

RioTinto



# Rio Tinto Commercial

Building partnerships for more than 150 years



Rio Tinto

# From mine to market

We align our products to meet the diverse needs of our customers and maximise value for their businesses. Our global logistics network of rail, ports and ships enables us to control end-to-end delivery of our materials safely, reliably and efficiently.

Our customers' needs are central to our operational decision making. Using the insights generated from what we buy, sell and move around the world, our Commercial team works closely with you to ensure we deliver products that meet your specific requirements. Periodically, we conduct surveys to gain insights that help us improve our products and services. Where possible, we partner to co-develop solutions that support our environmental, social and governance commitments.



## Who we are

Across all of our products, our Commercial team is accountable for:

- Sales
- Marketing
- Procurement
- Marine and logistics
- Trading

Through direct engagement and business and industry forums, we are focused on building leading customer and supplier partnerships to deliver innovation and ESG leadership. Located across the globe, our technical marketing teams—expert materials scientists and chemists—support you in your processes and formulations.



## Commercial locations





# Climate change at the heart of our strategy

We support the goals of the Paris Agreement, and climate change considerations are integrated into our strategic and operational decision making. Our approach is supported by strong governance, processes and capabilities.

In 2018, we divested the last of our coal businesses. The energy transition will create significant additional demand for our commodities, including copper, lithium and aluminium. We are growing these commodities as well as the production of high-quality iron ore. This iron ore will support the production of low-carbon steel.

We need to tackle our Scope 3 emissions, as we fully appreciate that to thrive in the long term we need to be part of net zero value chains. Our priority is to support our customers and suppliers to decarbonise the value chain through partnerships and R&D breakthroughs.

## 2030

Committed to reduce emissions by 50% by the end of the decade

## 2050

Our ambition is to reach net zero emissions across our operations

## \$5-6B

Investment from 2022-2030 to decarbonise our assets



# Industry breakthroughs through partnership

## Aluminium

We are currently working with partners to develop ELYSIS™, a smelting technology which produces no direct greenhouse gases. Rio Tinto is the first to deploy this technology.

## Circular recycling solutions

Completed in 2023, we significantly expanded our low-carbon portfolio by forming the Matalco joint venture to produce and market recycled aluminium in North America.

## Steel

We're working with BlueScope on low-emissions processes for the steel value chain, including iron ore processing, iron and steelmaking and related technologies.

## Marine

To reduce our carbon emissions from our marine fleet, we're working with bp on a trial using marine biofuels on our RTM Tasman vessel. It's one of the longest-duration marine biofuel trials to date, lasting 12 months.

## Diesel transition

In partnership with Neste and Rolls-Royce, Boron Operations became the world's first open-pit mine to fully transition 100% of its heavy machinery to renewable diesel. Kennecott operations' fleet of haul trucks and heavy machinery equipment at the mine, concentrator, smelter, refinery and tailings are now all fueled by renewable diesel made from soybeans and cooking oil.

## Carbon storage

Together with Carbfix, we are planning to permanently store carbon underground at our ISAL aluminium smelter in Iceland. We've also agreed to jointly research carbon dioxide mineralisation processes to capture carbon dioxide emissions and reduce solid waste with China's Sichuan University.



# Aluminium

Lightweight and highly recyclable, aluminium can be found in a huge range of products: from consumer electronics and electric vehicles to solar panels and transmission lines.

We are a global leader in aluminium with a large-scale, vertically-integrated business including four bauxite mines, four alumina refineries, and 14 smelters. We produce aluminium to the highest, internationally-recognised standard for responsible environmental, social and governance practices.

With seven recycling facilities, we also offer fully recycled aluminium products through our Matalco joint venture. We stand out in the industry with our integrated value chain, strong suite of assets, outstanding technical expertise and a market position that is unrivalled.

