



SOLETANCHE BACHY

Build on Us



Why choose Soletanche Bachy

Soletanche Bachy's Advantages

When you entrust us with your project, you have the guaranteed benefit of the strengths of a world leader:

The most comprehensive geotechnical offer

Almost 100 years of experience



Because we are a leader in foundations and soil technologies

At Soletanche Bachy, we offer our advanced knowledge of soils and our geotechnical expertise to support your projects. We provide you with innovative and efficient solutions for your projects' deep foundations, retaining structures, reinforcements and geotechnical infrastructure.

Expertise in all types of structures and all types of soils

Unique engineering services

Local roots and global expertise to support your projects

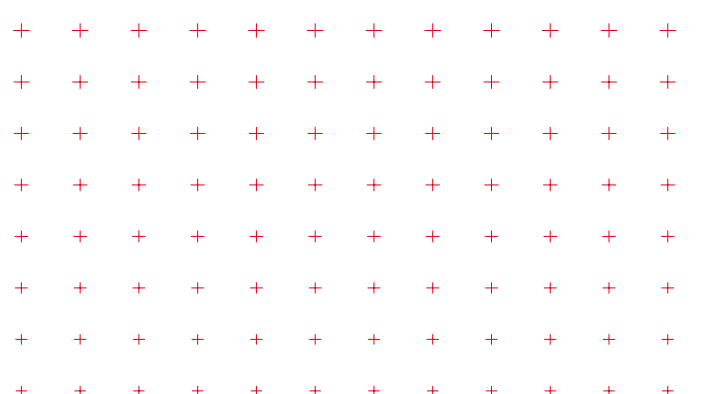
A high level of operational excellence

A commitment to safety at every level

A large portfolio of environmental solutions

Unparalleled innovation capabilities

Passionate teams to overcome your projects' challenges



Because we are present worldwide, close to your projects



4,000
worksites per year



10,000
employees



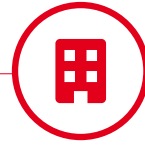
€2 bn
in turnover



50
countries where we are present



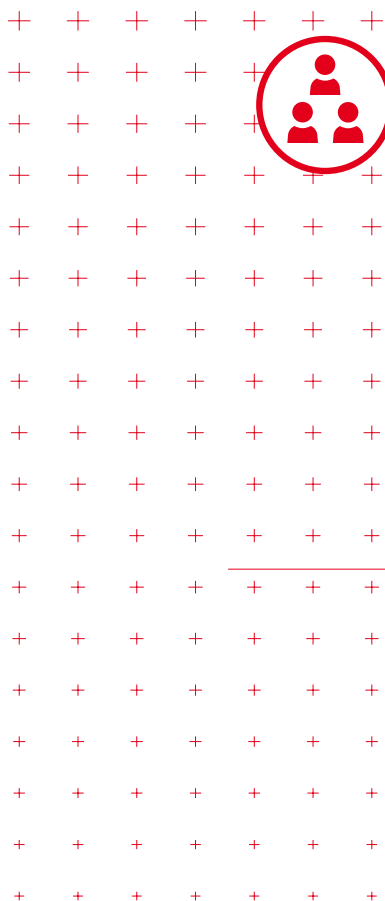
>100
nationalities

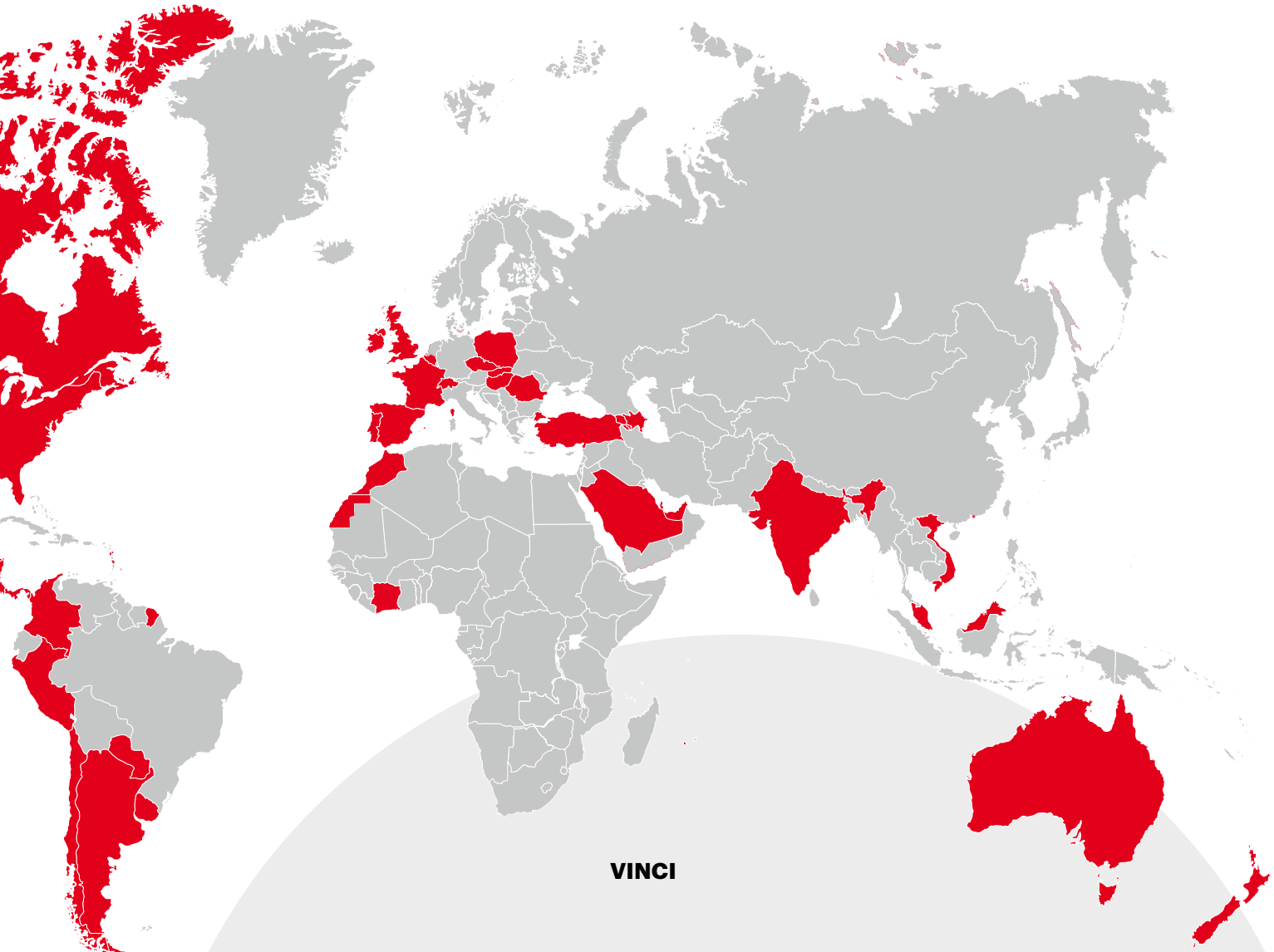


80
subsidiaries on five continents



60
countries where we operate





VINCI

VINCI Construction

Soletanche Freyssinet

**Soletanche
Bachy**

Because we have a passion for our work, for challenges overcome and successful projects



