



EPC Underground services and solutions

Complete Tailored Solutions



Our Underground service and solutions are designed to deliver unparalleled expertise and advanced technologies to our clients.

As operations advance into increasingly intricate and challenging underground environments, the demands on mining and tunneling companies have reached unprecedented levels. These projects necessitate solutions that are not only effective but also meticulously tailored to the unique challenges each project presents.

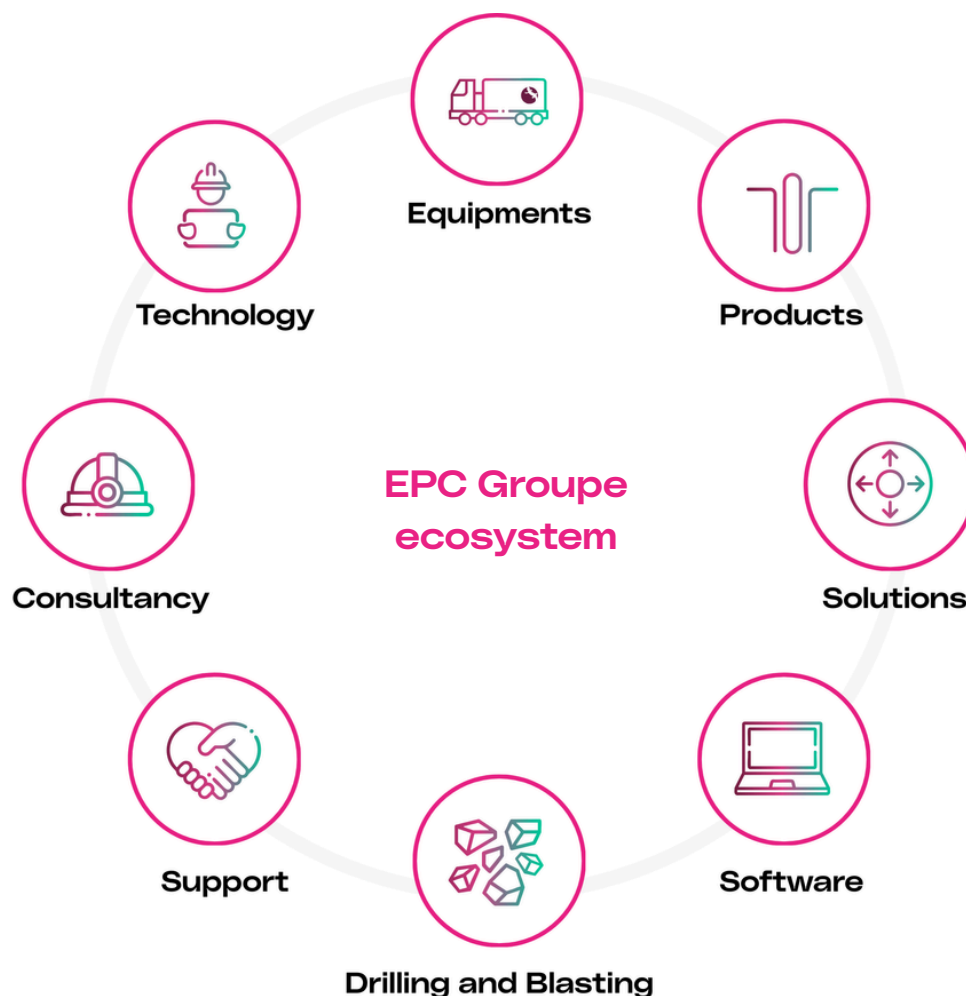
At EPC Groupe, we specialize in delivering bespoke, tailor-made services that address the specific needs of each client, from initial blast design to final implementation. Our experts collaborate closely with on-site teams to understand every challenge and develop customized solutions that ensure the highest standards of safety, performance, sustainability, and cost-efficiency.

Whether it's securing tunnel walls, mitigating environmental impacts, or enhancing operational blasting efficiency, our solutions are crafted to meet the precise requirements of each project. This personalized approach ensures that our clients can confidently navigate the complexities of their projects while achieving their goals.

