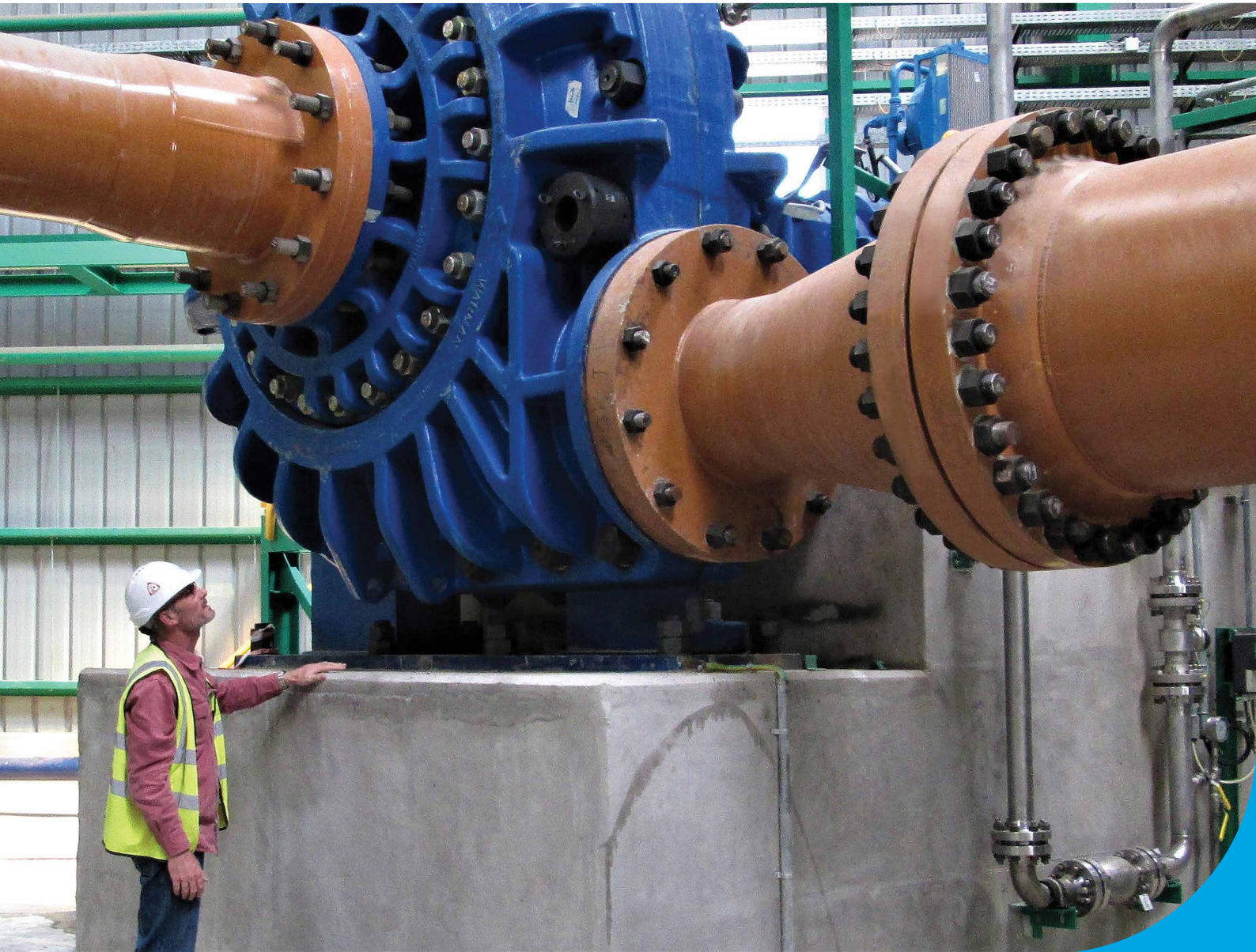




Specialised Engineering for the Mining Industry

Engineering Expertise & Innovation Since 1991

We have more than thirty years of industry experience in slurry pipelines and mining related systems. Our expertise runs from concept development to the detailed engineering, on-site support and execution of multi-disciplinary projects.

Group Capabilities

Long-Distance Pipelines

Long-distance slurry pipelines safely, reliably, and economically transport ore, concentrate and tailings and are particularly well suited for projects located in mountainous terrain or in regions with limited existing transport infrastructure.