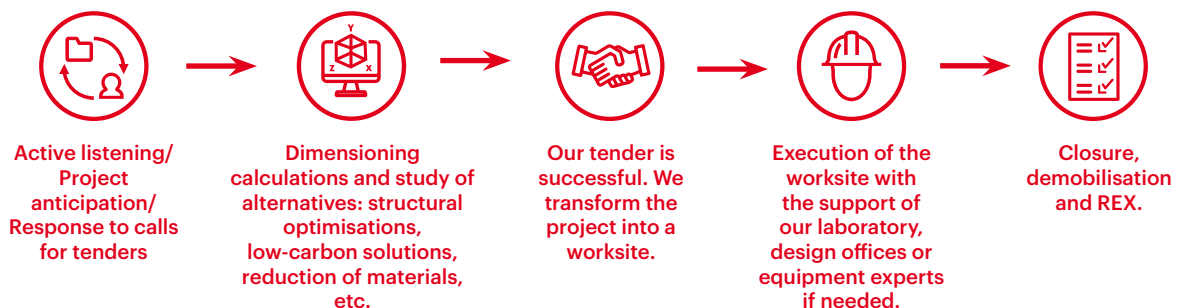
At Soletanche Bachy, all of our operating methods are geared towards a dual objective: efficiency and high quality. We are driven by a culture of results: from the worksite team to subsidiary directors, our entire company aims for operational excellence, technical performance and safety.

The worksite above all

At Soletanche Bachy, everything begins on the worksite. This is at the heart of our activity, our know-how and our expertise.

From design to delivery, we lead each project with a requirement for excellence. We are passionate about overcoming technical challenges and completing successful projects.

What is the project process at Soletanche Bachy?



Depending on the nature of the project, national legislation or the role we play, as a specialist subcontractor or general contractor, we adapt our procedures to your needs.

For example, we can work proactively with our customers upstream of tenders (Early Contractor Involvement) to scope projects, identify needs and technical or environmental challenges to be addressed.



Talented people

Soletanche Bachy is 10,000 men and women, motivated by strong shared values:

- ⊕ A safety culture shared on a daily basis, on all our worksites
- ⊕ An entrepreneurial spirit, based on autonomy and accountability
- ⊕ A search for operational and technical excellence in every operation
- ⊕ A desire to place innovation at the centre of our solutions
- ⊕ Attentiveness to the customer at all times

Local roots and global expertise – Soletanche Bachy’s strength

No matter how complex your projects, we have a single objective: to find the best construction solution and to implement it as efficiently as possible.

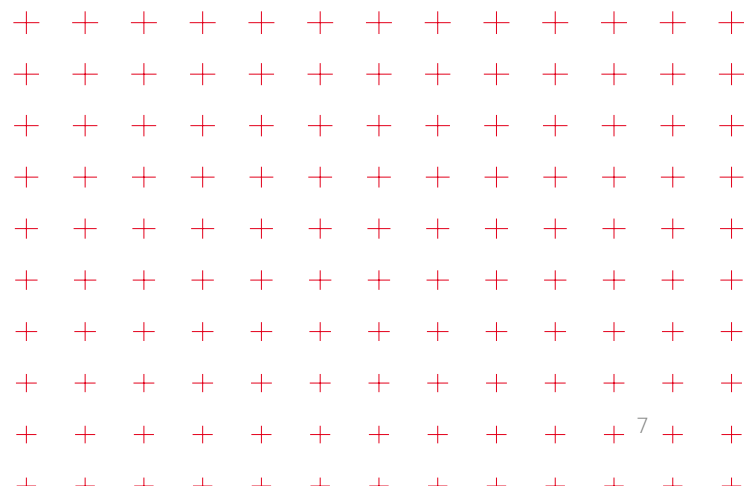
To achieve this, we draw on an organisation that makes the most of our local presence and our global response capability:

- ⊕ **Local** means acting quickly and efficiently on the ground, through subsidiaries that have knowledge of the local geology, expertise in the specific characteristics of the market and understanding of your needs.
- ⊕ **Global** means being able to harness the strength of a Group. It is the ability to call on expertise, worksite operational staff and to deploy machines to support our subsidiaries.



**SOLETANCHE BACHY
INTERNATIONAL**

Soletanche Bachy’s Major Projects subsidiary strengthens our ability to respond to large-scale projects anywhere in the world. It operates on five continents, either alone or in tandem with local subsidiaries.



Because we are pioneers in foundations and soil technologies

1926

The company Bachy is founded in France by Pierre Bachy.

A few years later, it became SIF - Entreprise Bachy.

1929 et 1934

Ernest Ischy and Henri Giron join SEC

(Sondages - Etanchements - Consolidations).

1952

Serre-Ponçon dam (France): development of the sleeved pipe for grouting of alluvial soils ("tube à manchettes").

1973

First diaphragm wall made with the Hydrofraise® at the Gare de Lyon in Paris (France).

1997

Merger between Solétanche and Bachy to create Solétanche Bachy.

1933

Cheurfas dam (Algeria):

use of 1,000 tonnes of prestressed anchors to raise it.

1944

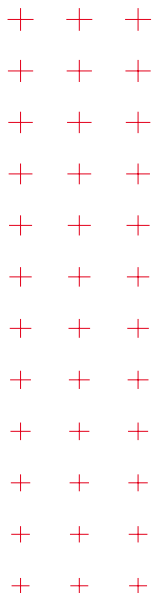
Ernest Ischy and Henri Giron buy SEC, which becomes Solétanche in 1948.

1957

Marckolsheim hydroelectric power station (France): first use of the diaphragm wall.

1988

Mud Mountain dam (United States): the panels of the cut-off wall pass through blocks of very hard andesite and some are more than 100m deep.





2009

Birth of Soletanche Freyssinet, combining Soletanche Bachy, Menard, Terre Armée, Freyssinet, Nuvia and Sixense.

2015

Design and manufacture of the Hydrofraise® with grippers, allowing drilling at great depths in very hard ground (resistance greater than 100 MPa).

2018

Grand Paris Express (France): world record for placing a CWS® waterstop joint at a depth of 74m.

2020

Launch of Soletanche Bachy's environmental action plan.

Use of the new Hydrofraise® HF8 on a worksite in Singapore.

2022

Construction of the first tunnel in the world made entirely of EXEGY ultra-low-carbon concrete pipes in Bonneuil-en-France.

2000

Palm Jebel Ali and Palm Jumeirah projects (Dubai): 135 million m³ of soil strengthened using vibroflotation.

2012

West Island Line, metro (Hong Kong): Implementation of the Tunnel Dismantling Machine (TDM), specially manufactured by Bessac to dismantle an existing tunnel.

2017

Third runway at Hong Kong International Airport: the largest Deep Soil Mixing project ever carried out in the world.

Manufacture and commissioning of the new Hydrofraise® with electric power pack on the Thames Tideway site in the UK.

2019

Launch of ForSHORE, the Soletanche Bachy brand dedicated to maritime works.

Launch of Z-Lyze, the Soletanche Bachy platform for collection, processing and analysis of worksite data (Big Data).

2021

Launch of EXEGY by Soletanche Bachy, the service supplying low-carbon concrete and grout for foundations.

Because we are a committed company

With Soletanche Bachy, you can rely on a partner committed to three areas that make the difference for your construction projects: safety, innovation and the environment.



Safety is everyone's business

At Soletanche Bachy, a successful worksite is an incident-free worksite. We have a single objective in terms of safety: to achieve zero major incidents for our employees and service providers, whether in our offices, on our worksites or on the road.

This is why safety is central to our foundations and soil technology projects, from the call for tenders to worksite execution, via the design of machines, our technical processes, management, etc. It is also a culture rooted in the daily behaviour of our teams.