At EPC Groupe, we are proud to offer this level of tailored service, which is central to our commitment to enabling mineral sustainability and driving positive, long-term outcomes for both our clients and the planet.



Philippe Cappello
Major Projects & Underground Director



Our services

By leveraging processes shaped and governed by the EPC Groupe ecosystem, we unlock value through engineering solutions.

We recognize that every project is unique and comes with its own set of challenges. That's why we specialize in delivering tailored solutions that are customized to meet each client's specific needs.

From initial planning to execution, our expert team collaborates closely with you to design and implement solutions that ensure safety, efficiency, and sustainability, all while optimizing costs. Whether you're involved in mining, tunneling, or underground construction, we provide the right support for your unique project requirements.

Engineering

Our engineering expertise permeates through every aspect of our underground solution.

QA/QC services

Our team uses advanced tools and technologies to monitor and guarantee precision measurement, data accuracy, and performances control in every phase of the project.

Digital solutions

EPC offers advanced digital solutions for underground operations. Our European-based engineers and back office ensure secure 24/7 cloud storage for design and as built data (drilling, blasting, surveying and monitoring). Additionally, we offer quality control and simplified KPI calculations to optimize performance.

Training

With over 130 years' experience, EPC offers a wide range of training courses for customers wherever they are.

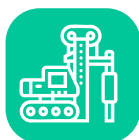
- ✓ Participants of all levels
- ✓ Comprehensive program
- ✓ Worldwide

Integrated UG solutions

Survey Stope & Drift Mapping
Drone



Drill design
Expertir UG®



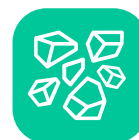
Up and Down Hole Deviation Monitoring
Polarex®



Charging & Hooking up/in Process
Expertir UG®



Blast Performance Report
Explore



HMI SPUR



Drilling Data
ExperTab



Blast Design
Expertir UG®



Blasting Monitoring
Vibration equipments

Our expertises

At EPC Groupe, we dedicate ourselves to deeply understanding and adjusting to our customers' needs, ensuring we provide effective, tailored solutions.

By integrating ourselves into clients' production processes, we proactively anticipate challenges and deliver results that prioritize safety, efficiency, and quality.

Underground mining

With a global presence in key mining areas, our products and services are trusted by both national and international companies. We offer customizable solutions that comply with all technical standards and cover applications from development excavation to stopes production blasting.

Our underground specialized emulsion delivery system: SPUR Mono (Smart Process for Underground Repumping), equipped with a remotely controlled mechanized loading boom, enhances our capability for up-holes charging, ensuring precision and safety. By embracing new technologies like connectivity and digital twins, we drive cost-saving efficiencies to optimize underground blasting operation operations.

Our experienced engineers and reliable supply chain guarantee that, as mining projects grow more complex and remote, we continue to be the reliable partner for delivering timely, high-quality solutions customized to your specific requirements.

What our customers say...



Experienced hands-on support staff makes it possible to be proactive and solve any issues before they became an issue.

Bo Österstrand - Superintendent
Underground mine - Sweden



EPC Software and participation in the BMM tests have proven very helpful in order to minimize ore dilution

Aire Fredlund - Mining Engineer
Underground mine - Sweden

Lucas Tuoma
Blasting Engineer
EPC Sverige (Sweden)



EPC's driven development and technical team have given us the opportunity to be in the forefront off UG mining technologies, which have helped us reduce dilution and improve total production safely in the mining process.



Discover the case study about **Bjorkdal**.