**18** sites certified by the Aluminium Stewardship Initiative (ASI) to Performance Standard v3

**5** sites provisionally certified by the ASI

In  
**2023**  
we produced  
**3.3Mt**  
of aluminium



## Bauxite

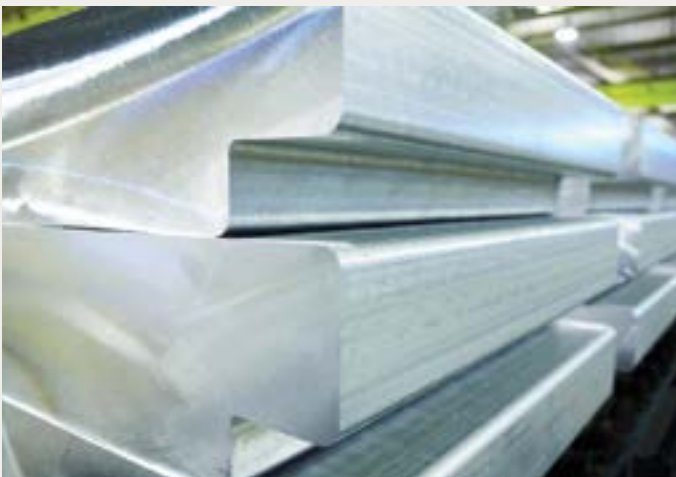
One of the most ubiquitous minerals in the earth's crust

We are the largest seaborne bauxite exporter and, through long-standing relationships with our customers, we provide technical support to ensure you can achieve the very best value in use.

## Alumina

One of the largest alumina books

We have an integrated, globally balanced supply chain which gives us both flexibility and market insight. Our primary focus is to ensure that our smelters have the right quality and quantity of alumina at the right time.



## Aluminium

Billets, slabs, foundry and rods used in a wide range of industries, including automotive, building and construction, packaging and electrical

We produce some of the highest-quality, lowest-carbon footprint aluminium in the world: the greenhouse gas emissions intensity of our managed Atlantic Operations smelters represents less than 1/5 the industry average. Our Iceland smelter is also mostly hydropowered, and we are progressing our repowering efforts in our Pacific Aluminium operations.

## Leading technical support

### Customer centricity

Beyond traditional support, we collaborate closely with customers to develop bespoke products and processes

### Technical expertise

Readily available for on-site visits, we troubleshoot, problem solve, and provide materials forensic investigations

### Research and development

A robust, dedicated research and development team, which consists of research laboratories, applied engineering centres and university partnerships

## Sustainability offerings



Industry's first certified low carbon aluminium



Aluminium Stewardship Initiative (ASI) Responsible production, sourcing and stewardship



Working on carbon-free smelting technology



Recycling solutions

# Copper

The best non-precious conductor of heat and electricity on the planet. Copper is found in everything from the electrical wiring in your house to renewable power sources like wind turbines.

At each of our copper operations, we use leading-edge technologies that drive safe, efficient and productive methods of extracting, processing and refining copper—supplying customers in China, Japan and the United States.



## Kennecott, Utah, United States

Established in 1903, our Kennecott mine is a world-class, integrated copper mining operation that provides domestically-sourced copper to the United States as well as exporting globally. Here, we produce high-quality copper cathode (>99% purity) with higher standards of operation relative to imports.

Our cathode has one of the lowest carbon footprints in the United States. Based on recent life cycle assessments, we are significantly lower than the industry average. Kennecott shut its coal power plant in 2019 and now obtains its electricity from grid-connected renewable energy sources. All of the heavy machinery on site runs on renewable diesel.

In addition to copper cathode, Kennecott also produces molybdenum, gold, silver, tellurium, selenium, carbonate and sulfuric acid for global shipment.



RESPONSIBLY  
PRODUCED  
COPPER

Our Kennecott and Oyu Tolgoi operations were the first and second copper mines in the world awarded Copper Mark—certifying our responsible copper production practices.



## Nuton: The future of copper

Nuton, a Rio Tinto venture, offers a suite of nature-based bioleach technologies designed to achieve higher recovery rates from primary sulphide ore compared to conventional leaching methods. Nuton has the potential to unlock copper from hard-to-leach ores, including low-grade stockpiles and those that are technically challenging to process through conventional methods.

Nuton's technologies can be deployed at greenfield, brownfield and legacy sites—producing finished copper cathode on-site while ensuring leading environmental performance and eliminating the need for smelting and refining.



# Iron Ore

The primary raw material used to make steel. Steel is strong, long-lasting and cost-efficient – making it perfect for everything from washing machines to cars, bridges and skyscrapers.

We are one of the world's leading producers of iron ore. Our teams produce the world's most recognised iron ore brand, Pilbara Blend™.



## Pilbara Blend fines and lump

Pilbara Blend™ fines are used in steelworks as sinter plant feed and are the preferred iron ore in China. Pilbara Blend™ lump contributes to lower greenhouse gas emissions, as it is used directly without additional carbon intensive pre-processing.



