MC 605 V(E) SD, and the front cabin MF 605 V LE SD and Revo MF 600 V(E) SD, are equipped with the same features as our well-known, globally proven diesel chargers and, in addition, we are able to offer you a comprehensive equipment risk assessment for both the carrier and the emulsion system to ensure safety in challenging underground conditions.

Scan the QR code to see a video of Charmec MC 605 VE SD in action at Australian mines.

Charmec MC 605 VE SD

Scan the QR code to find out more and watch a video highlighting the technology and functionality of Charmec Revo®.

normet Charmec Revo®

CHARMEC REVO® – DEFINING THE FUTURE OF UNDERGROUND EXPLOSIVES CHARGING

Explosives charging is one of the most hazardous work processes in modern mining. Easily available ore deposits are depleting, forcing mining companies to go deeper underground where dangers like rock falls and rock burst accidents are increasing. The only tangible way to improve safety is to remove the operator from the high exposure danger zone – the unsupported area of the tunnel.

Charmec Revo significantly improves operator safety by removing the operator from the high exposure area. The remote-controlled robotic arm places the initiating system into the borehole and, in conjunction with the emulsion kit, dispenses emulsion, allowing the operator to remain in a supported tunnel area.

BUILT FOR PURPOSE

Our design philosophy was to improve operational safety without the loss of productivity. To successfully achieve this, we prioritized the accuracy and speed of the remote charging system in the design, which led to abandoning traditional hydraulic booms and focusing on robotic solutions.

The system is designed for tunnel sizes from 4 x 4 meters to 6 x 6 meters, covering most mining tunnels. The charging manipulator consists of an in–house developed, extremely agile servo-robotic arm – specifically built for the needs of underground mining.

THE REMOTE LOADING TECHNOLOGY

The servo-robotic manipulator arm is designed to "pick-and-deliver" the priming unit (the detonator-booster package) from the ground level's reduced exposure area or, alternatively, the priming magazine built by the explosives supplier and deliver it to the face wall. The pick-and-deliver path between the borehole and the home position is automatized. Charmec Revo enables using standard shock tube detonators or a magazine for a semi-wireless or wireless initiation system provided by any explosives supplier.

The charging arm's clever control system is based on inverse kinematics – only the tip of the boom is controlled, enabling automatic movement sequences, like the path between the borehole and the home position. A lot of attention has been put into lowering the learning curve and making operating the arm as easy as possible.

Maps of the drilled boreholes from the drill rigs can be uploaded to the system to locate them in the face wall. Our machine vision system supports operators in finding the drilled boreholes, shortening cycle time. If the information is not available, the machine vision serves as the main operator support for locating the boreholes. Once the borehole is found, the charging hose delivery system will take care of the priming unit and explosive delivery. The system also shows plastic lifter pipes and helps with their utilization.

Designed with half a century of expertise in explosives charging.

Charmec Revo LF 600 V(E)

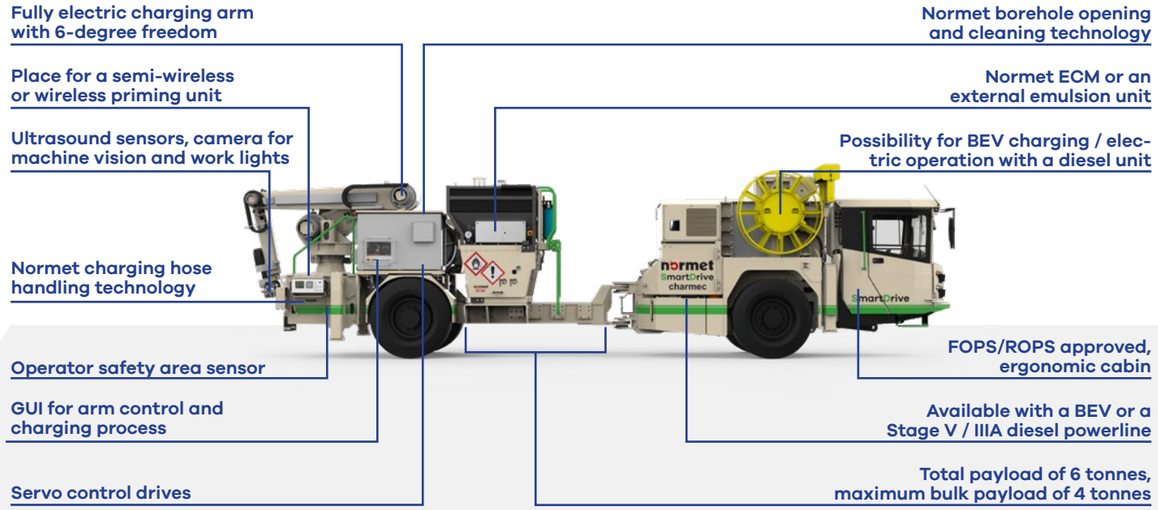
Charmec Revo MF 600 V(E) SD

The collision avoidance system slows down and stops the arm before contact with the tunnel wall or other obstacles, and the close contact prevention utilizes reliable ultrasound sensors. Additional safety sensors stop boom movement if the operator enters the working area.

MAXIMIZED PAYLOAD CAPACITY AND TWO CARRIERS

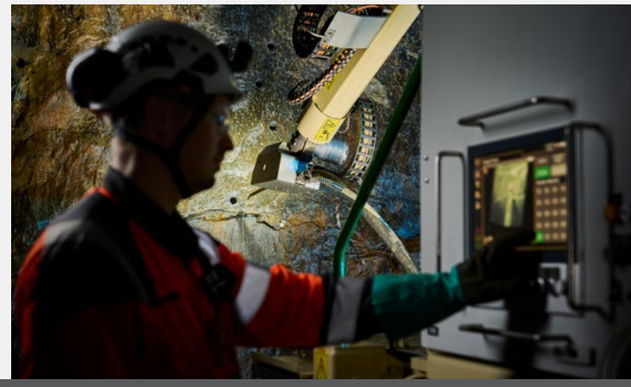
The Revo is built on our state-of-the-art front cabin carrier, powered by either efficient Stage V or Stage IIIA diesel engine options or our proven battery-electric Normet SmartDrive® architecture with zero local emissions.

An impressive load capacity of 6000 kg allows for matrix payloads of up to 4000 kg to be mounted safely on the rear platform, away from all hot surfaces. A large bulk capacity reduces the need for constantly driving back and forth between the charging sites and the explosive warehouse and, therefore, both significantly increases productivity and helps keep the charging machine in excellent working condition. As with initiating systems, the Revo can be used with all commercial bulk emulsion systems.



KEY BENEFITS OF CHARMEC REVO®

+ Significantly improved operator safety as the operator can work under a supported area of the tunnel.
+ Substantially enhanced operator ergonomics as manual charging work is completely eliminated.
+ Adaptable for all bulk emulsion and initiating systems.
+ Easy access to challenging rock strata conditions and previously impossible areas.
+ High payload capacity for maximized productivity.