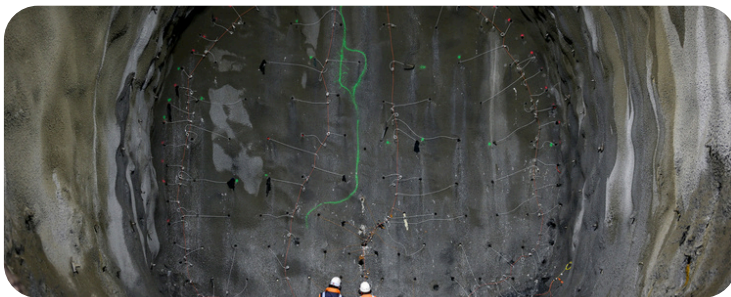


Tunnelling

We leverage our extensive experience in tunneling to deliver tailored solutions that meet the specific needs of each project. From blast pattern design to rock reinforcement, our expertise ensures that every aspect of the tunneling process is optimized. We focus on reducing cycle times and minimizing environmental impact, with innovative solutions such as specialized tunnel emulsion formulas and SPUR (Smart Process for Underground Repumping) loading technology, which reduces stress on rock and improves contour. Our systems also decrease the need for class 1 products on site and enhance cost-efficiency through smarter excavation practices.

We are a trusted partner for tunneling contractors, construction specialists, and civil engineering companies worldwide, having contributed to major projects such as the TELT (France). Our solutions cover both excavation and ground support systems, including injection resins, self-drilling products, and the globally respected AT-Pipe Umbrella System.

As tunnel projects become more complex we continue to innovate, integrating new technologies such as automation, dynamic rock-bolts, and smart devices to improve productivity and meet the growing demands of the industry. Whether addressing specific ground conditions or developing customized solutions, EPC Groupe remains committed to reinforcing the progress of tunnels while supporting economic growth globally.



Zedane Abdallah
Technician
EPC France



Thanks to its advanced program and pumps, the SPUR system offers the ability to rapidly adjust product formulations. This flexibility enables us to meet specific ground or client requirements with precision, whether related to product density, gassing speed, or other technical parameters.

The integration of sensors at every critical point, along with two independent production lines, ensures rapid detection of any potential anomalies.

In the event of a malfunction, this setup allows us to implement immediate solutions, thereby guaranteeing the continuous of production cycles.

The automated "String-Charging" reel systems enhance operator comfort by eliminating the need to handle the weight of traditional hoses. These reels accurately measure each blast hole and adjust the charge accordingly, thereby eliminating the risk of product overflow and preventing the formation of NH_3 gas upon contact with concrete. This significantly improves both safety and working conditions for field teams.

Process automation removes the risk of human error and ensures consistency and quality of the finished product. Additionally, the "String Charging" program allows for precise control of bottom-hole initiation charge, linear charge (kg/m), and the management of voids. This fine-tuned adaptability enables us to optimize results and respond effectively to the specific challenges of the ground.

What our customers say...



Blastcon, Australian subsidiary of EPC Groupe, has been a key partner to the Kidston Hydro Project. Their involvement began early, working closely with our team to provide expert input across design development, technical planning, and execution of critical works including surface and underground blasts.

In addition to their blasting expertise, Blastcon Australia were tasked to assist with the setup and implementation of the explosives storage and management system, ensuring full compliance with regulatory requirements while maintaining high standards of safety and efficiency. Blastcon Australia also assisted with approvals of Storage and Manufacture Licences.

Their professionalism, technical knowledge, and collaborative approach have made them an invaluable part of the project team. I would have no hesitation in working with Blastcon Australia again on future projects.

Haco Diaz - Kidston Renewable Energy Hub
Tunnel Excavation & FRP Area Manager



We used the EPC SPUR Twin pump technology for emulsion charging in our tunnels and noticed several advantages. First, the safety of our teams was significantly improved due to the reduction in the amount of conventional explosives used during the loading operations. Additionally, the efficiency of the process helped reduce cycle times and increase our productivity. Finally, the overall performance of the pump met our expectations, providing a reliable and durable solution for our tunnel mining operations.

Nicolas Botter - NGE
Excavation Supervisor for TELT Lot CO08

Our added-value



Building value at every step, from supply to performance.

EPC Groupe offers comprehensive and modular services packages, delivering tailored underground solutions that evolve with the project's needs. Our primary focus is on finding the best solutions to meet our customers' requirements. From explosive supply to engineering the blast, loading and shotfiring, drilling and ground support and custom KPIs, our value chain is designed to maximize safety, cycle efficiency, and productivity while always in compliance with the local regulation and environmental impact limits—each stage unlocking deeper performance.