Safety – an essential factor for the successful completion of your structures

For decades, we have incorporated safety into every aspect of our operations:

- **People:** behaviour is one of the keys to embedding safety in our culture and our daily practices. That is why we regularly carry out campaigns to increase our teams' responsibility and raise awareness of risks and best practices.
- **Technical:** our machines are fully equipped with safety devices. In addition, the design and maintenance of our equipment goes beyond standards and meets strict requirements worldwide.
- **Organisation:** checklists, prestart meetings, execution procedures, training programmes, etc. – we make every effort to create safe working conditions for our teams and our service providers and to mobilise our entire company, from the subsidiary directors to operators and works supervisors.





500+
patents

60+
innovation
awards



**Innovation
& digital**

Innovation has been central to our identity

Since its creation, Soletanche Bachy has been responsible for numerous disruptive innovations in soil technologies and foundations. And thanks to our equipment, materials, methods and research experts, we are continually improving our processes, our machines and our materials to meet your new challenges and anticipate those of tomorrow.

At Soletanche Bachy, innovation starts on the ground

Productivity, safety, environment: all over the world, our worksite teams are behind numerous innovations in the implementation of our processes and our equipment. This creativity has often been recognised by innovation awards, competitions and calls for ideas.

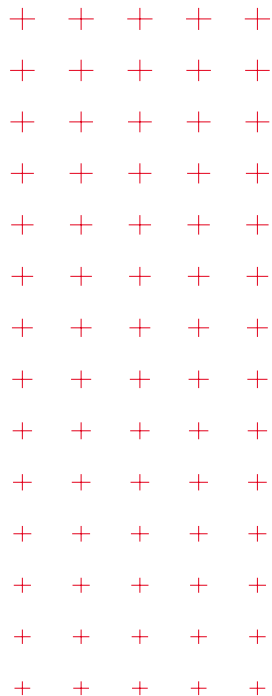
Innovation to support the environment

Our innovation capabilities allow us to reduce our operations' CO₂ emissions by acting on several levels:

+ **Equipment:** we are working on electrification of our machines, with the introduction of the Hydrofraise® with an electric power pack on many worksites. We also use battery packs to smooth power peaks required for our drilling fluid production plants. Finally, we use optimised engines, latest-generation fuels and operator assistance systems to consume less energy.

+ **Materials:** in addition to our EXEGY by Soletanche Bachy range, we call on our laboratory to develop innovative low-carbon materials, such as cement-free concrete made from activated slag.

+ **Processes:** we have notably developed the recycling of jet grouting spoil, as well as the system of threaded piles, which halves the amount of concrete used and does not produce any spoil, eliminating truck traffic to remove it to landfill.



More efficient projects thanks to data and digital

For several years, Soletanche Bachy has been digitalising its operations and its machines, using business software and supervision.

- ⊕ **We have created Z-Lyze, our Big Data collection, structuring and analysis platform.** It is now commonly used for most of our processes (continuous flight auger piles, driven piles, diaphragm wall with Hydrofraise® and hydraulic grab).
- ⊕ **We are digitalising our activities with BIM** to optimise our designs and dimensioning, as well as to share with you all information associated with the life of your project.

Hydrofraise®

In the 1970s, Soletanche Bachy developed the Hydrofraise®, a benchmark machine for boring diaphragm walls. We have been constantly developing it since its creation. It is now available in several versions:

- ⊕ **compact** for work with limited headroom,
- ⊕ **containerisable** to reduce shipping time and carbon footprint
- ⊕ **with a gripping kit** for very hard ground,
- ⊕ **or equipped with an electric power pack**, or even all of these at the same time.



R&D at Soletanche Bachy

At Soletanche Bachy, R&D brings together our technical experts and our subsidiaries to align research projects as closely as possible with your needs or your worksite challenges.

- ⊕ For example, Soletanche Bachy is developing Biocalcis®, a biotechnology that imitates natural calcification processes to cement the ground in place while maintaining its initial porosity. This has a range of applications, including: restoration of reinforced-backfill walls, combating soil liquefaction, treatment against internal erosion of dykes, etc.





Environment

A priority for now and the future

At Soletanche Bachy, we believe in measured, sustainable growth that will improve our foundations and soil technologies works, bring about change in our industry by creating new environmental solutions for your projects.

To do this, we draw on a pragmatic and local Environmental Action Plan, targeting three key areas:



WASTE

Minimise our waste and maximise its recycling and recovery (destruction, storage and recycling).



ENERGY

Reduce our carbon footprint by 40% by 2030 by reducing our fuel and electricity consumption (scopes 1 and 2).



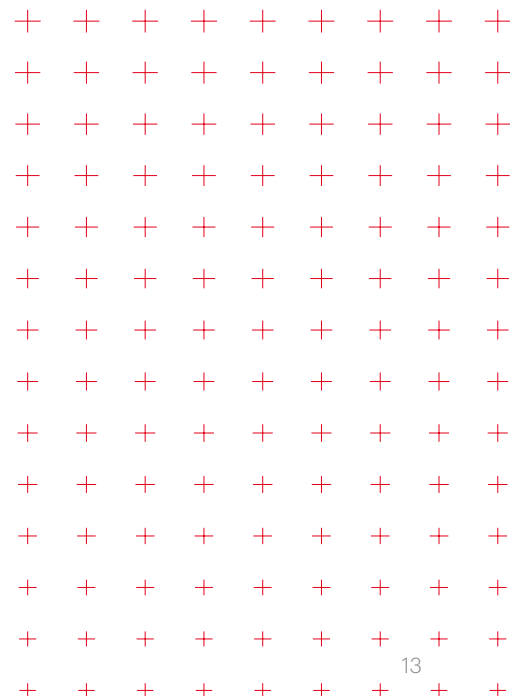
CEMENT

Reduce our indirect carbon emissions by 20% by 2030 (scope 3), through the reduction of our cement and concrete consumption and use of less carbon-intensive cements and alternative binders.



Scopes 1, 2 and 3

- ⊕ **Scope 1**
(direct emissions): greenhouse gas emissions produced directly by Soletanche Bachy's activities (diesel, fuel).
- ⊕ **Scope 2**
(direct emissions): emissions linked to the production of electricity purchased by Soletanche Bachy.
- ⊕ **Scope 3**
(indirect emissions): all emissions linked to the Soletanche Bachy's indirect activities (concrete, steel, subcontracting, etc.).



Because we are environmental solutions providers

At Soletanche Bachy, we actively reduce the carbon footprint of your projects and of our operations. To do this, we participate in the construction of structures with a positive impact, we implement optimised technical solutions and we carry out daily actions on our worksites.



1. We build structures with a positive impact

- + **Public transport networks that reduce vehicle traffic in cities** (railway lines, metro stations, etc.).
- + **Structures that improve water quality** (stormwater tanks, treatment plants, etc.).
- + **Buildings with high energy performance** (housing, offices).
- + **Sources of clean energy** (dams, wind turbines, etc.).

2. Our technical expertise reduces projects' environmental impact

- + **Design alternatives to use fewer materials or reuse backfill/spoil**, thanks to the Group's in-house design offices.
- + **Technical processes providing environmental benefits**, such as Deep Soil Mixing, threaded piles and underpinning.
- + **Cleaner machines**, such as the Hydrofraise® with electric power pack.
- + **Less carbon-intensive materials**, with our EXEGY by Soletanche Bachy low-carbon concrete offer.



3.