SCALING

Designed with our decades-long experience in the underground scaling process, our purpose-built scalers are built to exceed customer expectations by offering superior productivity and, most importantly, making the most challenging of underground operations safer than ever before.

A NEW ERA IN SCALING

THE MOST CHALLENGING UNDERGROUND OPERATION - NOW SAFER THAN EVER BEFORE

Scamecs are developed in close collaboration with customers, combining Normet's decades of underground equipment expertise with operators' real-world scaling experience. These purpose-built machines deliver exceptional boom accuracy, handling, visibility and operator ergonomics - raising safety and productivity in the scaling process to a new level. The Scamec range consists of three models with different boom options, all built on the same proven carrier and supported by a wide selection of accessories.

All models feature a highly protective FOPS/ROPS-certified cabin with excellent visibility, thanks to optimized structural design, a reversing camera, and heated wide-angle mirrors. The 22 mm multilayer windscreen with a protective grille shields the operator from falling rock debris. An optional emergency escape function can automatically guide the operator to safety. When equipped with hammer, all three models can also be optionally configured for electric operation, enabling zero local emission scaling process when connected to the mine's power grid.

Operator comfort was a key design focus. The sealed cabin offers low noise levels, replaceable air filters, air conditioning, and heating. Safe access is ensured by non-slip steps and three-point contact rails. A unique 750 mm cabin lift and 25° tilt further enhance visibility and comfort.

The Scamec offering is available with the latest Volvo Penta Stage V or Stage IIIA engine, both delivering 185 kW of power and providing excellent performance on inclines, and include upgraded retardation features with an automatic engine brake. The Dana 3-speed lock-up transmission with automatic gear shifting enhances driving safety, allowing the operator to focus fully on steering in underground tunnels.

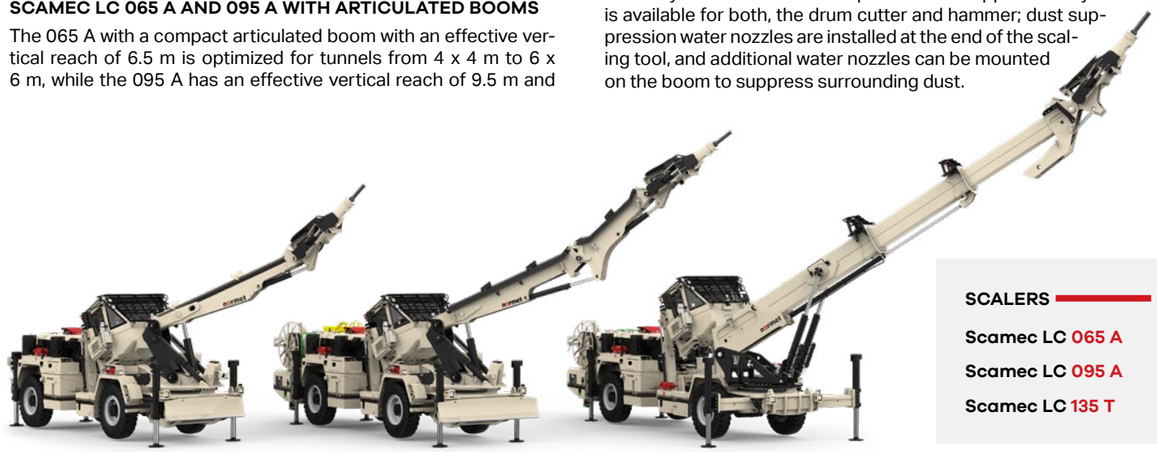
SCAMEC LC 065 A AND 095 A WITH ARTICULATED BOOMS

The 065 A with a compact articulated boom with an effective vertical reach of 6.5 m is optimized for tunnels from 4 x 4 m to 6 x 6 m, while the 095 A has an effective vertical reach of 9.5 m and is designed for tunnels up to 9 x 9 m. For driving, both machines require a minimum tunnel width of 4 m and height of 2.7 m. Both models feature an agile boom with advanced kinematics, ensuring accurate movements, and an Epiroc SB 302 T hydraulic hammer, specifically designed for scaling. This hammer features a reinforced tool shank, improved dust sealing for the tool and shank, pressurized air to keep out dust particles, and an automatic greasing function.

The cabin defines new levels of operator ergonomics and visibility.

SCAMEC LC 135 T WITH A TELESCOPIC BOOM

The 135 T, with a high-reach telescopic boom and extendable support legs, has a vertical reach of 13.5 m and is designed for tunnels up to 12 x 12 m. For driving, the machine requires a minimum tunnel width of 5 m and height of 3.2 m. The heavy-duty boom can be equipped with the Antraquip AQ-3XL drum cutter or the Epiroc SB 302 T hydraulic hammer. An optional dust suppression system is available for both, the drum cutter and hammer; dust suppression water nozzles are installed at the end of the scaling tool, and additional water nozzles can be mounted on the boom to suppress surrounding dust.



SCALERS

Scamec LC 065 A

Scamec LC 095 A

Scamec LC 135 T

SPRAYED CONCRETE

We provide everything you need to get the best results with sprayed concrete for mining and tunnelling applications, both underground and on the surface. Our offering includes equipment for both concrete spraying and transportation, construction chemicals as well as supporting technologies and services.

ENSURING HIGH-QUALITY RESULTS

With our complete process expertise, we are able to ensure consistent, high-quality mixing, efficient concrete transportation and minimized spraying rebound. This gives you the results you need, with strong, high quality sprayed concrete linings and improved operating efficiency, reduced operating costs and maximized productivity. In addition, we can provide you with training, support, problem-solving and technical advice as your expert partner throughout the entire concrete spraying process.

In addition to wet mix concrete sprayers, we offer dry mix concrete spraying machines and rotor-based pumps, wet mix concrete spraying pumps and manipulators and, additionally, supporting technologies to optimize the spraying process.

CONCRETE SPRAYERS

The trend with application equipment is towards self-propelled, mechanized and automated spraying systems that offer high productivity, superior operator safety and outstanding quality. Our mobile sprayers are the result of 50 years of experience in underground operations and close partnerships with our customers across the globe. All Spraymec models are available with an electro- or diesel-hydraulic configuration and an optional on-board compressor. We have sold hundreds of these durable units worldwide, most of which are still in use today!

MINING SPRAYERS

Our dedicated wet mix concrete sprayer offering for mining includes three different sprayer platforms for different carrier performance needs. Our concrete sprayers are self-propelled, mobile machines for modern mining operations in small and medium-sized tunnels.

SOLUTIONS FOR TUNNELLING

Our dedicated tunnelling equipment is designed for operating in a large variety of tunnel and cavern profile sizes. From the smallest hydropower or water tunnels to the most magnificent subway stations and storage caverns, our broad offering includes the solutions for your project. Even the most demanding and hard-to-reach targets can be easily covered with our equipment. Our dedicated process equipment always aims to keep material consumption at a minimum, resulting in the lowest environmental impact and total process cost possible.