Supply



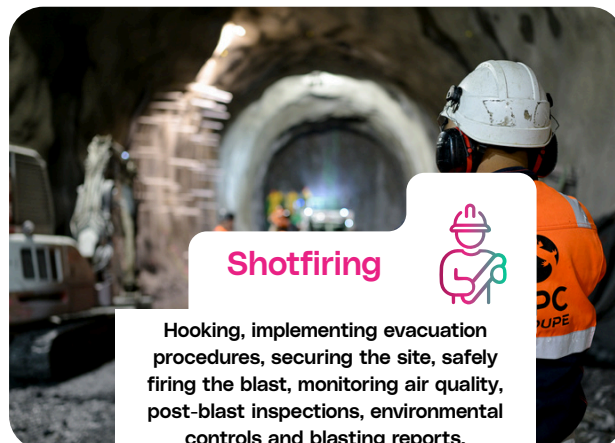
Manufacturing and provision of explosive products, initiation systems, blasting accessories, and bulk explosives (with optional charging or down-the-hole services).




Charging




Delivery and loading of our on-site manufactured bulk emulsion products, sensitized in blast holes, coupled with our high-energy EPC Cord B primer (Engineering blast design optional)




Shotfiring



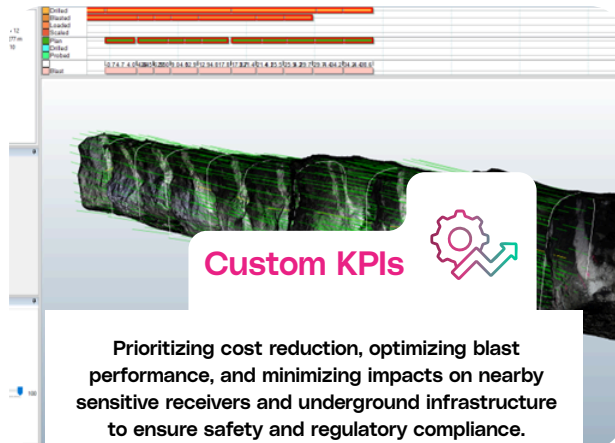
Hooking, implementing evacuation procedures, securing the site, safely firing the blast, monitoring air quality, post-blast inspections, environmental controls and blasting reports.




Down the hole



Blast engineering, supply and explosives charging operation, shotfiring services, environmental controls (Drilling of blast holes optional)



Custom KPIs



Prioritizing cost reduction, optimizing blast performance, and minimizing impacts on nearby sensitive receivers and underground infrastructure to ensure safety and regulatory compliance.

Our QA/QC processes

QA/QC in underground mine blasting ensures optimal performance and safety through careful planning, execution, and monitoring. QA focuses on processes and standards, while QC targets blast design, drilling, explosive loading, and outcome evaluation.

EPC Groupe leads the field with advanced tech, digital tools, expert training, and tailored solutions, maintaining high standards in quality and safety.

1

Surveying

Record Raise Slot, Stope, and Drift locations. Import client survey data to model UG infrastructure geometry.

2

Blast Design

Design hole layout, drilling angles, loading pattern, and firing sequence based on energy distribution, blast movement, ore dilution, fragmentation, and profile control.

3

Drilling

Execute drill plan (IREDES) with computerized jumbo. Control hole deviation in Raise Slot and Stope using Polarex® probe. Log as-built drill reports.

4

Ordering explosives

Order precise quantities of explosives and initiation systems according to the Blast Plan.

5

Loading

Load explosives, boosters, and detonators as per the Blast Plan. Charge bulk emulsion using SPUR unit with mechanized boom for uphole loading.

6

Blasting

Perform blast with VOD and Detonation Pressure (DP) measurements. Monitor vibrations with AOP system.

7

Blast reporting

Report blast performance and profile control. Document environmental monitoring, including vibration and AOP data.

8

Continuous improvement

Connect blast execution to operational KPIs for ongoing optimization.

Pascal Montagneux
Australasia Director
EPC Asia Pacific



Qa/Qc is an important part of blasting operations nowadays. It is an integral part of the services carried out by EPC teams, whether in a specific Qa/Qc contract, or integrated into the blasting services

operations delivered by our teams as part of a blasting or ROG contract.

