



METALS AND MINERALS



COTECNA

IS A GLOBAL PROVIDER OF

TESTING

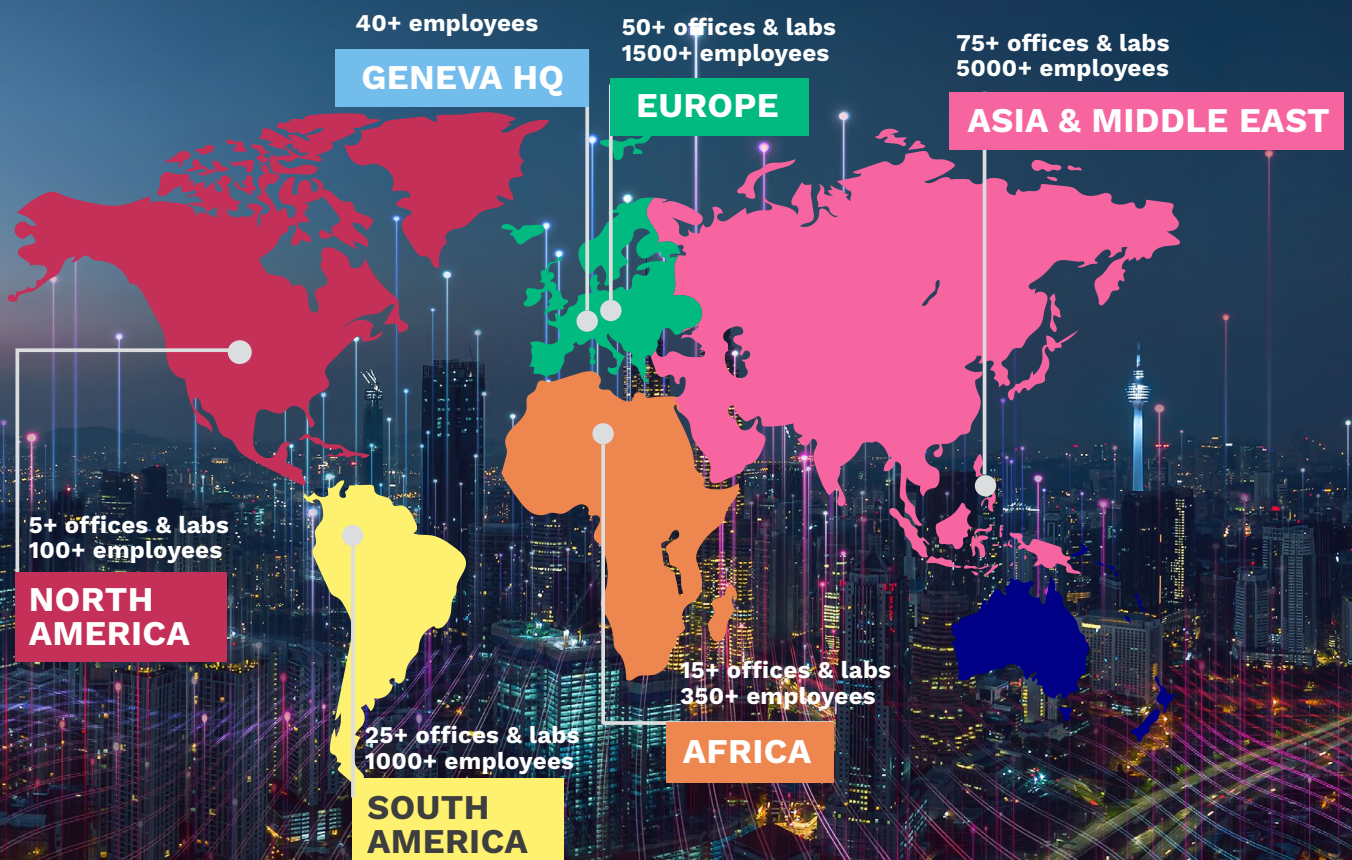
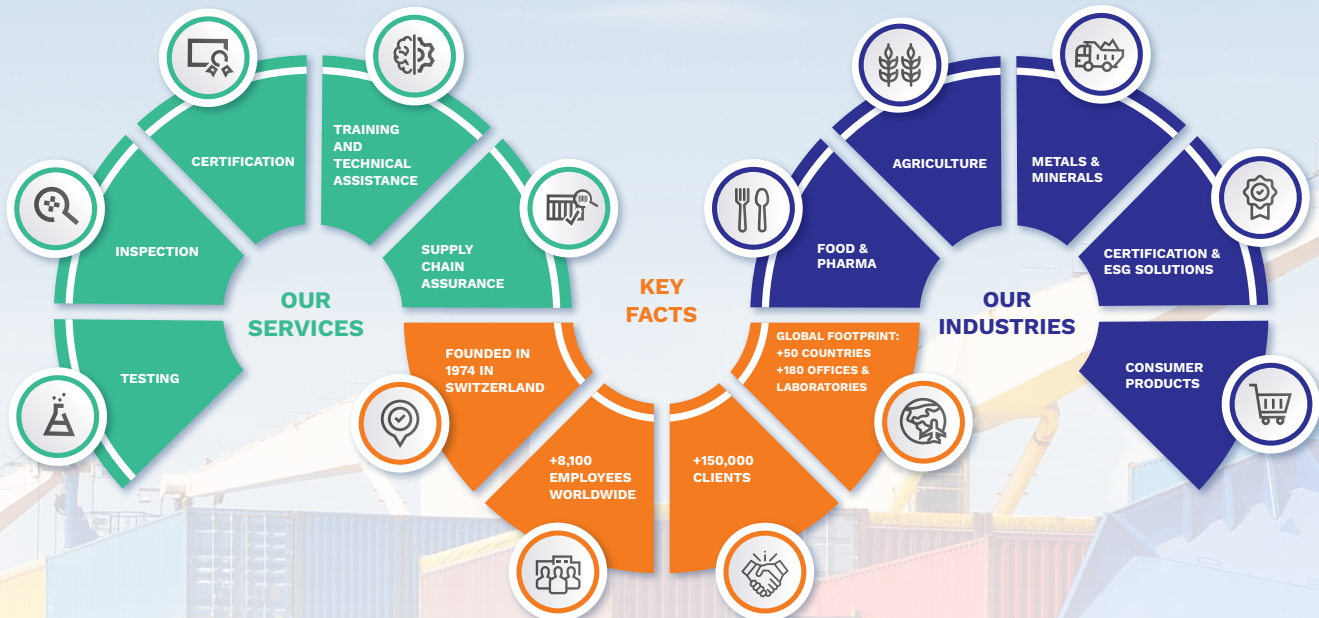
INSPECTION