Spraymec 8100 VC SD with our innovative SmartSpray system.

OUR SPRAYER OFFERING - FOR CONCRETE RESULTS

Our sprayer offering is the result of 50 years of experience in the concrete spraying process.

SPRAYMEC 2100

Spraymec 2100 is a compact concrete sprayer designed for essential spraying tasks in underground mines with small to medium tunnel profiles. It delivers reliable sprayed concrete performance with a simple, robust design that prioritizes safety, ease of operation, and simplicity. The Spraymec 2100 is available in two configurations, allowing customers to select the optimal spray boom reach and concrete pump capacity based on application needs.

Spraymec 2100

Spraymec MF 050 VC SD

SPRAYMEC MF AND LF 050 OFFERING

Spraymec MF and LF are self-propelled, mobile machines, dedicated for modern mining operations in small and medium-sized tunnels. Designed with decades of experience, they feature the state-of-the-art Normet NSP 30 concrete spraying pump with a maximum theoretical concrete output of 19 m^3/h with diesel operation or, alternatively, 27 m^3/h with electric operation. They are equipped with SB 500 spraying boom with strengthened steel structures, modified joints and large-diameter hydraulic cylinders to generate enough power for smooth spraying operations.

Spraymec 4100

SPRAYMEC 4100/5100

Spraymec 4100, designed for small- and medium-sized tunnels, and Spraymec 5100, designed for medium- to large-sized tunnels, are compact and highly maneuverable concrete spraying solutions. Engineered for efficiency and ease of operation, they offer precise concrete application with reduced rebound, ensuring high-quality shotcrete surfaces. With advanced control systems and robust spraying technology, these models deliver reliable performance in challenging underground environments.

MINIMEC AND NORSTREAMER 30 V

Offering excellent mobility, working range and reliability, the Normet Minimec is a mobile sprayer for mechanized application of sprayed concrete in small-diameter tunnels, escalator shafts and other vertical shafts, or where larger machines cannot enter.

The NorStreamer is a powerful, low-pulsation concrete pump, specifically engineered for the delivery and spraying of wet-mix concrete for slope stabilization, tunnel construction, TBM installations, shafts and tunnels with small to medium diameters.

NorStreamer 30 V and Minimec are the unbeatable combination for concrete spraying in tight spaces and hard-to-reach areas.

NorStreamer 30 V and Minimec

SPRAYMEC 8100/9100

Spraymec 8100 and 9100 are advanced concrete spraying machines built for large-scale tunneling projects. Designed for maximum productivity, they feature powerful low-pulsation concrete pumps and SmartSpray technology options for enhanced automation. With their high-performance spraying systems and intelligent control features, the 8100 and 9100 ensure optimal efficiency while meeting the most demanding industry requirements.

Spraymec 8100 VC SD

NorRunner 160 DVC

TRUCK-BASED NORRUNNER OFFERING

Spraymec NorRunners are truck-based, road legal tunnelling concrete sprayers equipped with the latest spraying technologies. NorRunners come in two variations; The 140 DVC with a maximum horizontal coverage area of up to 28 m and a vertical one of 19 m, and the 160 DVC with a straight boom, allowing for sprayed concrete application on over 11 m of tunnel length at the height of 9 m without repositioning the sprayer.

WET MIX SPRAYERS

- Spraymec 2100
- Spraymec 4100
- Spraymec 5100
- Spraymec 8100
- Spraymec 8100 VC SD
- Spraymec 9100
- Spraymec MF 050
- Spraymec MF 050 VC SD
- Spraymec LF 050
- Spraymec NorRunner 140 DVC
- Spraymec NorRunner 160 DVC

WET MIX PUMPS & MANIPULATORS

- Minimec
- NorStreamer 30 V
- SSL 40 Pump
- SSL 15 Pump

TOWARDS AUTOMATED SPRAYING

NORMET SMARTSPRAY®

As talented operators are becoming increasingly difficult to find and the quality of applied sprayed concrete can critically vary between operators, we developed the SmartSpray system to minimize the effect of the operator's performance to the end result and increase the productivity of the spraying process.

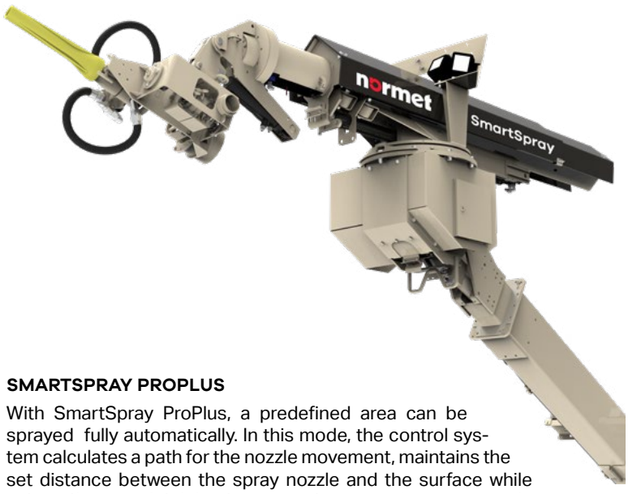
Through innovative automation technology, SmartSpray decreases the ergonomic strain of the spraying process and significantly improves the overall quality of the application by both beginners and experienced operators. It supports the operator in achieving the desired layer thickness easily while also reducing concrete waste for more sustainable operation and lower operating costs.

Currently, SmartSpray is available for a variety of our underground equipment. We offer two different versions of the SmartSpray system: SmartSpray Lite and ProPlus.

SMARTSPRAY LITE

With SmartSpray Lite, the operator only controls the spray nozzle instead of all joints of the spray arm, meaning that instead of the traditional way of using two or four joysticks, the operator can successfully maneuver the spray arm with only one.

In the Lite version, nozzle alignment is kept constant in relation to the sprayed surface, allowing the operator to achieve high-quality results both consistently and effortlessly. Furthermore, the operator can select predefined spraying nozzle speeds via the remote control or, additionally, switch between standard operation and assisted spraying modes.



SMARTSPRAY PROPLUS

With SmartSpray ProPlus, a predefined area can be sprayed fully automatically. In this mode, the control system calculates a path for the nozzle movement, maintains the set distance between the spray nozzle and the surface while automatically maintaining the correct speed – fully synchronized with the concrete pump output – to achieve the desired concrete thickness. In addition, the spraying area can be effortlessly defined by simply pointing with the nozzle.

Easy, fast and accurate, the SmartSpray ProPlus technology turns your novice sprayer into an experienced master.

Our customer in Norway is using the SmartSpray system. Scan the QR code to watch a testimonial video.

A NEW ERA IN PROJECT DOCUMENTING

The Normet SmartScan system enables immediate thickness control and documentation of the sprayed concrete layer. It utilizes state-of-the-art scanning technology and durable, mine-proof hardware specifically designed to offer superb computing power and withstand use in the harsh underground environment.