Our actions on-site contribute to protect the environment

- + Waste sorting and recycling.
- + Reduced fuel consumption.
- + Reuse of materials (drilling fluids, demolition concrete, jet grouting spoil).
- + Water savings using closed-loop systems.
- + Tools operating using renewable energies.
- + Reduction in noise pollution.
- + Adaptation of procedures to protect biodiversity.



exegy
by Soletanche Bachy

Between 2012 and 2020 in France, Soletanche Bachy used:

EXEGY by Soletanche Bachy

Soletanche Bachy has used low-carbon concretes and grouts for over 30 years.

Today, via EXEGY by Soletanche Bachy, you can benefit from this experience and our expertise in foundations and soil technologies in order to **reduce the environmental impact of your projects.**

EXEGY by Soletanche Bachy is a package of materials and services to **supply the most suitable low-carbon concrete and grouts** for your project:

Low-carbon concretes for 50% of its projects

Very low-carbon concretes for 25% of its projects

MATERIALS WITH A LOWER CARBON FOOTPRINT SUITABLE FOR ALL STRENGTH CLASSES

- Supply of **Low, Very Low and Ultra-Low-Carbon concretes and grouts** available on the market.

OR

- Development of bespoke **Low, Very Low and Ultra-Low-Carbon concretes and grouts.**

EXCLUSIVE SERVICES TO BENEFIT FROM SOLETANCHE BACHY'S MATERIALS EXPERTISE

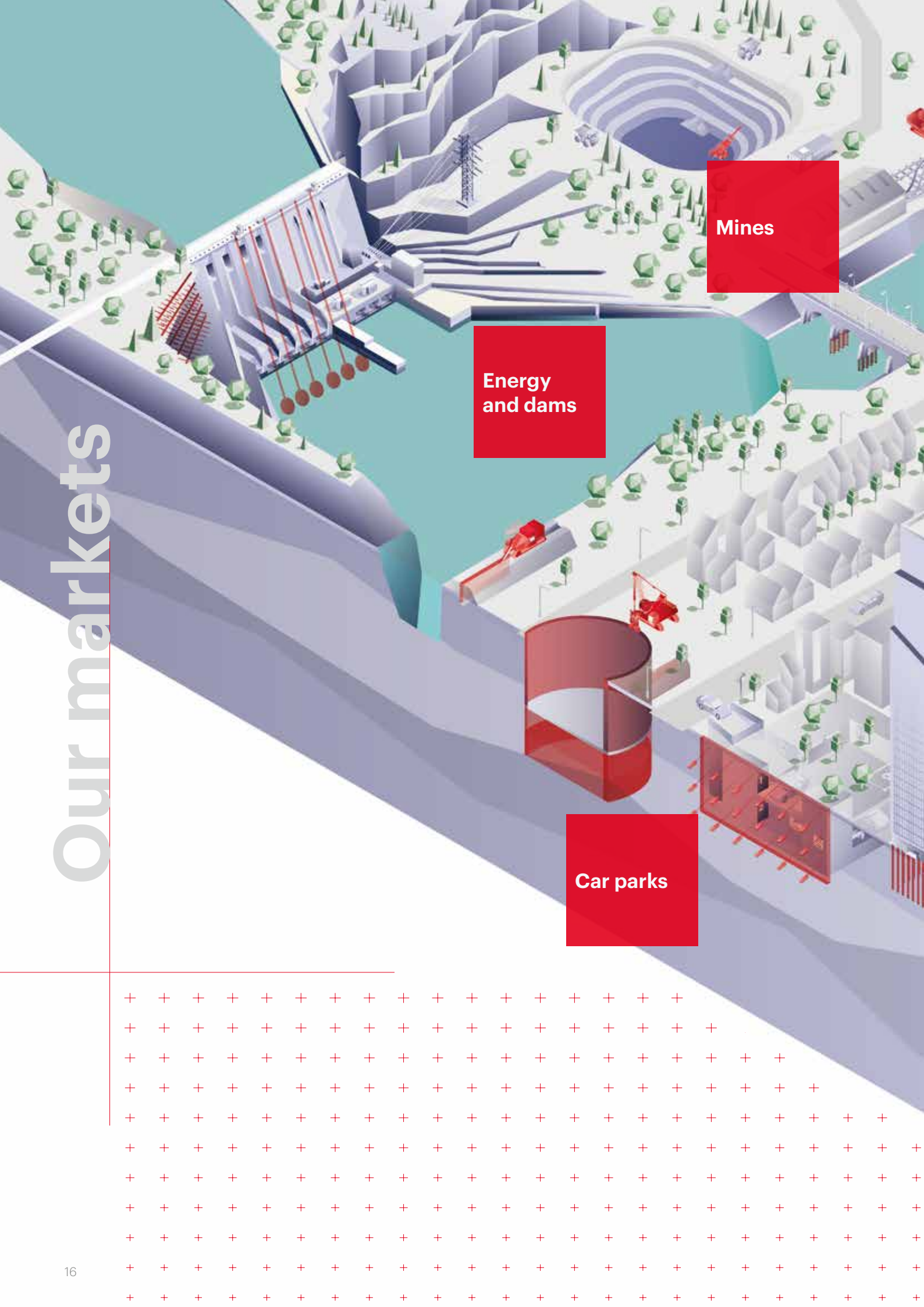


- **Our in-house laboratory with expertise in low-carbon materials** (specifications, mix design, tests, etc.).

- **Research and supply of alternative binders available locally.**

- **Identification of low-carbon concretes on the market** thanks to our relationships with suppliers.