## Robe Valley fines and lump

A lower iron content and a low phosphorus content, they are valued by specialty steel producers with more niche applications.



## Yandicoogina fines

With low impurities and producing a high-iron sinter, they are used by customers in East Asia and Southern China, as the base load in their sinter blend.



## SP10 fines and lump

Derived from the same orebodies as Pilbara Blend™, they are lower grade products that allow our customers to minimise their operating costs.

## Advanced technology

From our cutting-edge Operations Centre in Perth – some 1,500km from the Pilbara – we operate all the autonomous trucks, trains and drills across our mines, ports and rail systems.

We also use technology to improve how we engage with our markets. For example, our China portside customers can order iron ore via a mobile app.

## Decarbonisation through partnership

We have a key partnership with the world's largest steel maker – China Baowu Steel Group – to accelerate efforts to decarbonise the steel value chain and reduce Scope 3 emissions.

And we're working with BlueScope to explore low-carbon steelmaking pathways, including replacing coking coal with clean hydrogen at BlueScope's Port Kembla Steelworks.

# Battery materials

Launched in 2021, our Battery Materials business helps meet the growing global need for renewable power sources, electric vehicles and home energy storage. Our goal is to deliver tailored products to customers around the world.

## Lithium

Lithium is a key element in our battery materials business. It's needed for low-carbon technologies including the electrification of transport, large-scale batteries and energy storage.



We have two projects that support this business:

- Rincon, Argentina: A large, undeveloped lithium brine project located in the heart of the lithium triangle
- Jadar, Serbia: A world-class greenfield lithium with the potential to be the largest source of lithium supply in Europe

We have an agreement to acquire Arcadium Lithium which is subject to approval of Arcadium's shareholders and the Royal Court of Jersey and receipt of customary regulatory approvals and other closing conditions. The transaction is expected to close in mid-2025.

## Research and development

Through a partnership with Graphene Manufacturing Group, our battery manufacturing and testing research laboratory will improve our understanding of battery production, manufacturing and chemistry. At this lab, our technical teams build our own battery cells—allowing us to test how our lithium will perform in real-world applications, such as in an electric vehicle (EV) battery.



## Scandium

At our operations in Quebec, Canada, we use an innovative, proprietary process to extract high-purity scandium oxide from the waste streams of our titanium dioxide production. This means there is no need for additional mining.

Our scandium oxide is the basis for Rio Tinto aluminium-scandium alloys.

**1st**

North American  
scandium  
producer





# Borates

U.S. Borax, part of Rio Tinto, is a global leader in the supply and science of borates—naturally-occurring minerals containing boron and other elements. From the very beginning, we have been on the forefront of borate technology, research, and development.

## Our products

Our refined borates can be found improving manufacturing processes and finished products across a variety of industries, including:

- Agriculture: As an essential micronutrient that supports crops during critical growth stages
- Automotive: From headlights and windshields to antifreeze and brake fluids to strengthening car frames, borates are found throughout automobiles
- Energy: Improving battery life and performance, increasing the lifespan of solar energy products, and prevents heat loss in insulation improving a building's energy efficiency
- Fire retardant: Added to home insulation, wire coatings, and construction materials to inhibit flame combustion and suppress smoke formation
- Wood protection and biocides: Ensuring the long-term health of wood materials by protecting them from fire, moisture, fungi, and pests

We move around 1M tons of high-quality, refined product to more than 1,500 locations worldwide. With more than 20 products and hundreds of grades, we have borate to meet your specific requirements.

U.S. Borax products are fully refined using a seven-step process to remove impurities that results in consistent materials with optimal granulation. Most other borates go through only minimal (if any) processing.



## Our expertise

With more than 150 years of experience, U.S. Borax truly are experts in the use of borates. Our technical team can help you optimise formulations and maximise the benefits

of borates in specific applications, including:

- Assistance with formulaic development
- Global sampling and test data
- Extensive handling, shipping, packaging, storage, and health and safety data
- Post-sale technical and scientific product support

## Our delivery

From the original 20 mule team to today's global shipping networks, U.S. Borax maintains mining, refining, and shipping facilities on four continents, as well as a global network of sales offices and stock points that enables:

- On-time delivery, whether you're a small manufacturing facility or a large distributor
- A transparent supply chain with documented traceability—invaluable for highly regulated industries
- Increased increase efficiency
- Reliable ROI with high-quality borate products and a stable global supply chain

# Salt

## Essential for human life

Our Dampier Salt (DSL) operations in Western Australia is one of the largest exporter of salt in the Asian seaborne market, harvesting millions of tonnes each year.