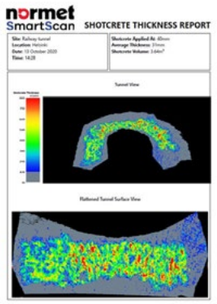
The 3D LiDAR technology eliminates the need for unsafe methods for manual probing of layer thickness by entering under fresh concrete while improving both the efficiency of the concrete spraying process and the safety of underground personnel.

With the touch of one button, the on-board computer can measure concrete thickness and display a color-coded 3D model of it on the user-friendly touch screen interface, giving the operator immediate feedback on the freshly sprayed area. The required concrete layer thickness can be quickly achieved before the sprayer is moved, thus preventing the time-consuming need to return for re-spraying. This significantly increases efficiency, maintains excellent spraying quality and reduces the wastage of material.

SMARTSCAN DESKTOP

The desktop software enables advanced analysis of the profile data in e.g. a site office, allowing the raw data to be analyzed further by cropping and reprocessing it for documentation and reports.

By including project information and the customer logo, meaningful reports can be created for QA/QC purposes and for archiving or client submission.



SMARTSCAN ALIGN

SmartScan Align enables transferring captured profile data from SmartScan's local coordinate system into any coordinate system used in surveying. Allocating the profile data even after the concrete sprayer has been moved makes data exchange with other equipment and systems operating in the same project possible.

Thanks to a simple calibration process, the distance between the two measurement systems is determined with minimal effort using the known position of retroreflective targets in the tunnel profile. This process is only required when the measuring devices have been detached or otherwise moved or, alternatively, to ensure that the systems are still aligned perfectly.

With the request for a new profile scan, the second LiDAR sensor, installed on the spraying carrier facing backwards, locates the targets attached to the tunnel walls, allowing the system to transform the profile data into the project coordinator data system.

SMARTSCAN RETROFIT KIT

The SmartScan retrofit kit allows both new and existing sprayers to be equipped with the latest LiDAR technology to measure and monitor applied sprayed concrete layer thickness in underground construction projects.

Simple and quick to install, the kit includes all the necessary components to increase the technological level of your concrete spraying fleet, making it possible to utilize even older equipment in demanding projects. It does not require calibration after installation and is ready for immediate use. In addition, we also offer installation and training services for the system. SmartScan retrofit kits are currently available for all of our underground sprayers.

Normet SmartScan helps you control concrete layer thickness fast and accurately and significantly reduce costs.

Integrated SmartScan hardware.

LOGISTICS & TRANSPORTATION

Our underground transport vehicles are designed to ensure efficient logistics and high productivity in underground mines and tunnel excavations. They are highly configurable and let you safely and reliably transport a wide range of resources to work sites, including concrete, personnel, materials and fluids.

NORMET FRONT CABIN – SETTING THE STANDARD FOR OPERATOR COMFORT

A result of our decades-long experience in designing underground equipment is here – the all-new 180° cabin, setting new industry standards for visibility, comfort, ergonomics and serviceability.

The forward-angled windscreen prevents the accumulation of dropping water and dust, ensuring that the windscreen remains clean in harsh underground conditions. The new wide-angle mirrors with three separate sections guarantee an excellent level of visibility in every direction. When it gets dark, the high-intensity LED driving lights illuminate the way ahead.

The high-definition reverse camera with multiple alternative placement options provide real-time video footage from the back or the sides of the vehicle while the large window area with narrow a-pillars allow for a broad, unobstructed field of view.

Our new advanced suspension control allows the operator to glide over rough road conditions with ease for a world-class driving experience, while the low noise level of the new cabin increases comfort and allows speaking at normal voice levels. The cabin's roomy interior design increases space, providing comfortable accommodation for up to three passengers.

NorSmart 3 GUI for SmartDrive vehicles.

Improved comfort and ergonomics

Upgraded visibility and serviceability

Enhanced driving experience

FOPS/ROPS approved

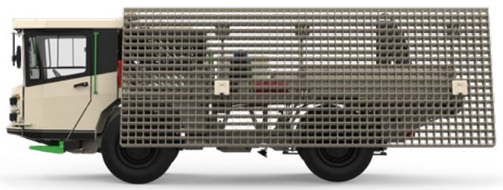
Standardized for our customers' benefit

THE COMPACT AND AGILE XS OFFERING

Our most compact carrier, the Variomec XS, is designed to minimize total cost of ownership and provide excellent performance with best-in-class safety and payload capacity against current competition in the market. The versatile XS carrier fits to a 3.5 m x 3.5 m envelope and can be utilized for multiple different equipment applications. It can transport up to 4 tonnes of payload.

Using the same carrier for multiple purposes generates significant cost benefits since the majority of spare parts, most service tasks and, additionally, the operator environment are the same or similar in all of the different models. Furthermore, this renders both a smaller inventory of spare parts and more effortless serviceability possible. All daily checks can also be carried out from the ground level, improving the safety and efficiency of maintenance work.

The FOPS/ROPS approved cabin allows for excellent visibility and ergonomics to ensure a safe and comfortable environment for the operator. The XS units have a fully suspended chassis and a hydrostatic transmission, ensuring a world-class ride in the roughest road conditions and ramps. The brake system, including oil-immersed axle brakes and a SAHR type safety brake, is designed to meet the demands of the underground environment.



Variomec XS Nipper is designed to carry drilling rig consumables.

Variomec XS 035 Crew SD

VARIOMEC XS SMARTDRIVE

The Variomec XS SmartDrive takes the proven XS platform to the next level with a battery-electric architecture, delivering zero emissions without compromising performance. It offers the same best-in-class safety, payload capacity, and versatility as its diesel counterpart while significantly reducing operational costs and environmental impact. The fully electric carrier enhances energy efficiency and reduces heat and noise levels, creating a safer and more comfortable working environment.

The Variomec XS 025 Crane, developed together with Redpath, was designed to handle extensive cable bolt services in BHP's Olympic Dam mine. Scan the QR code to see the video.

XS OFFERING

Variomec XS 040 Material	Variomec XS 900
Variomec XS 025 Crane	Variomec XS Emergency
Variomec XS Nipper	Variomec XS 038 E
Variomec XS 035 Crew	Variomec XS 350 Lube
Variomec XS 035 Crew SD	Variomec XS 350 Fuel
Variomec XS 115 PER	

NORMET MULTIMEC – FOR CHANGING TRANSPORTATION NEEDS

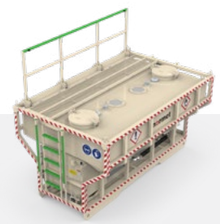
MULTI-FUNCTIONAL CARRIERS WITH AN INTERCHANGEABLE CASSETTE SYSTEM

Our Multimec slide-on/slide-off cassette system is the ideal solution for mines that need carriers that can quickly change function and handle a wide variety of transport requirements. With one Multimec carrier and the right choice of cassettes, each for a specific purpose, you have a safe and economical underground transport system for personnel, materials, concrete, fuel and so on. We offer three different sizes of Multimec carriers and a series of cassettes for different purposes, all of which fit all Multimec size classes. With our hydraulic cassette handling system, these cassettes can be swapped on and off the carrier in just a couple of minutes.