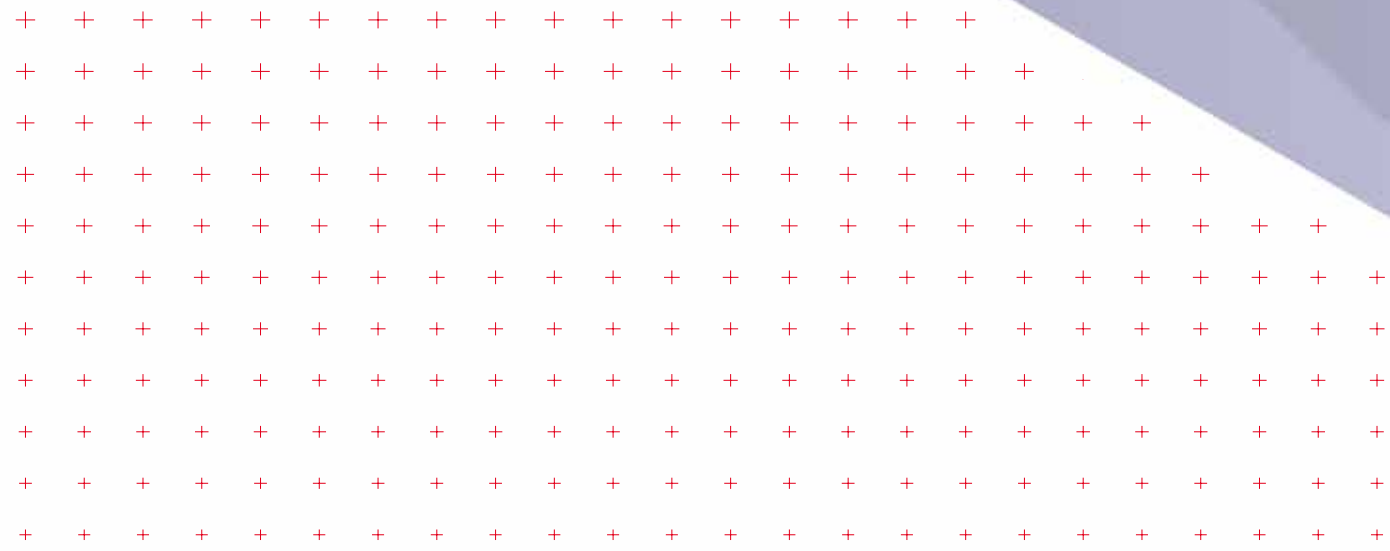
Our markets

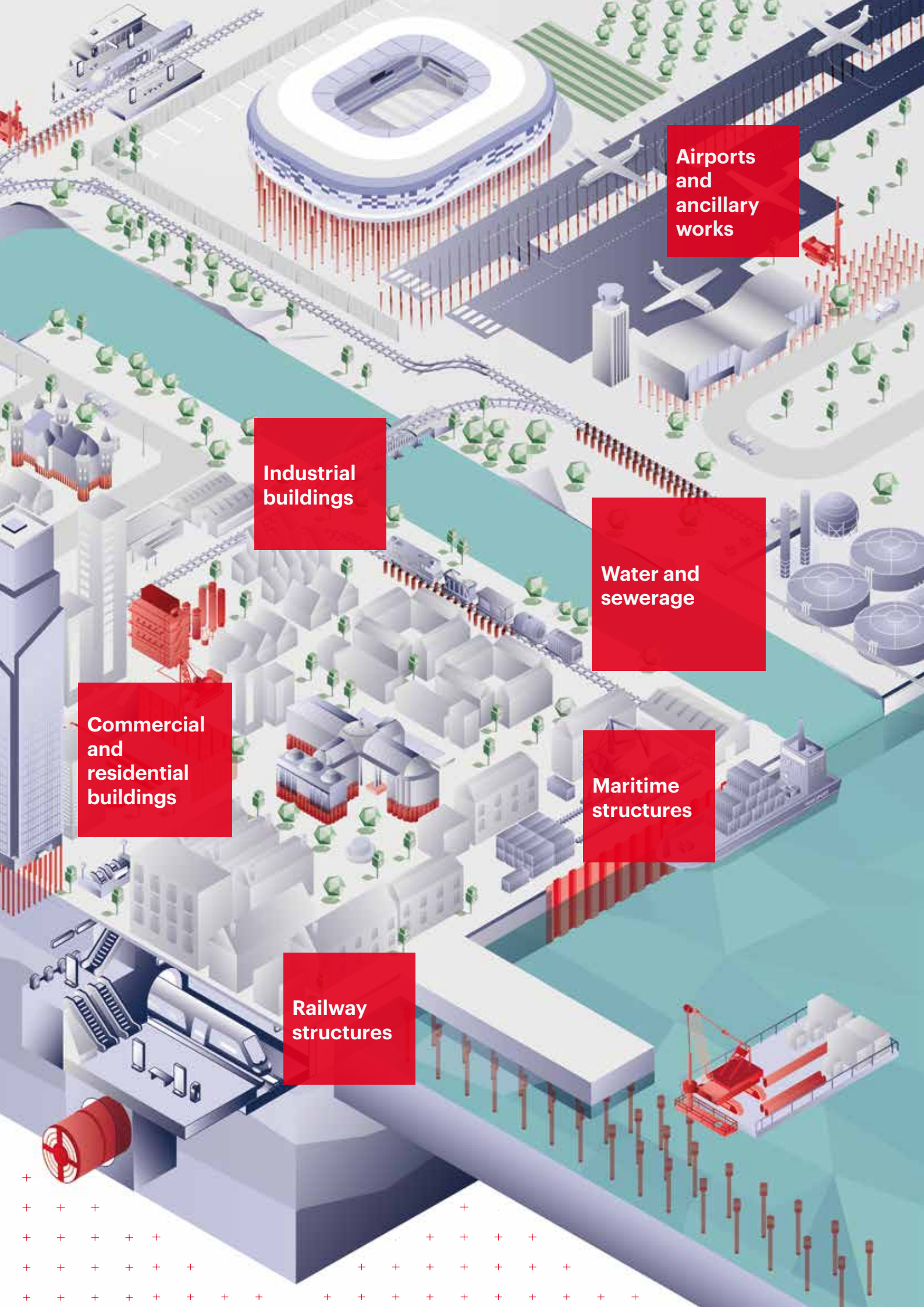


Mines

Energy
and dams

Car parks





**Airports
and
ancillary
works**

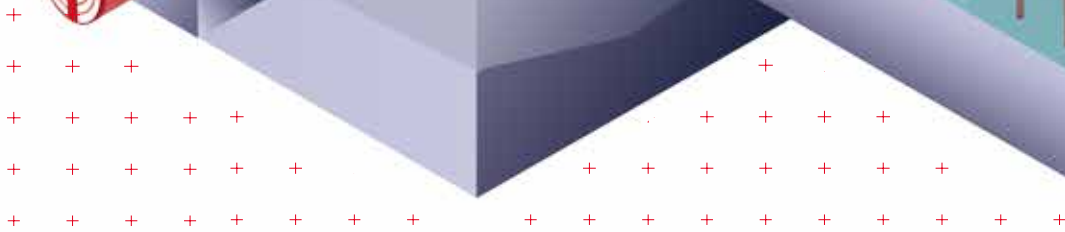
**Industrial
buildings**

**Water and
sewerage**

**Commercial
and
residential
buildings**

**Maritime
structures**

**Railway
structures**





Because we can work on all your structures

At Soletanche Bachy, we carry out all types of projects, from the largest international structures to the most local sites. Bridges, roads, rail, tunnels, dams, buildings, ports: we operate as a general contractor or specialist subcontractor for the design, construction, refurbishment and commissioning of your structures.

Environmental structures

Energy and dams: for cleaner energy

For a long time, Soletanche Bachy has been involved in the construction of dams which produce clean energy.

- ⊕ We offer tailored solutions for new dams, repair/dam safety and maintenance/upgrade.
- ⊕ We also support you on your green electricity production sites (wind turbines) and electrical network infrastructure.

Railway structures: for green mobility

Soletanche Bachy builds structures that reduce greenhouse gas emissions associated with vehicle traffic.

- ⊕ We carry out geotechnical work on railway and metro line projects. We build underground stations, tunnels and access shafts, often in very restricted urban environments (confined spaces, traffic management, impact on neighbours, etc.).

Water and sewerage: for better water quality

Soletanche Bachy contributes to improve water quality.

- ⊕ We support you with the construction or refurbishment of hydraulic structures: stormwater tanks, drinking water reservoirs, lifting stations, treatment plants, sewers, outfalls and underground collectors.



Commercial and residential buildings: for energy-efficient offices and housing

Soletanche Bachy participates in the design and construction of high environmental quality real-estate projects.

- ⊕ We adapt our geotechnical and foundation solutions to the type of structure, the nature of the soil and the risks associated with the location of the buildings: high rise, seismic risk, slope of the ground, etc.

Maritime structures

Soletanche Bachy builds, repairs, refurbishes and deepens any type of maritime and river port infrastructure and constructs any port structures, including jetties, quays, dry docks, breakwaters, storage areas, dykes, locks, etc.

This expertise in maritime works with a strong geotechnical component is available under the ForSHORE brand, which offers a complete range of general contracting solutions.

The Group also relies on its specialist subsidiaries Balineau, based in France and the West Indies, and Brady Marine & Civil, based in Australia.