It allows us to establish the blast design to consider the customer's KPIs and constraints, to carry out the necessary simulations, to ensure that the completed blast complies with the plans, to establish corrective measures if necessary, and to produce detailed reports for each blast as part of a continuous improvement action.

Combine with tools and method developed in house, it gives EPC Groupe operation a significant image of a professional team on the field that cares about the customer needs.

Our technologies



Leveraging cutting-edge technologies we deliver state-of-the-art solutions for underground projects.

EPC innovative technologies, including our SPUR Mono with its mechanized boom for up-hole loading operations, our SPUR TWIN with a string loading system for tunneling applications, our Polarex probe for hole deviation, our UG Drone for stope survey, our specialized 3D blast design and modeling software: Expertir UG, as well as our Emulsion Modular Plant, offer a comprehensive suite of tools designed to enhance safety in underground operation, ensure optimized blast performances, improve cycle efficiency, and ultimately drive the success of your projects.



Emulsion Modular Plant

Our EMPs integrate all necessary equipment and processes to meet high production rates and performance demands. Their modular design also allows us to deploy them efficiently anywhere in the world, adapting seamlessly to local conditions and customer needs.

- ✓ Mobile, robust, and easy to deploy
- ✓ Proven safety and reliability
- ✓ Sustainability



Field equipments

As operations progress into more intricate and challenging environments, the demands on mining and tunneling companies have reached unprecedented levels.

These projects require solutions that are not only effective but fully tailored to the unique challenges each project presents.



SPUR

An innovative loading solution specially designed for underground environments. It optimizes tunnel and mine operations, offering safety, reliability and flexibility. Thanks to its advanced automation, SPUR guarantees maximum productivity and simplified maintenance, while meeting the performance requirements of major infrastructure projects.

- ✓ Productivity
- ✓ Flexibility and adaptability



Digital solutions

EPC Groupe offers a suite of digital solutions for underground operations: Expertir UG software for engineering blast design for tunnels, developments, shafts, stopes and raise slots, featuring advanced calculation and modeling tools to predict blast effects.

Vibraquipo measuring solutions to capture and analyze vibration and air overpressure signals, allowing for design adjustments to meet environmental constraints. Our UG Drone facilitates post-blast inspections and safe stope surveying, while QAQC Pro ensures rigorous blast performances control and KPI compliance.



Learn more about our
**Global Technical
Solutions.**

Our products

We offer a comprehensive range of solutions for including packaged emulsions, bulk emulsions, and much more.

Our expertise lies in selecting the best products available on the market, paired with high-quality customer service to meet the most demanding project requirements. Whether you need ready-to-use emulsions, bulk solutions, or other specialized products, we guarantee reliable supply, in compliance with safety and environmental standards, while supporting you with tailored technical advice for your projects.

Bulk emulsions

EPC's bulk emulsions are ammonium nitrate-based solutions emulsified with an oil phase. Classified as oxidizing agents for transport and storage, they only become explosive after sensitization at the blast site using gassing agents—right at the borehole.

For reactive ground, we offer sulfur-resistant formulas that comply with AEISG standards. These solutions ensure optimal performance and enhanced durability, meeting the strict quality and safety requirements in place.

Thanks to our advanced underground emulsion technology, we provide a customized product line for various applications:

Euroblendex® ST

Designed for underground development operations. It is optimized to reduce post-blast fumes, ensuring a safer and cleaner working environment.

Euroblendex® ST Up-Hole

Formulated for up-hole applications. Its high viscosity ensures excellent stability, even in challenging borehole orientations.

Nitram® TX1 Bulk

Engineered for use in underground development, delivering reliable blasting performance with a strong focus on safety.



Packaged emulsions

EPC Groupe's packaged emulsions are water-in-oil emulsions, where oxidizer salts are dispersed into microscopically fine droplets within a continuous fuel phase. Stabilized by a surfactant, the formulation also includes a density-modifying agent to ensure appropriate sensitivity.