Our engineers have experience in all aspects of slurry pipeline system design and operation, ranging from laboratory test work, hydraulic analysis, pipeline routing, and pipeline construction, to the detailed design and engineering of pump, valve, and choke stations.

These expertise extend to other long-distance pipelines such as concentrate, ore, tailings and water systems.

Tailings & Mine Waste

Our holistic solutions balance many competing requirements such as geotechnical stability, water conservation, geochemical stability, social license to operate, people at risk, emissions, risk to operations, and cost.

This process starts with understanding corporate and mine site requirements in conjunction with the client. Through this collaborative process, we develop a technology roadmap that addresses each client's unique processing, transportation, and deposition challenges.



Mine Backfill

Since 1991, our engineers have solved some of the most complex backfill challenges while testing and designing hydraulic, paste and cemented rock fill projects across the world. We pioneered the development of full flow technology to keep backfill reticulation systems fully pressurised to manage energy and reduce pipeline wear.

Our global backfill group allows us to deliver coordinated expertise and resources to clients, wherever their operations are located. The team is dedicated to the design, implementation and operation of backfill systems.

We support projects from early-stage concept development through to commissioning, providing expertise across the full system from surface mill discharge to underground barricade placement.



Mineral Processing

With declining feed grades, increasingly challenging and problematic ores being processed, and a drive for more sustainable mining practices, the modern process plant needs to adapt. Often this means adopting newer and novel technology or modifying and optimising the process flowsheet. From early-stage conceptual studies through to construction, commissioning, and training, we can provide solutions every step of the way.

We assist with conceptual studies, planning, process modelling, flow sheet development and debottlenecking studies.

From there we develop the design through to detailed design, construction support, and commissioning. This is backed by in-house laboratory testing ranging from specific unit processes up to full metallurgical test programs and pilot scale plants.

For existing plants, we offer site audits, process and equipment optimisation and upgrades, control development, and operator training. This includes the services of registered Qualified Persons for specific requirements.



Laboratory & Test Work

We deliver industry-leading metallurgical and process test work services backed by decades of practical engineering expertise. Our team of specialists, metallurgists, and technicians combine proven methodologies with innovative problem-solving to provide reliable, real-world solutions for our clients.

From slurry and dewatering to metallurgical flowsheet development and tailings optimisation, we provide the insight and data needed to design efficient, robust, and cost-effective systems.

Testing capabilities vary from region to region and include the following:

- Sample Preparation
- Slurry Characterisation & Pumping Tests
- Backfill Test Work
- Thickening Test Work
- Solid-liquid Separation
- Flotation Testing
- Leach Testing
- Gravity Testing
- Pilot Plant Services
- Pilot-scale Cyclone Testing
- Analytical Services



Bulk Water Supply

While our focus is on mining applications, we apply our extensive pipeline design experience to water systems as well. These include long-distance bulk supply pipelines, such as desalinated water from the coast to the mine site, or smaller distribution systems at the mine site.

Our experience and exposure to a wide range of different applications gives us a unique approach to finding solutions for challenging systems, where difficult constraints may exist.

Mine Services

We provide specialist engineering services in underground geotechnical design, mine dewatering and underground infrastructure, and hydraulic ore hoisting.

Our team provides unique capabilities in these specialist areas, drawing on decades of operational experience of designing systems for challenging conditions. We understand the risks and high standards required to work underground.

Dredging & Marine Pipelines

The design of marine and subsea pipelines requires a thorough understanding of the material transport requirements and correct equipment selection for the harsh environment.

We have extensive experience in the design of coastal and inland dredging applications, sand bypass systems, beach replenishment pipelines, as well as inshore and deep-sea mining that include seabed pumping systems mounted on remotely operated vehicles, and pressure exchange systems designed for ultra deepwater mining applications.

Engineering Services

Executing large projects requires the integration of a range of engineering disciplines. While we generally provide these services as part of a design package, we also use these specialities to solve challenging problems for our clients.

Our expertise includes specialised civil and structural consulting services, computational fluid dynamics, transient analysis, and stress analysis for piping systems.

Globally Minded - Locally Focused

With offices across five continents, our global presence allows us to offer local knowledge to our clients, paired with international expertise.

Six of these offices have their own testing laboratories - these are in Australia, Canada, Chile, South Africa, the United Kingdom, and the USA.



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