BALINEAU

Balineau offers its customers dual expertise in soils and marine environments for high-quality results. Balineau's solutions are based around three key pillars:

- Maritime and river works
- Special foundations and retaining works
- Ground improvement

www.balineau.com

brady marine & civil

Brady Marine & Civil specialises in the construction of port infrastructure and marine and coastal structures: bridges, moles, quays, mooring dolphins, jetties, piers, marine pipelines, etc. The company also has significant resources in engineering and equipment.

www.bradymarine.com.au



Soletanche Bachy's port expertise

ForSHORE supports its customers in their projects to build and repair port infrastructure with a strong geotechnical component.

These general contractor solutions cover the four stages of port infrastructure projects:

- finance
- design
- build
- maintain

www.forshore-ports.com

65+ km
of quays already
completed

90+
years'
experience

Our markets



Tunnels

Through its specialist subsidiaries – **Bessac, Soletanche Bachy Tunnels and Rob Carr** – Soletanche Bachy controls the entire chain of creation and refurbishment of underground structures.

In terms of design and build, our solutions include underground excavation, using tunnel-boring machines or microtunnel boring machines or traditional methods, as well as surfacing and associated special works. **We also design and build our own tunnel-boring machines.**



ROB CARR

Active in Australia and New Zealand, Rob Carr is an expert in microtunnels. It specialises in the construction of water management and sewerage infrastructure and associated civil engineering (shafts, underground pumping stations, etc.).

www.rob carr.com.au



BESSAC

Bessac specialises in the construction of tunnels and microtunnels, all around the world. It also has the ability to design and manufacture bespoke tunnel-boring machines for its customers.

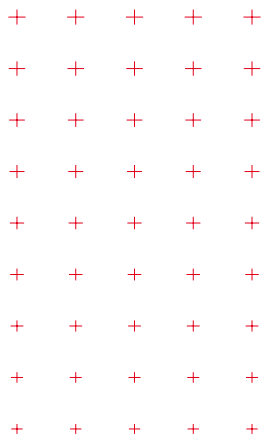
www.bessac.com



SOLETANCHE BACHY TUNNELS

Soletanche Bachy Tunnels specialises in traditional tunnelling. It has a wide range of retaining techniques and also offers its customers the possibility of a turnkey structure, with final surfacing and equipment.

www.soletanche-bachy-tunnels.fr



Other structures

Industrial buildings

Soletanche Bachy contributes to the design and build of industrial buildings and warehouses.

- ⊕ We offer you our knowledge of soils and our geotechnical solutions to create foundations that respect those structures' levelness and load-bearing constraints. Our teams can carry out preliminary ground improvement and depollution work.



Car parks

Soletanche Bachy is involved in all phases of the construction of an underground car park, from design to delivery of the project.

For the construction of a high-rise tower or an underground car park in a city centre, Soletanche Bachy can build structures with several basement levels.

Road works

Soletanche Bachy works alongside you to carry out geotechnical and foundation work on bridges, crossings, cut and covers, roads and motorways.

- ⊕ To better connect regions and facilitate mobility, we implement the most appropriate soil technologies for each project, including in dense urban spaces.



Airports and ancillary works

Soletanche Bachy is involved in airport construction and extension.

- ⊕ We draw on our portfolio of soil solutions and technologies to build airport terminals and runways. Soletanche Bachy teams are experienced in working with limited headroom and without disrupting airport operations.

Oil and gas

Soletanche Bachy oversees the design and build of oil and gas structures.

- ⊕ We work all over the world to build refineries, gas treatment facilities, liquefaction and gasification plants and maritime structures (unloading sites, storage areas, etc.).

Mines

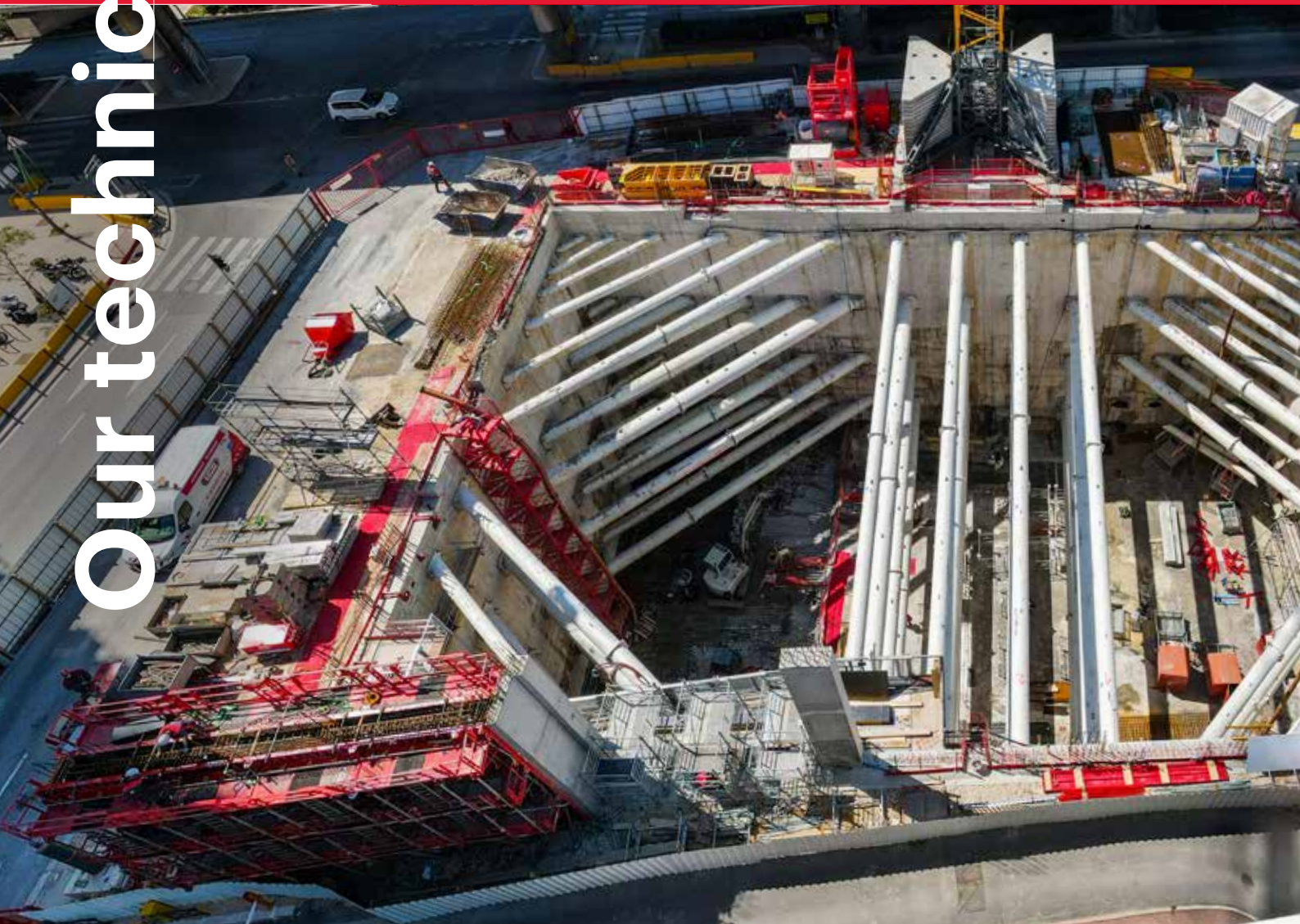
Soletanche Bachy is active in the design and build of mining infrastructure.

- ⊕ Our local presence and our Major Projects subsidiary enable us to support you on these sites, which are often located in remote or difficult-to-access regions.