& CERTIFICATION

SERVICES

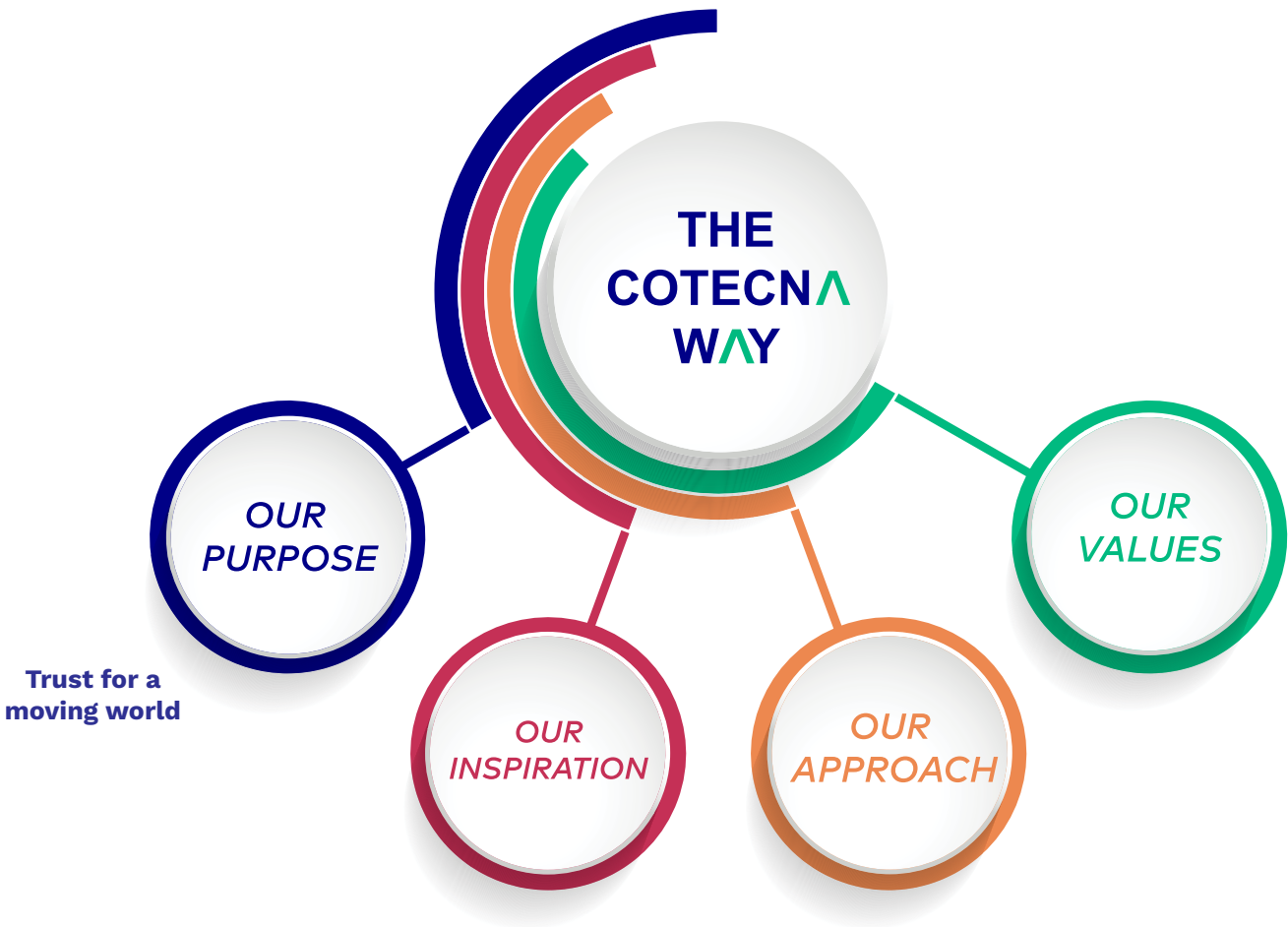
COMPANY OVERVIEW

For over 50 years, we have been supporting agriculture, food and pharma, metals & minerals, and consumer products supply chains all over the world. We provide testing, inspection, and certification services to help our clients navigate evolving regulations, ensure product compliance, and support their sustainability journey.



THE COTECNA WAY

The Cotecna Way is what drives us as a company and sets us apart. It's the common language that inspires and guides the way we operate for our customers, stakeholders, and employees.



OUR INSPIRATION

Our inspiration is what makes Cotecna special. We operate across 3 dimensions – to Dream, to Dare, and to Deliver - the 3Ds. These convey the dynamism and ambition of our company, and the promise to all our clients.



D R E A M

We **DREAM** of being your essential partner for TIC services by differentiating ourselves through technical expertise, innovation, proximity, and reactivity.

D A R E

We **DARE** to act as challengers by taking risks to build our company and offering you solutions tailored to your needs.

D E L I V E R

We **DELIVER** on our customer promise, which creates credibility in our abilities



METALS & MINERALS

Cotecna provides services across the entire metals & minerals life cycle, from early-stage exploration, mining, through trading, smelting and recycling.

ONE SOLUTION

- > We verify, audit, weigh, sample and test all types of metals & minerals at the various production stages.
- > Combining strong local relations and know-how, flexibility and pro-activeness, we deliver relevant information when it's most needed.
- > Deploying capabilities and surveyors who are not just technical, communicate clearly through operating network, ensure coverage in key global locations to meet the customer expectation.
- > Clear Standard Operation Procedures are aligned with ISO standards and are produced for operations worldwide.
- > Unwavering integrity, we mitigate risk and give back a much-needed measure of control.



COMMODITIES

• KEY PRODUCT LINES

ENERGY MINERALS

- > Steam and Coking Coal, Anthracite, Met-Coke, Petroleum Coke

FERTILIZERS

- > Nitrogen fertilizers, Phosphate fertilizers, Potash, fertilizers (NPK), DAP, Urea, others.