Leveraging EPC's advanced emulsion technology, these products offer:

- Exceptional safety during transport and handling
- Consistent and reliable performance
- High blasting efficiency in confined or difficult environments

Packaged emulsions are particularly suited for projects where site access, quantity, or operational conditions make bulk delivery impractical.

What our customers say...



We obtained an official permit under Japan's Explosives Control Law and Fire Service Act rather than a "trial blasting permit," to carry out blasting in a road tunnel. The explosives' loading time was shortened, and the face approach work was significantly reduced. We were able to officially register the bulk emulsion technique in Japan's new technology database, NETIS.

Dr. Murata Kenji - TODA Corp.
**Blasting Technology Advisor,
Ujitawara Road Tunnel Project**

Our Commitments Driving Underground Innovation



Safety, Health, Environment (SHE): a daily commitment

In our underground operations, SHE excellence is a non-negotiable priority. Every activity is designed to protect our people, safeguard the environment, and mitigate operational risks. Our practices are grounded in international standards, strengthened by on-the-ground experience. Preventive safety, ongoing training, and technical innovation form the foundation of our HSE culture.

Corporate Social Responsibility (CSR): acting as a responsible player

Our underground projects are guided by a strong CSR vision: reducing our carbon footprint, fostering transparent dialogue with local stakeholders, and embedding social and environmental considerations into every phase of our operations. We believe in sustainable growth that combines industrial performance with positive local impact.

Research & Development: shaping the future of underground works

Automation & digitalisation: towards the smart mine

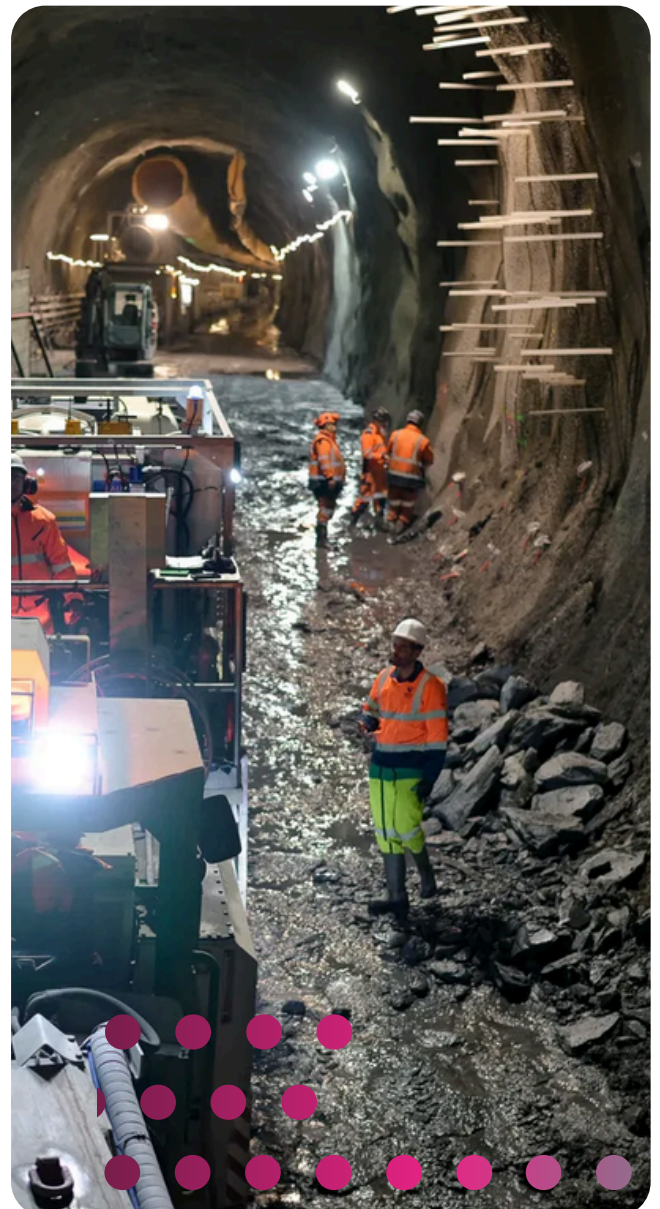
Through the automation of high-risk operations and digital modelling, we are enhancing safety, productivity, and precision in the underground environment. Our R&D teams are developing connected, remotely operated solutions that mark a new era in operational efficiency.