Multimecs are available with a FOPS/ROPS certified open or enclosed cabin for driver and 1-2 passengers, providing superior safety, visibility and comfort for both. The Multimec MF 100 is also available with our battery-electric Normet SmartDrive® technology, allowing for silent operation and zero local emissions.

Fast cassette changing ensures the efficiency of different logistics and lifting & installation works.

C162 Personnel cassette



C600 Emulsion cassette

C500 Concrete mixer cassette

C490 Fire cassette

CASSETTES

Base cassette	C125 Crane	C500 Fuel
C010 Compressor	C135 Crane	C350 Lube
C060 Pipe Deck	C280 Sludge	C300 Mixer
C060 Tipping	C162 Personnel	C500 Mixer
C100 Flat Deck	C600 Explosives	C350 Water
C135 Flat Deck	C600 H explosives	C500 Water
C100 Material	C600 Emulsion	C490 Fire
C100 Cargo	C350 Fuel	C100 Workshop

MULTIMEC CARRIERS

Multimec MF 100

Multimec MF 100 SD

Multimec LF 100

UTIMECS FOR DIFFERENT NEEDS

The SmartDrive architecture suits ideally for underground logistics like concrete transportation. Scan the QR code for a video about its many benefits.

Our Utimecs are tailored for a certain purpose, offering maximum productivity with clever features and robust structures. Our Utimec offering can be used for any underground transportation purpose, such as fuel, lubrication, personnel or material transportation.

PERSONNEL TRANSPORTATION

Our dedicated Utimec personnel transporters have passenger compartment options for 16 to 32 people. The personnel carriers can be equipped with a full chassis suspension, offering outstanding ergonomics for the passengers.

MATERIAL TRANSPORTATION

Utimec material transporters have a payload rating ranging froM 6 to 16 tonnes and different kinds of platforms available. Our material carriers can be equipped with a hydraulic crane to facilitate loading and unloading material on and off the platform.

For lighter rock transportation purposes, we offer two Utimecs with 10 t and 6 m³ or, respectfully, 16 t and 9 m³ carrying capacity. The Utimec offering also includes a unit for transporting explosives and personnel. This vehicle has a maximum payload capacity of 10 tonnes, carries four passengers and comes with a compartment for detonators and primers.

FLUID TRANSPORTATION

For oil changes and refueling machinery at the work site, we offer Utimec fuel and lube transporters with total tank capacities from 4,000 litres to 10,000 litres. All Utimec Lubes and Fuels are equipped with refilling pumps with hose reels, and filling nozzles and can also be fitted with a greasing and tyre inflation system.

For water transportation, dust suppression and fire extinguishing, we offer a dedicated Utimec water carrier with a capacity of up to 12,000 litres and different kind of pumping and nozzle systems.

Utimec MF 100 Material SD with high platform edges.

FOR FLUID TRANSPORTATION

- Utimec MF 400 Lube
- Utimec LF 400 Lube
- Utimec LF 900 Lube
- Utimec LF 1000 Fuel
- Utimec MF 660 Fire
- Utimec LF 1000 Water
- Utimec LF 1200 Water

FOR MATERIAL TRANSPORTATION

- Utimec MF 100 Material
- Utimec MF 100 E
- Utimec MF 060 D
- Utimec LF 130 Material
- Utimec LF 090 D

FOR PERSONNEL TRANSPORTATION

- Utimec MF 164 PER
- Utimec MF 205 PER
- Utimec MF 205 PER SD
- Utimec MF 328 PER

Battery-electric Utimec MF 205 PER SD.

FOR EFFICIENT CONCRETE TRANSPORTATION

Utimec MF 500 Transmixer SD

We offer a wide range of mobile concrete transportation equipment to meet the mining and tunnelling industries' needs for improved safety, increased productivity and higher efficiency.

Our concrete transportation offering covers two different types of equipment with several different-sized concrete drums from 2.1 m³ to 10.5 m³ practical carrying capacity. Utimec Transmixers with a horizontal drum allow for a very low overall height and Utimec Agitators with an askew drum offer excellent mixing capability with the possibility to fill the drum with a filling hopper.

With hundreds of units delivered worldwide, our concrete transportation equipment has proven its durability and is globally recognized for excellence in quality.

Redpath is operating a fleet of XL 1100 EDs in BHP's Olympic Dam Mine in Australia. Scan the QR code to watch a customer testimonial video.

FOR CONCRETE TRANSPORTATION

- Utimec MF 500 Transmixer
- Utimec MF 500 Transmixer SD
- Utimec LF 500 Transmixer
- Utimec LF 600 Transmixer
- Utimec LF 600 Transmixer SD
- Utimec LF 700 Transmixer
- Utimec LF 600 Agitator
- Utimec LF 700 Agitator
- Utimec XL 1100 Agitator ED
- Tornado S2

UTIMEC TRANSMIXERS & AGITATORS

A purpose-built underground concrete transportation vehicle, specifically designed to thrive in some of the harshest conditions in underground mines and tunnels from the beginning, offers the highest possible level of safety and the lowest operational costs.

As the vital importance of operators' safety and wellbeing is becoming increasingly recognized in the underground mining industry, we are continuing to constantly develop safer and more ergonomic solutions such as our completely redesigned, FOPS/ROPS approved front cabin with a fully suspended chassis to decrease operator fatigue.

UTIMEC XL 1100 AGITATOR ED

Utimec XL 1100 Agitator ED with a concrete transportation capacity of 10.5 m³ and a payload capacity of 23 tonnes is designed for concrete transportation in underground mines and tunnels with a tramming height of 3.3 m or more. Built on the new low-emission Normet ElectroDynamic® platform combining the best features of our battery-electric SmartDrive architecture and state-of-the-art Stage V engine technology, it paves the way to the future of more sustainable underground operations.

Scan the QR code to find out more and view a video showcasing the Normet ElectroDynamic® technology and architecture.

Utimec LF 700 Agitator is available with a Volvo Penta Stage V engine, helping decrease diesel particles from underground machines. Scan the QR code for a video.

LIFTING & INSTALLATIONS

Our versatile lifting & installations offering allows for efficient lifting operations with maximum working reach in practically any tunnel and mining profile. Lifting both people and material as safely as possible – a challenge we rise to!

THE OPTIMAL REACH FOR ALL ENVIRONMENTS

We offer everything you need for superiorly safe and productive underground person and material lifting. Our lifter offering is comprised of easily adaptable machines, capable of thriving in a wide range of different lifting and installation operations including roof reinforcement, explosives charging and the installation of cables, pipes and ventilation, for example. Moreover, our battery-electric Normet SmartDrive® scissor lifters allow for uncompromised performance with zero local emissions.