Our technical solutions

Because we have
the widest range
of foundation
solutions and soil
technologies

At Soletanche Bachy, we have knowledge and expertise in soils. This is why we are able to select, design and implement the most efficient soil technologies for your projects and offer the best engineering services to enable you to build on solid ground.



Deep foundations

We ensure strength for your structures

A world leader in geotechnical and foundation solutions, Soletanche Bachy releases you from constraints concerning the ground: we ensure the quality of our constructions, regardless of the nature of the soil or the size or type of your structure.

From small individual homes to the largest infrastructure, we master all deep foundation techniques. This allows us to offer an integrated solution, including preliminary planning, design and build and monitoring of your project.



SOLETANCHE BACHY FONDATIONS SPECIALES

Soletanche Bachy Fondations Spéciales is our subsidiary specialising in piles, micropiles, Deep Soil Mixing and technical drilling.

www.sbfs.fr



ROGER BULLIVANT

Based in the UK, Roger Bullivant specialises in piling, foundations, soil improvement and precast solutions, notably for individual housing. It completes over 1,000 projects per year.

www.roger-bullivant.co.uk

Our deep foundation processes



Driven pile



Displacement pile



Bored pile



Plunge column



Micropile



Barrette

THE ENVIRONMENTAL BENEFIT

Threaded piles

Soletanche Bachy has developed threaded pile processes. This technology reduces the carbon footprint of projects thanks to:

- the reduction in the volumes of concrete used
- the almost total absence of spoil, eliminating truck traffic to remove it.

Our technical solutions

Retaining structures

We help you carry out vertical excavations in complete safety.

Soletanche Bachy installs retaining structures that meet your needs, whatever the nature of the soil or the constraints associated with your site.

Thanks to our unique portfolio of dedicated solutions, our geotechnical and civil engineering expertise and our patented tools, Soletanche Bachy provides you with an optimal retaining solution for your construction project.

PREFA

By SOLETANCHE BACHY

PREFA, a brand of Soletanche Bachy Colombia, offers its customers a range of industrialised solutions, adapted to the various construction sectors. It provides its customers with numerous prefabricated concrete products: piles, cut-offs, sheet piles, new jerseys, box culverts, walls, beams and slabs.

www.sbprefa.com.co



THE ENVIRONMENTAL BENEFIT

The Hydrofraise® goes electric

For its diaphragm wall work, Soletanche Bachy has developed a Hydrofraise® equipped with an electric power pack, which reduces fuel consumption and noise emissions.

The steel-free diaphragm wall

Soletanche Bachy has built a permanent diaphragm wall from non-reinforced concrete. This removed steel and reduced the volumes of concrete, improving the project's environmental impact.

Our retaining processes

Diaphragm wall	Shotcrete
Secant piles	Ground anchors
Sheet piling	Geomix®
Berlin-type wall	Strut
Prefabricated wall	



Cut-off walls

We optimise management of water present in the soil.

Soletanche Bachy's cut-off walls techniques enable us to work on any type of structure and any type of soil, regardless of its permeability.

They ensure the durability of structures, such as dykes or dams. They also make it possible to confine polluted work areas and lower the level of a water table. Finally, these techniques can be used upstream of a tunnel or gallery project to limit water inflows and settlement.

Our waterproofing processes



Cut-off walls



Jet grouting



Contiguous bored piles



Freezing



Geomix®



Thin cut-off wall



Grouting



Dewatering



Trenchmix®

Reinforcement

We maintain your structures and extend their lifespan.

Reinforcement techniques can be used in the context of repairs to structures, particularly for problems linked to the hydrology of the soil, which can cause building subsidence.

In the case of the construction of a new structure near an existing structure, reinforcement also limits subsidence generated by the construction work, in order to preserve the integrity of the neighbouring structures.

THE ENVIRONMENTAL BENEFIT

Freezing

This technique, designed to consolidate and temporarily waterproof a floor, offers environmental benefits:

- No permanent modification of the natural hydrology.
- No chemicals injected into the ground.

Our reinforcement processes



Jet grouting



Underpinning



Grouting



Geomix®



Freezing



Pipe arch

Ground improvement

We ensure the durability of your structures, even on poor quality soils and in seismic areas.

Soletanche Bachy's ground improvement techniques enable us to modify the characteristics of a soil to increase its load-bearing capacity.

These techniques also make it possible to harmonise the load-bearing capacity of different areas of a site. Finally, they help to reduce subsidence and liquefaction of the soil in the event of an earthquake.

For certain projects that do not require very strong ground anchorage, such as hangars or warehouses, ground improvement can provide an alternative to deep foundations. But on other worksites, particularly structures generating significant loads and forces, it can be effectively combined with deep foundations to provide the required load-bearing conditions.

Our ground improvement processes



Jet grouting



Grouting



Geomix®



Single/
multiple
auger



Trenchmix®



THE ENVIRONMENTAL BENEFIT

Deep Soil Mixing

This technique consists of mixing the soil in place mechanically by incorporating a filler material, most frequently a hydraulic binder.

It has numerous environmental benefits, for example:

- Fewer natural resources consumed (water, cement, etc.)
- Little or no spoil to be taken away
- Pollution neutralisation



Tunnelling

We offer our complete portfolio of design, construction and refurbishment solutions for your tunnels.

Digging tunnels is a job for specialists. They involve major, complex and often long-term worksites. They require specific methods and materials, as well as in-depth knowledge of soil technologies.

Via our specialist subsidiaries Bessac, Soletanche Bachy Tunnels and Rob Carr, we control the entire process for the construction and refurbishment of underground structures. In terms of design and build, our services include:

- + underground excavation carried out using a tunnel-boring machine or the traditional method,
- + surfacing,
- + associated special works.

And to adapt to the needs of each worksite, we also design and build our own tunnel-boring machines.



THE ENVIRONMENTAL BENEFIT

Ultra-low-carbon concrete pipes

As part of a sewerage project, Bessac achieved a world first: a treated water discharge tunnel built using only ultra-low-carbon concrete pipes, under the EXEGY by Bessac brand.

Our tunnelling processes



Mechanically bored tunnel



Conventional tunnel

Civil engineering

We optimise the management and dimensioning of your project.

Soletanche Bachy offers a comprehensive range of services, always combining foundations (and associated calculations) with civil engineering, for maximum optimisation and precision.

The application scope of civil engineering is very wide, covering completion of structural work on various types of projects: buildings, maritime structures, transport infrastructure, etc.

Because we offer services backed up by unique technical expertise

At Soletanche Bachy, we offer you an integrated solution for your projects. This combines the best technical solution with high-level technical services, delivered by our experts at every stage of your worksites: design, manufacture of machines or tools and the development of materials.



The most advanced geotechnical engineering support on the market

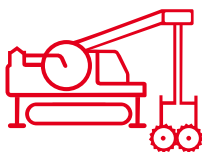
With Soletanche Bachy, you can rely on the world's largest network of specialist geotechnical engineers. Design, methods, dimensioning, planning, equipment, digital, materials: our experts are involved in every aspect of your worksites.



In-house design offices at every stage of your projects

You have access to Soletanche Bachy's 30 in-house design offices, which design highly effective basic solutions or alternatives to make your projects more economical, more environmentally-friendly or more efficient.

We also carry out detailed design to optimise the dimensioning and execution of worksites (quantities, budget, planning, innovation, environment, etc.).



