BRASS
Engineering the Future

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An engineering company
with extensive experience in
multidisciplinary industrial projects

About Us

Founded in 2000, BRASS is an established engineering company with extensive knowledge and expertise in multidisciplinary industrial projects, with a core focus on the design of long-distance pipeline-driven slurries transport system through long distance pipeline. Our highly skilled and experienced technical team develops a wide range of studies and projects for the most important operations in the mining & industrial sectors.

Over the past decade, we have expanded our service offer in tailings transportation systems and long-distance high-pressure water pipelines for desalinated and seawater, among others.

+600
Project engineering professionals

+40
Operation support service contracts

+300.000 MH
Labor hours in PRECOM, COM and Start-Up projects

+2.500 km
Total pipeline projects currently in operation

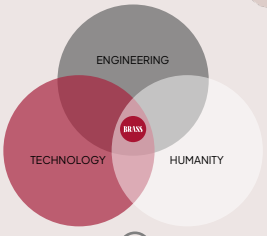
2000
BRASS Engineering
Founded (USA)

2001
BRASS Chile
Founded

2008
BRASS Brasil
Founded

2012
BRASS Perú
Founded

2022
BRASS LATAM
In development



Featured Projects

Detail engineering, tailing pumps discharge system modification GEHO.

Feasibility engineering, tailings and water management, tailings deposit height increase LINGA.

Transport expansion project for paste filling plant-Compañía minera Areas Uo Inmaculada.

Conceptual and basic engineering mineral treatment plant - ITM2 Project.

Basic engineering, tailings transport and thickening system - Tatabre dam.

Detailed engineering services and field support for east corridor tailings conduction at 57% CW for the tailings dam.

Feasibility engineering, system classification and infrastructure for Ovejeria tailings dam, Stage 3.

Engineering implementation for tailings dam recovery system - Las Tórtolas.

Projects Designed and in Operation

MINERA CHINALCO PERÚ

Detailed engineering for the transport and tailings system for the Toromocho Expansion Project - TEP

VALE DO RIO DOCE COMPANHIA

Basic, detailed, COM and Start-Up engineering for a new puping station to increase bauxite production.

CODELCO - ANDINA DIVISIÓN

Detailed engineering for the Ovejería tailings dam. Stage 2 project.

MINERA ESCONDIDA LIMITADA

Detailed engineering, field support, PRE-COM, COM and Star-Up for the 9¨ concentrate pipeline, ECT.

DOÑA INÉS DE COLLAHUASI MINING COMPANY

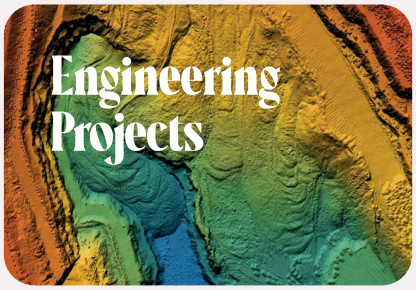
Detailed engineering for an 8” leakages pipeline.

CAP MINERA

Detailed engineering, Iron concentrate and desalinated water pipelines - Cerro Negro Norte project.

Our Services

We have experience in operational support, both for normal operations (COM and Start-Up) and for emergency events, such as leakages, blockages, abnormalities in operational ranges, among other irregularities.



We work on engineering projects from the conceptualization phase to the start-up of the industrial plant. We have multidisciplinary teams of highly qualified professionals to face the great challenges of today`s industrial sector.

- CapEx/OpEx studies and project flexibility.
- Feasibility and detail engineering.
- Definition and optimization of production processes.
- Industrial process optimization studies.
- Engineering for industrial process plants.
- Engineering for thickening and disposal of tailings.
- Documentation of environmental permits.
- Consulting and technical audits.
- Hydrology, water balances and fluvial mechanics.

We have carried out designs in all phases of engineering for mineral beneficiation and concetration plants, where our professionals have been involved from the primary stages of definition, monitoring and supervision of laboratory tests (pilot scale tests), as well as in the determination of the route of the mineral process, and the definition of extraction methods, along with comparative and trade-off studies.

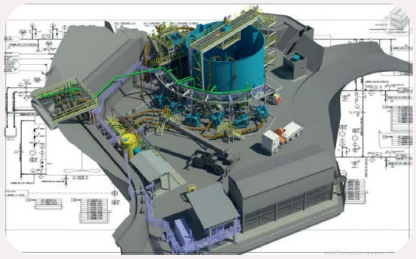
- Concentrators.
- Mineral process route definition.
- Flotation.
- Elimination of bottlenecks.
- Plants filters.
- Thickeners.
- Trade-off studies.
- Grinding circuits.

We use BIM methodology in the development of our projects, and when integrated to all engineering disciplines, can provide dynamism, information, control and total vision in the implementation of an intelligent and diligent project. Under this collaborative environment, the project is constantly updated and is readily available for consultation.

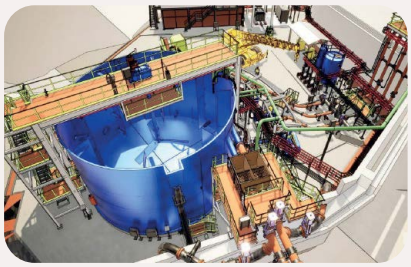
APPLYING THE MOST ADVANCED TECHNOLOGY

The BIM methodology is used to create and manage data during the design, construction and operation process under a collaborative environment of 3D systems for all project stakeholders, including the BRASS design team, clients, and suppliers, among others.