Augmented reality: enhanced insight, better control

We leverage augmented reality in site preparation and training to deliver enriched visualization of complex environments. These immersive technologies enable better risk anticipation, optimized planning, and more effective knowledge transfer.

Artificial intelligence: data-driven decision making

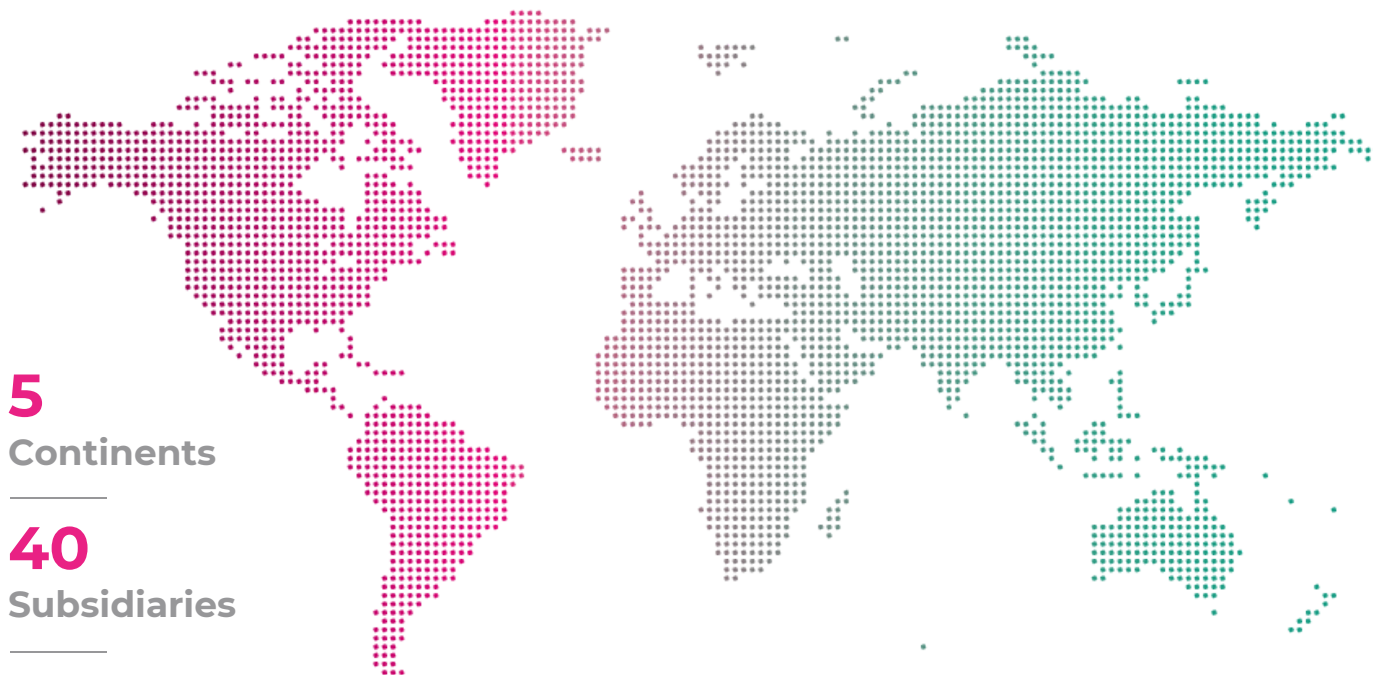
Our systems collect a vast amount of data from the field. Artificial intelligence helps extract real-time insights to refine drilling strategies, predict anomalies, and model geotechnical behavior. A smart data approach serving safety, sustainability, and performance.



Our key locations



With over 130 years of underground and surface mining and quarrying experience, EPC Groupe carries field leading expertise in its DNA.



5

Continents

40

Subsidiaries

29

Countries

They already trust us



GHHELLA
1894





Contact

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