INDUSTRIAL MINERALS

- > Bauxite, Limestone, Magnesite
- > Kaolin, Gypsum, Cement, Feldspar, Talc, Sands etc.

NON-FERROUS CONCENTRATES AND METALS

- > Alumina, Copper Ore and Concentrates, Copper Matte, Lead Ore and Concentrates, Molybdenum, Nickel Concentrates, Tin Concentrates, Zinc Ores and Concentrates

PRECIOUS METALS

- > Catalysts, Dore, Electronic Scrap, Jewelry/Dental, Refining Salts/Solutions

STEEL INDUSTRY ORES

- > Iron Ores, Iron Ore Concentrate, Iron Ore Pellets, Nickel Ore, Direct Reduced Iron, Manganese Ore Chrome Ore and Concentrates





SERVICES WE OFFER

• LABORATORY SERVICES COAL & COKE

Our Coal & Coke testing labs are accredited by ISO 17025 and analysis are performed in accordance to accepted industry standards ASTM & ISO.

- > Total Moisture Content
- > Sizing Analysis and Hargrove
- > Grindability Index (HGI)

PROXIMATE ANALYSIS:

- > Moisture
- > Ash Content
- > Volatile Matter Content
- > Fixed Carbon
- > Gross Calorific Value
- > Net Calorific Value
- > Total Sulphur Content
- > Phosphorus in Coal

ULTIMATE ANALYSIS

- > Total Carbon
- > Total Hydrogen
- > Total Oxygen
- > Total Nitrogen
- > Total Sulphur





SERVICES WE OFFER

• LABORATORY SERVICES MINERALS

SAMPLE PREPARATION

MOISTURE DETERMINATION

LEAD COLLECTION FIRE ASSAY

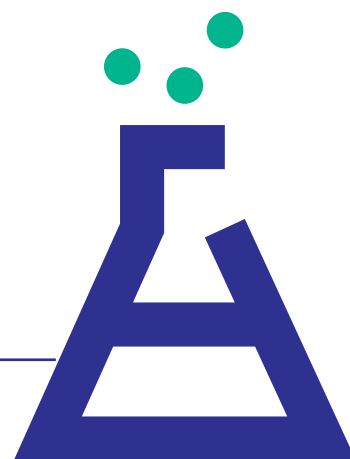
- > Fusion, extraction and analysis in our laboratory

CLASSICAL AND INSTRUMENTAL CHEMISTRY

- > Newly established ISO 17025 accredited laboratories
- > Performing analysis for all base and precious metals as well as minor elements, relevant to the metals & minerals industry
- > Offering competitive turnaround times depending on the analytical requirements and the requested turnaround times,
- > Samples are analysed using classical or instrumental methods

DETERMINATION OF TRANSPORTABLE MOISTURE LIMITS

- > In-house capabilities, using flow table for fine granulate materials





SERVICES WE OFFER

INSPECTION SERVICES

STORAGE – SHORE FACILITIES INSPECTION

- > Storage facility inspection and suitability evaluation
- > Checking the condition warehouse storages, cargo acceptance and multimodal transport units suitability to load and discharge
- > Blending services
- > Stock monitoring services (controlling flow, tally and certification)
- > Inspection packing and stowage

SAMPLING AND WEIGHT DETERMINATION

- > Sampling of a broad range of metal & mineral commodities.
- > Evaluation and auditing of sampling and weighing processes and equipment
- > Manual or mechanical sampling and monitoring of sampling and weighing processes.
- > Size Analysis
- > Moisture determination

VESSEL-LOADING/ DISCHARGE SERVICES

- > Cargo hold cleanliness inspection
- > Bunker survey
- > Draft survey
- > Evaluation and auditing of loading/ discharge processes
- > Inspection and sampling services
- > FMP - TML



STORAGE (WAREHOUSE)

Inspection of the warehouse area to check that it is safe, clean, dry and fully ready to receive your material.

Depends on your request we can do checking of stocks by warehouses, perform visual inspection of storage condition, material stored, packing and marking include operations associated with the handling in and out of shipments.

BLENDING

Blending of concentrates is the most common solution to the problem of processing high penalty elements such as Arsenic content in copper concentrates, whereby concentrate with high As content is mixed with pure copper concentrate to dilute the As content to acceptable levels for smelters.