The BIM methodology integrates multidisciplinary data to create detailed digital representations with graphical and non-graphical information via metadata that are managed in a common CDE data environment platform.



Regardless of the demand for 2D planimetry for feasibility, basic or detail engineering projects, we execute all projects applying 3D and BIM methodology tools with a higher or lower level according to the type of project, guaranteeing the use and availability of existing technology at the service of our clients.

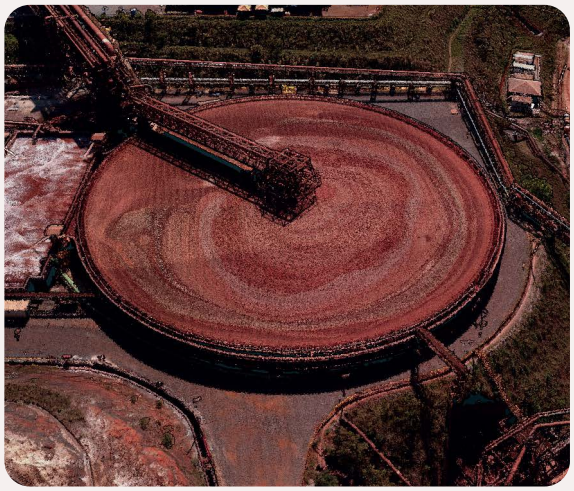


Topography

Using 3D laser scanning technology, we can obtain accurate and georeferenced digital models of areas of interest, facilitating project planning and control through the precise capture, processing, and modeling of the physical reality. Industrial facilities design encompasses various phases, from basic engineering to detailed construction documentation. For rehabilitation or expansion projects, 3D laser scanning provides precise geometric information, facilitating the automation of CAD or BIM models.

ADVANTAGES OF DIGITAL INDUSTRIAL PLANT MODELING

- Reduction of response time for unplanned projects or activities.
- An important step on our way to Industry 4.0.
- Strategic protection of the industrial plant.
- Intangible benefits derived from the competitiveness of reverse engineering.



Research & Development

Developing Technology for Pipeline Inspection

Voyager®
Internal Inspection Derice

WE DEVELOP INNOVATION TECHNOLOGY FOR PIPELINE INSPECTION

In the operation of long-distance pipeline fluid transport systems, the monitoring of the interior condition is an essential and crucial task for the control of the integrity status. **The B-Voyager®** is an optimal solution for the detection of pipeline blockages, sediment accumulation, internal lining failures, inscrutation, and detailed hydraulic evaluation. Its size is small and compact allowing an inspection to be performed without major impacts to the production and operation of each system.

B-PIMS® Is a powerful platform that centralizes all data and information captured through various devices and field observations throughout the lifecycle of pipelines, facilitating efficient and safe management of their operation and maintenance. It provides a comprehensive view of all information on a single georeferenced interactive map, identifying critical areas along the pipeline to make informed decisions and optimize resource use in pipeline maintenance.

B-LDS® Leak Detection Systems

The purpose of the Leak Detection System (LDS) is to quickly alert the control center of the occurrence of a leak, thus mitigating environmental and financial impacts that could affect the reputation of the organization. The system uses the variables measured by the existing instrumentation as input parameters, so no special equipment is required for its operation.

DIRECT BENEFITS

- Establishes a high level of confidence in the operation.
- Fast and reliable detection of leaks and determination of the location.
- Intangible benefits toward the reputation of the company.
- In addition to detecting leaks, the system is a simulator which can allow the organization to train irs operators.

Fluid properties are a key factor in the successful design of a 2-phase fluid conveying system.
We utilize our in-house resource capability to perform laboratory tests to determine rheology at different concentrations of solids by weight. In addition to rheology, we can perform other tests such as:

- Sedimentation.
- Penetration tests.
- Particle size curve determination.
- Test loop services.
- Specific gravity of solids.
- Resuspension.
- Solids concentration determination.

The Pipeline Integrity Management System (PIMS) of BRASS is a comprehensive set of policies, processes, and procedures methodically developed to ensure the operational continuity of Fluid Transport Systems throughout the lifecycle of each asset, while minimizing risks associated with the safety of people, environmental and community impact.

We are an organization dedicated and specialized towards continuous education through training associated with engineering services for fluid transport systems and related installations, as well as for various industrial processes.

Each of the courses and programs are developed by our expert professionals who have earned their stamp and seal of excellence.

Every company has its own challenges and complexities, which, with the right support and knowledge, can lead to improved productivity and efficiency. At BRASS Training Center we offer three types of courses designed to suit the needs of our clients and provide a unique learning experience.

Our Programs

- **Programs for Companies.**
- **Courses with Simulator.**
- **Standard Courses.**

COMERCIAL@BRASSENGINEERING.COM
WWW.BRASSENGINEERING.COM

2551 San Ramon Valley Blvd. #221
San Ramon, CA 94583 California, USA

Rua Paraíba, 1122 – 7º andar – Savassi –
Belo Horizonte – MG – 30.130–918 – Brasil

Av. Javier Prado N° 488, Piso 8,
San Isidro, Lima, Perú

Av. Cerro el Plomo, 5420, Piso 17,
Las Condes, Santiago, Chile

Jiahua Building A, Suite 812 N°9
Shangdi 3rd Street Beijing, China

ISO 9001:2015 ISO 14001:2015 ISO 45001:2018

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