We produce salt called solar salt, which is crystallized by sun evaporation alone. The strong sunlight shines on seawater that has accumulated in the crystalline pools, and after about six months, crystals accumulate on the surface by several tens of centimetres. The salt is “harvested” and after washing and other processes, it is shipped to customers in 13 countries.

Our final high-quality product—clean, white, coarse salt crystals—is used by the chemical industry to derive sodium hydroxide (caustic soda) and chlorine via an electrolysis process and sodium carbonate (soda ash). These three materials are critical for many products and applications, including:

- Alumina processing for downstream aluminium
- Lithium and nickel processing and cathode production for EV batteries
- Solar panels
- PVC and vinyl
- Soaps and detergents
- Glass
- Pulp and paper
- Textiles

We also sell food grade salt. The unique flavour of sea salt makes DSL salt a preferred ingredient in various food products all around the world. All our sites are Halal and Kosher certified.



# Ferrous Metallics

## HPI, metal powders and steel billets

Ferrous metals are any metal that contains iron. Because of their strength, you can find them in everyday items from skyscrapers to cars. They're also extremely durable, which is why ferrous metals are used in bridges, shipping containers and smaller manufacturing components that are subject to wear and tear.

Our Critical Minerals and Technology Centre in Sorel-Tracy, Canada, is the stronghold of innovation for our ferrous metals business. The Centre's mission is to improve our processes, thereby expanding our markets and enhancing the value of our products. Our team of specialists provide expert services and support to our operations and customers.

The research process is one of constant synergy between research staff and production operations personnel, with all research conducted on site. We have state-of-the-art equipment and highly specialised instruments, including reactors and other equipment to simulate our processes at the laboratory and pilot levels.



## Metal powders

We produce iron steel and prealloyed powders as well as high-performance metal powder mixes, including diffusion bonded and organic bonded mixes. Our powders are used to produce high-quality press and sinter parts for automotive, lawn and garden, and tool industries. They are also used in emerging industries such as additive manufacturing and battery and energy storage applications.



## Steel billets

Sold as Sorelsteel®, our steel billets support rolling mills in need of additional melt capacity in the long steel and tubular steel markets. Our low-residual billets are cast with the best quality standards – including clean steel practices and electromagnetic stirring. They are sold to a variety of manufacturing industries, including:

- Wire rod
- Merchant bar
- Seamless pipe



## High purity pig iron (HPI)

Known in the market as Sorelmetal™, our HPI is often used as the preferred metallic charge in foundries for the automotive, machine, construction and heavy industries. Sorelmetal™ is a high purity iron-carbon alloy containing very low concentrations of manganese, phosphorus, sulfur and other impurities.

Sorelmetal's low manganese level and high dilution effectiveness offers high impact resistance, lower melting energy requirements and higher metallic yield.



# Titanium dioxide

## A vital building block for pigments and titanium metal

At our operations in Canada, our main product is titanium dioxide concentrate or titaniferous slag, which we sell as a raw material to titanium dioxide pigment producers. Our strong technical marketing team supports ongoing operational improvement and innovative developments with partners.

We currently produce three registered trademark products:

**SORELSLAG®** (TiO<sub>2</sub> content of ≈80%): We are the world's leading supplier of high-grade feedstock for titanium pigment producers that use it in the sulphate process. SORELSLAG® provides these customers with an environmentally friendly way of minimising waste generation.

**UGS™** (TiO<sub>2</sub> content of ≈95%): Upgraded slag that we sell primarily to titanium dioxide pigment producers that use the chloride process and to titanium metal producers.

**RTCS™** (TiO<sub>2</sub> content of ≈90%): We also sell this product to titanium dioxide pigment producers using the chloride process.