A dedicated team will manage all your blending requirements from sampling to final analysis of blended material.

SHORE FACILITIES INSPECTION

Inspection of the port area where the loading - unloading takes place in order to prevent contamination of the material with the previous material loaded or discharged.

Checking the loading and unloading area to reduce losses by using tarpaulins during cargo handling operations and avoid sea pollution.

SIZE ANALYSIS

The size of particles has direct correlation with the quality of material inspected.

Understanding the particle size is key in understanding physical and chemical properties.

To determine the size distribution of particles, the sieve analysis test procedure is performed manually or by using particle size analyser.

MOISTURE DETERMINATION

Moisture content analysis is a critical component of material quality and essentially conditioned by the contract.

The total quantity of wet material being shipped and discharged is converted into dry metric ton by deducting the provisional moisture content determined at the port of loading and the final moisture content determined at the port of discharge.

The samples for moisture testing are dried at $105^{\circ}\text{C} \pm 5^{\circ}\text{C}$ until constant mass is obtained and the moisture content is determined as the percentage mass loss on drying.

Strict procedures need to be followed in order to get the accurate moisture results.

CARGO HOLD CLEANLINESS INSPECTION

Before loading commenced the vessels cargo holds must be examined for potential defects such as rust scale, oil sludge and water.

The vessels cargo holds before loading must be cleaned, dry, and ready to receive certain cargo. Depending on the minerals loaded, charter parties have provisions for vessel inspection or cargo hold cleanliness inspection.

After the cargo hold has been thoroughly examined cleanliness is approved by our surveyor a cleanliness certificate is issued.

FMP – TML TESTING

Transportable Moisture Limit (TML) & Flow Moisture Point (FMP)

Sampling and testing procedures for bulk cargoes that may liquefy are carried out by international standards and IMSBC Code.

In Cotecna we use Flow Table Test that has been widely used and introduced in the BC Code as a recommendable method to measure the FMP.





SERVICES WE OFFER

CERTIFICATION & AUDITING

Our certification and auditing services help our clients comply with industry standards and achieve operational excellence and industry recognition.

- > ISO 9001 Quality Management System (QMS) Certification
- > ISO 14001 Environmental Management Systems (EMS) Certification
- > ISO 45001 Occupational Health and Safety Management Systems (OHSMS) Certification
- > Industry-Specific Certifications (ASTM, SAE, etc)
- > Product and Process Certification
- > Environmental Impact Assessments
- > Performance Assessments
- > Internal Audits
- > Safety Compliance Audits
- > Operational Audits
- > Certification Preparation Support
- > Continuous Improvement Support



WHY CHOOSE COTECNA?

- > The proximity of our teams, together with the personal nature of our service, and the fact that we are certified by the industry's recognized bodies, mean we can act quickly and proactively to any service request.
- > We guide our clients through local market compliance procedures, acting as a partner in trade and not just a service provider. We communicate regularly and with complete transparency, allowing our clients to operate with full assurance over the verification of their shipment.
- > We know that a fast turnaround time is critical to our clients. Not just once, but continually. Each of our laboratories is equipped with the latest technology and is staffed by expert analysts, allowing samples to be tested at speed but without sacrificing quality and accuracy.





COTECNA GROUP M&M LABORATORIES

Our team of experts and certified laboratories are strategically located globally.

COTECNA NETWORK LABORATORIES

Cotecna has dedicated state-of-the-art Metals & Minerals laboratories across the globe, close to main mining and trade hubs.





Peru S.A. accredited under the ISO 17025 standard to perform sampling, testing and chemical analysis services for commodities including copper, zinc, lead, silver, and gold concentrates.



Turkey 17025 accredited chemical laboratory offering inspection and testing services for a range of ferrous and non-ferrous minerals including solid fuels. We also recently added FMP/TML testing and radiation inspections to our scope of services.



Spain/Huelva, Cotecna's new 280m² sampling and testing facility for metals and minerals located in Huelva, just minutes from all major industrial and port activity.



South Africa new facility and the largest commercial laboratory in Richards Bay. The very first lab in South Africa to offer both ISO 17025 and ISO 17020 accredited services.