DECADES OF EXPERIENCE

For half a century now, we have been designing and building the toughest, most technologically advanced equipment you need to get the job done. Encompassing purpose-built solutions for mining and tunnelling, our offering is the result of a long-term collaboration between our engineers and our customers and experts all around the world, resulting in a holistic understanding of our customers' lifting and installation needs in all tunnel profiles and both hard and soft rock environments.

ENGINEERED FOR SAFETY

Our person lifters are always designed in accordance with the latest global MEWP standards and requirements. In addition, they are available with an extremely broad spectrum of safety features like FOPS II basket safety roofs and advanced monitoring systems to make underground person lifting as safe as possible.

A PURPOSE-BUILT SOLUTION FOR EVERY NEED

Our broad equipment portfolio for lifting and installations includes Utilift scissor lifters and Himec boom lifters, both of which are built on our proven mining carriers with efficient engine options, specifically tailored for the harshest underground conditions. Selected models are also available with the Normet SmartDrive battery-electric architecture, providing zero-emission operation.

All of our lifting and installation machines are available with a variety of options and accessories to fulfill your every need. Furthermore, we can also design custom equipment to meet even the most specific requirements of your lifting & installation operations.

The Himec MF 905 basket boom lifter.

OFFERING FOR LIFTING AND INSTALLATIONS

PROVEN SCISSOR LIFTERS

Designed for safe lifting and installation work in both, underground mining and low-profile tunnelling, machines in our Utilift offering offer unrivalled value for roof reinforcement works, explosive charging and the installation of cables, pipes and ventilation equipment. All Utilift models have a FOPS/ROPS approved cabins.

The Utilift offering includes capable scissor lifters with superb safety features. Their lifting capacities vary from 3 tonnes to 4.5 tonnes, and they are available with a selection of options, such as different platform options, fan rack, hydraulic pipe lifters, crane, welding kit, scaling bars with rack, and many more.

The compact Utilift MF 330 delivers up to 3 tonnes of lifting capacity with a maximum platform height of 3.5 m, ideal for ventilation, ducting, electrification and pipework in tunnels up to about 5.5 m high. The larger Utilift MF 540 offers a 4.5 tonne lifting capacity and a maximum platform height of 4.5 m, enabling installation of heavier equipment such as large ventilation fans.

The powerful Utilift LF 540

All models are available with the latest low-emission engine technology, and the MF-models with battery-electric SmartDrive architecture. The machines in the offering can be fitted with multiple ergonomic platform options, featuring either a side extension or a side shift feature. Furthermore, all units can be equipped with an advanced remote driving system for faster and more efficient installation, and various process-related accessories.

The capable Utilift MF 540

SCISSOR LIFTERS

- Utilift MF 330
- Utilift MF 330 SD
- Utilift MF 540
- Utilift MF 540 SD
- Utilift LF 540

BOOM LIFTERS

- Himec MF 905

Utilift MF 330 SD enables safe and emission-free person lifting. Scan the QR code for an introduction video.

Battery-electric Utimec MF 540 SD with a side shifting and extendable platform, and pipe lifters.

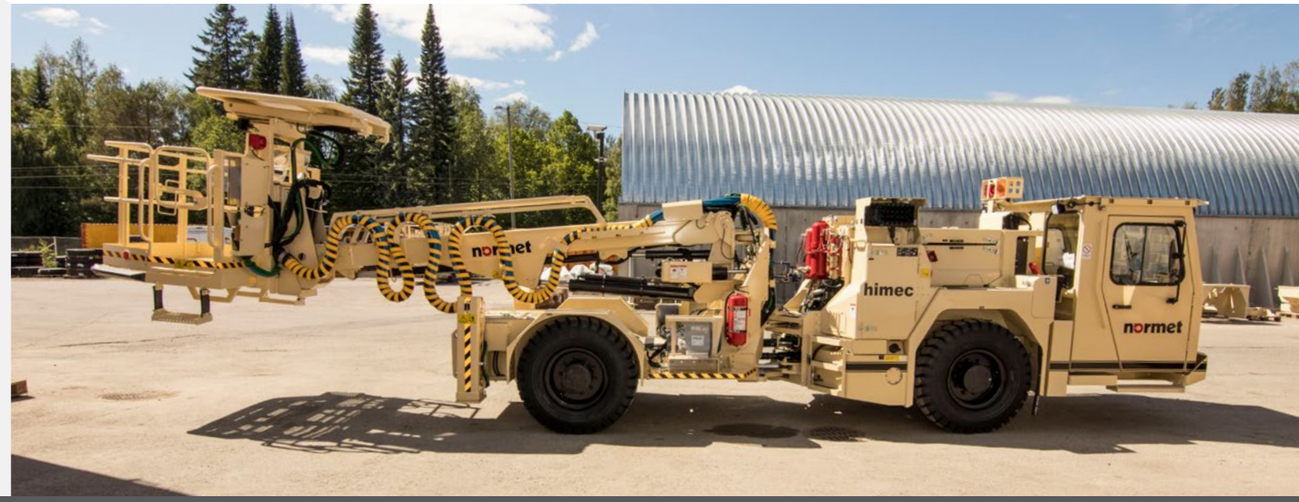
HIMEC MF 905 WITH AN IMPRESSIVE WORKING REACH

The Himec MF 905 is engineered for medium- to heavy-duty lifting and installation work in tunnels with medium-sized to large cross sections. As a high-reach boom lifter with an impressive vertical reach of 11 m, it offers excellent boom coverage and is equipped with advanced safety features such as a platform load-sensing system and multiple platform configuration options. Designed for reliable operation in demanding underground conditions, the MF 905 provides easy access to all service points for effortless maintenance and is powered by efficient Tier 3 engine options. It also features an ergonomic, FOPS- and ROPS-approved cabin to enhance operator safety and comfort.

NORMET SMARTDRIVE® SCISSOR LIFTERS

The Utilift MF 330 SD and Utilift MF 540 SD are battery-electric scissor lifters designed to provide safe and efficient lifting and installation support for underground operations, delivering zero local emissions along with increased efficiency and performance.

Himec MF 905 with a 11-meter vertical reach.



normet

NORMET SMARTDRIVE® OFFERING

The latest battery-electric technology combined with our decades-long process expertise takes underground operations to the next level. Our SmartDrive offering allows for increased performance with zero local emissions.

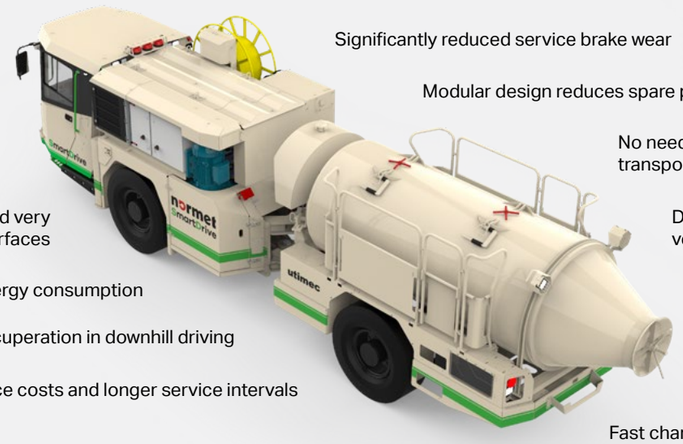
START YOUR ELECTRIFICATION JOURNEY TODAY!