Equipment designed and manufactured in-house and adaptable to each project

Soletanche Bachy has its own equipment line capable of designing and manufacturing bespoke machines and equipment to respond to the complexity of your project: Hydrofraises®, buckets, grouting pumps, Cutter Soil Mixing, tunnel-boring machines, barges for maritime works and all types of special work machinery (pile-driving, piling rigs of any capacity, etc.)



30
design
offices

14 000
tools and
machines

200
engineers



A designer and manufacturer of foundation materials in Canada for over 50 years. Berminghammer Foundation Equipment specialises in driven-pile hammers, reverse-circulation drilling rigs, augers and other bespoke equipment.

www.berminghammer.com



TEC SYSTEM

TEC System is a French designer-manufacturer of equipment for special and geotechnical works: soil investigation hydraulic rigs, manufacturing and grouting plants, foundation machines, drilling rigs for special works and underpinning, mixing and separation plants, pumps for grouting and flushing.

www.tecsystem.fr



Expertise in materials and drilling fluids to support your worksites

The Soletanche Bachy group's materials laboratory means you benefit from the best range of materials and drilling fluids in terms of value for money and environmental impact.

Our experts analyse specifications, research materials and suppliers, conduct trials and tests, and develop mix designs for concretes, grouts, bentonites and polymers. When launching the works, they also ensure that the materials deliver the expected level of performance.

The Soletanche Bachy materials laboratory consolidates all the Group's know-how in EXEGY by Soletanche Bachy low-carbon solutions.

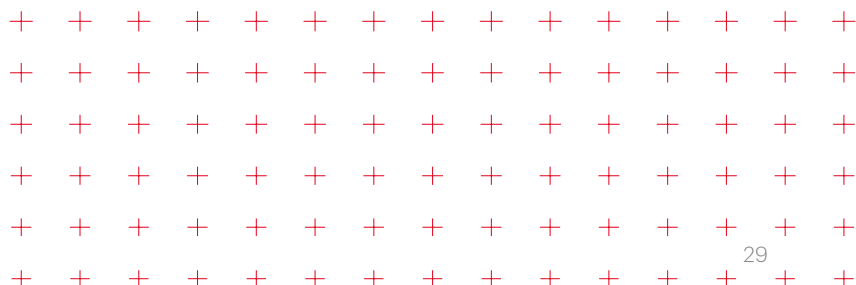


A complete range of equipment

In addition to "made in Soletanche Bachy" equipment, you also have access to our fleet of machines and tools, which can be rapidly deployed anywhere in the world.

You can draw on reliable and efficient equipment, available stocks of spare parts and competent and trained mechanics within our internal network.

You benefit from our complete vision of the market and our close relationships with all the major international and local manufacturers.





ADJACENT PILE

Barrier created by installing piles to create a retaining structure.

BARRETTE

Deep foundations made of rectangular elements.

BIOCALCIS®

Natural and environmentally-friendly process developed by Soletanche Bachy, which significantly increases the mechanical resistance of soils (by biocalcification) and their cohesion, without significant modification of their initial permeability.

BORED PILE

Concrete pile, generally made by excavating in the ground using a bucket, auger, grab, etc.

COLMIX®

This technique involves using a single or multiple tool to build Soil Mixing columns. It can be used for ground improvement, cut-off walls and structural applications.

COMPENSATION GROUTING

Repeated injection of small quantities of grout between an excavation and the structure to counteract relaxation of the ground.

CONTINUOUS FLIGHT AUGER PILE

Structural element placed in the ground to transfer loads and reduce deformation.

CONVENTIONAL TUNNEL

Tunnel bored not by TBM but rather by conventional methods (drilling and blasting, etc.).

CUT-OFF WALL

Structure constructed underground to impede the flow of water made with the installation of new materials partially or totally.

DEEP SOIL MIXING

In-situ mechanical mixing of a soil and a binding agent.

DEWATERING

Lowering of groundwater flow in the soil, generally for purposes of excavation.

DIAPHRAGM WALLS

Continuous retaining structure made of reinforced concrete that is constructed in the ground.

DISPLACEMENT PILE

Pile installed by driving, vibration, jacking, screwing or a combination of these methods.

DREDGING

Deepening of a body of water, basin, channel, canal or watercourse by suction, scraping or excavation of materials.

DRIVEN PILE

Prefabricated pile placed by driving made of concrete, steel, wood or a combination of these materials.

FREEZING

The principle of freezing soils is to turn interstitial water into ice, thereby ensuring a watertight and solid bond between the particles in the ground.

GEOMIX®

Process used to create rectangular soil mixing elements using a technology derived from the Hydrofraise®, Cutter Soil Mixing.

GROUND ANCHORS

A structural element capable of transferring a tensile force to a resistant ground layer. It includes the head, the free length and the part bonded to the ground.

GROUTING

Filling the voids in a soil or structure with a grout to reduce its permeability or improve its mechanical properties.

JET GROUTING

A high-pressure jet of fluid breaks and loosens the soil and mixes it with a grout to form columns or column segments.

MECHANICALLY BORED TUNNEL

Tunnel built with a tunnel-boring machine or microtunnel machine.

MICROPILE

Drilled pile with a diameter of less than 300 mm.

PIPE ARCH

System of sub-horizontal micropile tubes placed prior to tunnel excavation.

PLUNGE COLUMN

Vertical foundation element built to support a structure prior to earthworks below it.

PREFABRICATED WALL

Retaining structure made of contiguous vertical reinforced concrete panels, sunk into excavation filled with grout.

SECANT OR CONTIGUOUS PILE

Curtain piling used to create a wall.

SHEET PILE

Interlocking metal sections that are connected to each other to form a continuous retaining wall.

SHOTCRETE

A volume of concrete, with no formwork, formed by spraying with a hose, in order to form a homogenous mass that is rendered compact by its own kinetic energy.

SOLDIER PILES WALL

A composite retaining wall with vertical stiffening elements driven or placed in drilled holes and horizontal lagging in wood, steel or concrete in-between, which is installed to retain soil as excavation proceeds. The vertical stiffening elements extend under the future bottom of the excavation.

SPRINGSOL®

This technique uses a fixed or opening tool to construct columns using a small diameter drilling rig to improve the soil in-situ.

STRUTS

Steel, concrete or wood element used to support walls during excavation.

THIN CUT-OFF WALL

A continuous cut-off wall made by grouting, using vibro-driving of metal H-shaped sections fitted with grouting tubes.

TRENCHMIX®

Construction of a trench comprising soil mixed with a binding agent.

UNDERPINNING

Modification, reinforcement, replacement, deepening of foundations under an existing structure.

VACUUM CONSOLIDATION

Isotropic pre-loading of cohesive soils using vacuum pressure created under an airtight membrane.

VIBROFLOTATION

Densification of granular soils by means of a vibratory probe driven into the ground.



SOLETANCHE BACHY

Soletanche Bachy is a world leader in foundations and soil technologies, operating in 60 countries via a network of 80 subsidiaries and branches. The Group offers effective and innovative construction solutions to public and private clients, in order to complete deep foundations, retaining structures, cut-off walls, reinforcing and civil works for all types of projects, from the largest international structures to the most local sites.

Through its subsidiaries, Soletanche Bachy operates as a general contractor and a specialist subcontractor to design, build, rehabilitate and maintain ports, dams, car parks, metros, tunnels, energy facilities, buildings, etc.

The Group provides environmental solutions by participating in the construction of structures with a positive impact, by implementing optimised technical solutions and by carrying out daily actions on our worksites.

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A subsidiary of  SOLETANCHE FREYSSINET

 SOLETANCHE BACHY 1000