Middelburg ISO 17025 accredited

Pt Elizabeth sample preparation facility for Manganese and Chrome Ores



Gabon SARL In 2020 Cotecna setup office and a sample preparation facility in Libreville. We are registered with the Marine Authority and Gabon Ministry of Mines for inspection and testing service provision.



India – Covering all types of mineral ores

Head Office Mumbai

Branch Offices – New Delhi, Kolkata, Chennai, Indore, Kandla, Vizag, Orissa

Operational Units – Haldia, Paradip, Krishnapatnam, Kakinada, Andal, Singrauli, Nagpur, Bilaspur, Dhanbad, Ramagundam, Mundra, Tuticorin, Karaikal, Bilaspur

Laboratories – 10 laboratories

BARBIL – Accredited by NABL & EIC accreditation

HALDIA – Accredited by NABL, QAI & EIC DHANBAD – Newly installed Coal testing lab

PARADIP – Accredited by QAI BANGALORE : SHIVA – Accredited by NABL

CHENNAI – Accredited by NABL, QAI

KOLKATA – Accredited by NABL BHUBANESHWAR : GEOCHEM – Accredited by NABL

VIZAG – Accredited by NABL, QAI & EIC

MUMBAI : GEOCHEM – Accredited by NABL

KANDLA – Accredited by NABL & QAI



China, Sinoswiss Inspection Company Ltd a wholly owned subsidiaries of Cotecna.

Our head office is in Shanghai and we operate accros China in Beijing, Tianjin, Tangshan, Qingdao, Lianyungang. Naniing, Zhangjiangang, Guangzhou and Fangcheng.

Cotecna China runs 5 sample prep facilities along the coast of China in Tianjin, Qingdao, Lianyungang, Guangzhou and Fangcheng.

Qingdao is home for our laboratory accredited by CNAS-17025. This facility provides analysis services for minerals commodities including coal & coke and ferroalloys all according to international standards.



Vietnam, provides a wide range of minerals Inspection services include testing services for Coal in Ho Chi Minh, an 17025 accredited laboratory. In addition to coal, Cotecna Vietnam provides sampling services for other minerals & metals commodities.



Thailand accredited under the ISO 17025 standard to perform sampling, testing and chemical analysis services for Coal. Cotecna Thailand also perform sampling and testing for other minerals and metals commodities.



Indonesia, Cotecna Indonesia, provides sampling and testing services for various minerals commodities.

We have several minerals sample preparation facilities plus 2 Coal labs for proxy assays.

COTECNA SUBSIDIARY M&M LABS



Located in Coquimbo, Chile, with branches in Antofagasta and Copiapó, AGS Lab works under the ISO/IEC NCh17025:2017 and ISO 9000:2015 standards, providing fast, accurate and high-quality mineral, environmental testing and sampling services.



Founded in 1997, Shiva is one of India's leading analytical testing laboratories, providing a range of solutions across numerous sectors, including food and beverages, minerals and ores, fuels and oils, pharmaceuticals, and industrial hygiene. **Shiva Analyticals is:**

- > ISO 9001: 2015 Certified
- > ISO/IEC 17025: 2005 Accredited

Shiva offers:

- > Inspection and testing services for a range of ferrous and non-ferrous minerals.
- > Estimation of Gold and Silver in ppm and ppb levels using Fire Assay
- > Base metals
- > Penalty elements or impurities.

COTECNA DIGITAL SOLUTIONS

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2. Upload it online to validate its authenticity



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To learn more about our metals & minerals services for businesses and how they can benefit your operations, please don't hesitate to contact us.

HEAD OFFICE

COTECNA INSPECTION SA
41 Avenue Peschier
1206 Geneva

+41 22 8496900

cotecna.geneva@cotecna.com

REGIONAL OFFICES

North America

+1 833 268 3262

mineralsadmin@cotecnausa.com

South America

+56 9 56498625

minerals.latam@cotecna.com

Western Europe, Africa & the Middle East

+41 22 8496900

cotecna.geneva@cotecna.com

Eastern Europe

+38 0482 335362

cotecna.odessa@cotecna.com

South and Southeast Asia

+65 6278 2933

cotecnasingapore.ops@cotecna.com.sg

North Asia

+86 21 50589719

general.enquiries@cotecna.com.cn