Normet SmartDrive battery-electric machinery has been leading the transformation of underground spaces to fully electric zero-emission operations since 2019. With a growing fleet across six continents, SmartDrive continues to play a key role in making a sustainable future a reality today.

SmartDrive offering includes modular battery-electric vehicle (BEV) architectures designed to optimize energy consumption and performance in underground mining and tunnelling applications. Our SmartDrive equipment delivers higher productivity, lower operating costs and, most importantly, zero local emissions.

We offer comprehensive turnkey solutions to support the electrification journey - from planning to the equipment's end-of-life. Electrification impacts various aspects of operations; the Normet team can help identify your needs and support you in conducting pre-studies, selecting the right equipment, planning charging infrastructure, training operational teams, and mapping facility and infrastructure requirements.

Scan the QR code to get to the Normet SmartDrive Vimeo showcase with all our SmartDrive related videos.



- **0 %** local emissions
- Low noise levels
- Easy and pleasant one-pedal driving
- No hot exhaust gases and very minor heating of surfaces
- Up to **75 %** lower driving energy consumption
- Up to **50 %** energy recuperation in downhill driving
- Even **30 %** less maintenance costs and longer service intervals
- Significantly reduced service brake wear
- Modular design reduces spare part inventory need
- No need for diesel fuel transportation and storing
- Decreased need for ventilation and cooling
- Long-life industrial grade Li-ion batteries
- Standardized battery charging interfaces
- Fast charging capability

INCREASED PERFORMANCE WITH
ZERO LOCAL EMISSIONS

Scan the QR code to watch a video and learn more about SmartDrive platforms and technology.

Normet SmartDrive equipment is available across a range of Normet platforms, including the XS-series, M-series and L-series, each designed to meet specific operational needs. The XS-series is compact for tight spaces and light logistics needs, the M-series is optimized for processes such as spraying and explosives charging, and the L-series provides robust solution for heavy transportation needs. Additionally, the offering includes Spraymec 8100 VC SD, a state-of-the-art tunnelling concrete sprayer.

XS-series SD architecture is designed for light logistics needs.

M-series SD architecture is ideal for process equipment.

L-series SD architecture is built for heavy transportation needs.

Spraymec 8100 VC SD architecture is optimized for short tramming distances.

The key SmartDrive design principle have always been safety, followed by operator comfort, modularity, efficiency, durability, maintainability and fast charging capability. All SmartDrives utilize safe and robust battery designs and have been meticulously analysed for safety. They are modular, meaning that within specific platform sizes – XS-, M- and L-series – all the different applications utilize the same SmartDrive architecture providing streamlined maintenance operations and reduced spare part inventories.

All SmartDrives are built for high efficiency to achieve maximum range, high energy regeneration capability and low operation costs. They are built utilizing durable industrial grade componentry and tested thoroughly. Every SmartDrive comes with CCS fast-charging and on-board charging support, eliminating the need for battery swapping.

Normet SmartDrive® battery-electric (BEV) architectures utilize the latest fast-charging capable Li-ion battery technologies and are powered by high-voltage electric motors, providing instant torque and efficient operation without any local emissions. The fully reversible 4WD ensures safe and sure movement in the most difficult underground conditions while the built-in energy recuperation technology maximizes the regeneration of braking energy during downhill driving and deacceleration. In addition, the efficient dual-circuit and oil-immersed hydraulic brakes provide additional braking power when it is needed.

Normet's full range of applications is now available with SmartDrive architecture.

SmartDrive platforms are optimized for different operational needs.

BATTERY CHARGING

M- and L-series equipment, along with the Spraymec 8100 VC SD, can be charged from standard underground AC sockets anytime, including during tasks like concrete spraying or explosives charging. The XS SD supports AC charging via EVSE or suitable sockets with Type 2 adapter cables. For operations with long tramming distances, all SmartDrive machines can be fast-charged using a universal CCS Type 2 socket. Fast chargers reduce stoppage time and eliminate the need for battery swapping. Strategically placed fast chargers enable integration into daily underground operations. Charging solutions can be optimized through process cycle simulations, and a full-service concept is available. This includes infrastructure design, fast-charger installation, training, spare parts, and maintenance.

SMARTDRIVE FAST CHARGING SOLUTIONS

Our modular charging solutions are designed for high availability, easy maintenance and flexible installation. The offering includes integrated, all-in-one charging cabinets and supply cabinets for multiple charging bays. A single supply cabinet supports up to four charging satellites as standard, with charging power dynamically distributed between them. All chargers are compatible with CCS-capable vehicles and offer online connectivity for data analytics, operational monitoring and power management.

For particularly harsh conditions, the SmartDrive Extreme charger container provides additional protection and active cooling for high-temperature environments. The complete unit can be relocated as one piece without requiring a fixed installation base.

SMARTDRIVE MODELS AVAILABLE

XS-SERIES SD OFFERING

- **Variomec** XS 035 Crew SD

M-SERIES SD OFFERING

- **Charmec** MC 605 VE SD
- **Charmec** MC 605 V SD
- **Charmec** Revo MF 600 V(E) SD
- **Charmec** MF 605 V Long End SD
- **Spraymec** MF 050 VC SD
- **Utimec** MF 500 Transmixer SD
- **Utimec** MF 100 Material SD
- **Utimec** MF 205 PER SD
- **Multimec** MF 100 SD
- **Utilift** MF 330 SD
- **Utilift** MF 540 SD

L-SERIES SD OFFERING

- **Utimec** LF 600 Transmixer SD

OTHERS

- **Spraymec** 8100 VC SD

MORE APPLICATIONS AVAILABLE ON REQUEST
Selected XS- and L-series logistics machines are available on demand with an extended lead time. Visit normet.com to see the full offering.

NORMET DIGITAL SOLUTIONS
- INSIGHT UNDERGROUND

Our people, experience, high levels of customer service and training programs will take good care of your Normet equipment worldwide. This philosophy, combined with an extensive global service network will maximise performance and safety in all areas of your tunnelling or mining environment.

Normet's suite of innovative digital solutions puts your underground operations at the forefront of today's technical transformation. The three innovative solutions that together form our digital services allow deeper access to operational data and analytics, empower your decision-making, give you easy access to spare parts, and improve your overall productivity.

1. NORMET CONNECTIVITY: FOR IMPROVED PRODUCTIVITY

Our Connectivity service is a leap into the future of equipment management. Connect your machinery, harness data, and enable better fleet awareness and control. In a world where data reigns supreme, Connectivity is your gateway to unlocking the potential of intelligent equipment management. Normet Connectivity includes access to Normet Store and Normet Portal.

Normet Store: Genuine spare parts, easily

Navigating the procurement of spare parts just got simpler with Normet Store. Access a comprehensive catalogue, easily place orders, and enjoy fast delivery.

Normet Portal: Fleet-based insights

Normet Portal is your gateway to informed decision-making. View and receive reports such as operational KPIs, activity, and alert logs for your entire Normet fleet.

2. NORMET ANALYTICS: DATA INSIGHTS WITH ADVANCED OPTIONS

Building upon our foundational Connectivity package, Analytics takes your operations to a whole new level. Gain deeper insights into equipment performance, diagnose issues remotely, and fine-tune operations for unparalleled efficiency. Analytics equips you with the tools to stay ahead in a rapidly evolving landscape.

3. NORMET REMOTE MONITORING

Equipment malfunctions can occur unexpectedly but often can be predicted and prevented. The remote monitoring service provides proactive service management for connected Normet equipment.

From our global monitoring centre in Jaipur, India, we create daily, weekly, monthly and on-demand reports on the health of your equipment. Data analytics is used to produce actionable maintenance and service recommendations. Leveraging decades of Normet service knowledge, our recommendations, coupled with advanced data analytics, offer unparalleled insights for optimized performance.

Extend the lifetime of your Normet equipment with our digital solutions.

To find out more, visit:
normet.com/digital-services

normet

DEFINING THE FUTURE UNDERGROUND

We are a fast-growing and innovative company with a mission to lead the transformation into a safer and more sustainable tomorrow. We specialize in technologies and solutions for underground mining, tunnelling and civil construction and provide our customers with safe, high-quality equipment, services, construction chemicals and rock reinforcement solutions for projects around the world.

UNDERGROUND EXPERTISE

We support our customers with expertise gained from working on thousands of underground mining and tunnelling projects all over the world. To date, we have delivered more than 15,000 purpose-built underground machines while improving safety and productivity through our range of construction chemicals and rock reinforcement products. We also offer a range of services and support for our customers. Our company employs about 2,000 professionals with more than 50 locations in 30+ countries.

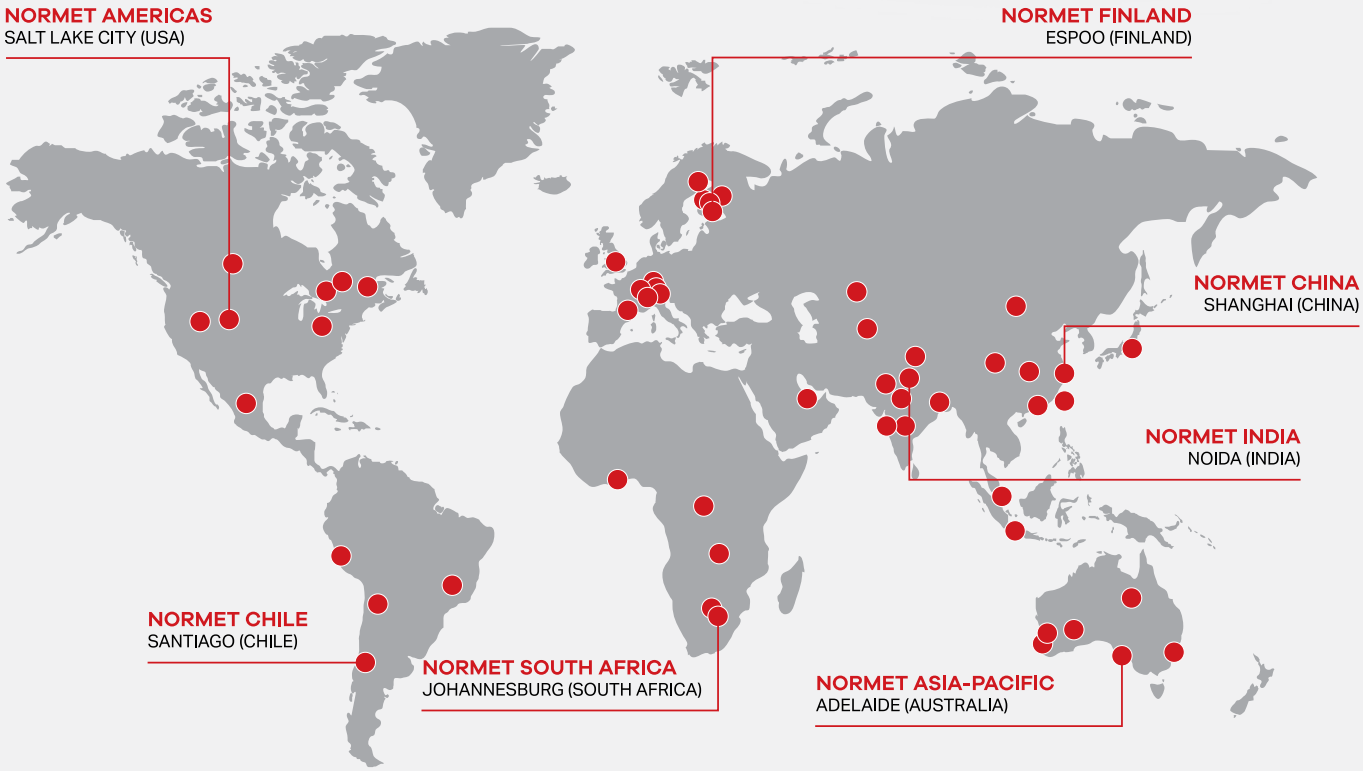
SAFETY IS OUR PRIORITY

Safety is our first priority in everything we do. Our goal is to help our customers increase their level of safety while improving their productivity and profitability. We develop our equipment, technologies and solutions with safety, sustainability and the welfare of people as the key drivers, taking the impact on the environment in careful consideration as well.

CONTINUOUS DEVELOPMENT

We constantly develop new equipment, technologies and chemicals to provide additional value for our customers' underground processes. Our development teams consist of world-class experts using state-of-the-art methods and tools. We use our own laboratories to develop our cutting-edge construction chemicals and perform field tests for our entire offering in real-world environments. In all our work, we aim to enhance safety and reduce environmental impact.

EQUIPMENT | SERVICES | CONSTRUCTION CHEMICALS | ROCK REINFORCEMENT



NORTH AMERICA
Canada
Mexico
USA

SOUTH AMERICA
Brazil
Chile
Peru

EUROPE
Austria
Finland
France
Sweden
Switzerland
United Kingdom

AFRICA
Botswana
Democratic Republic of Congo
Ghana
South Africa
Zambia

MIDDLE EAST
Qatar

EURASIA
Kazakhstan
Mongolia
Uzbekistan

INDIA

CHINA

APAC
Australia
Hong Kong
Indonesia
Japan
Singapore
Taiwan

© 2026 Normet

GLOBAL PRESENCE.
LOCAL SUPPORT.

We are looking forward to telling you more. Please contact your local Normet representative, visit **normet.com** for contact details.

normet