Our other products include:

- Rutile: Used in welding rod fluxes
- Titania Slag: Used to create pure white, highly refractive ultraviolet light-absorbing pigment
- Zircon: Used in the production of ceramic tiles and sanitary ware
- Zirsill: Used in the production of ceramic tiles and electronics

### Why choose Rio Tinto TiO<sub>2</sub>?

- We offer mostly chloride-based products which require less maintenance and are more durable
- Our high TiO<sub>2</sub> content material is sourced from Canada and Africa, making delivery reliable.
- We have consistent, stable, and appropriate particle sizes

# **START**

## Your solution to navigate the evolving ESG landscape

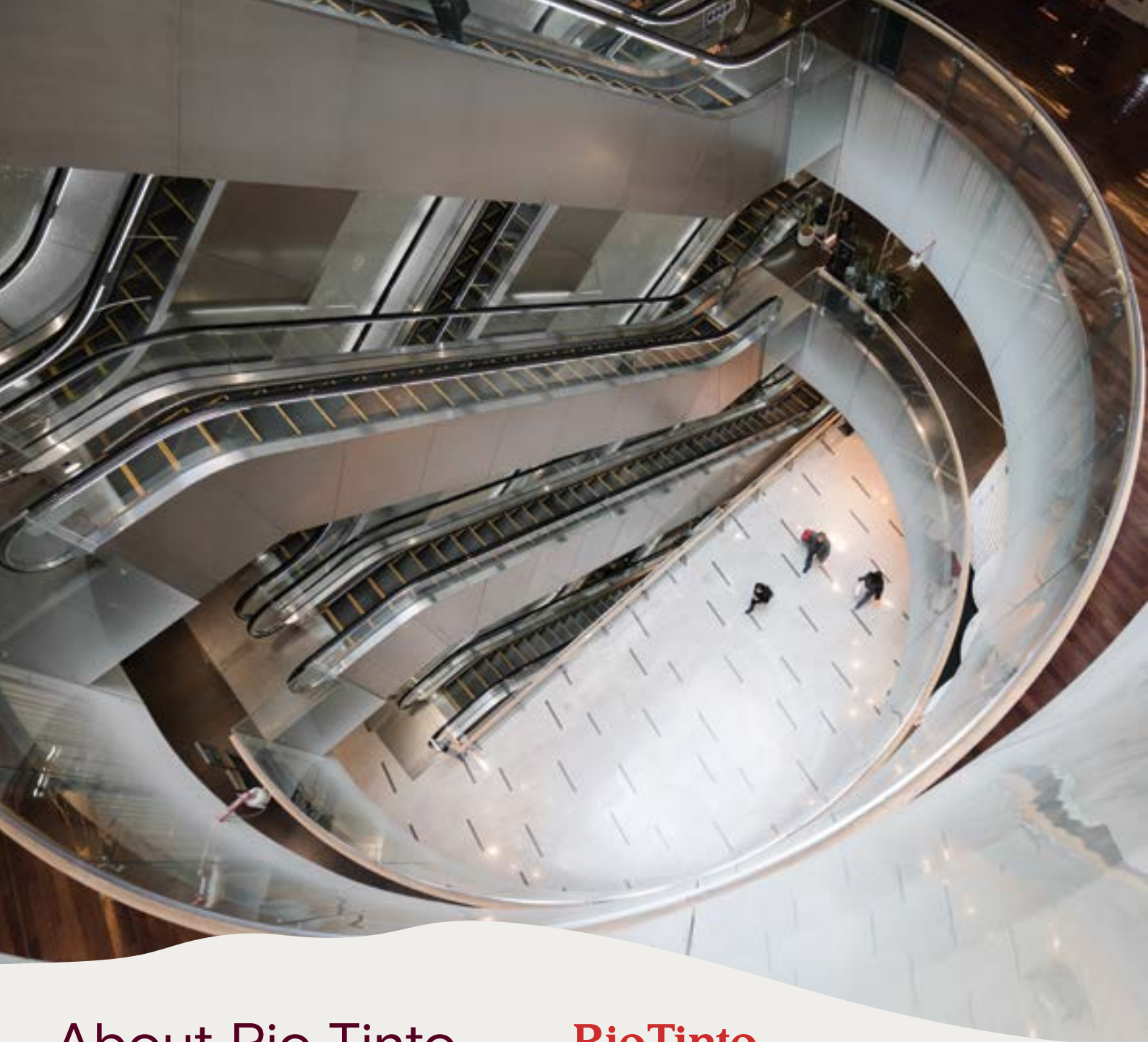
START™ is a supply chain traceability, transparency and assurance initiative, helping you, your customers and end users make better material choices more easily.

As part of our offering, the START™ label, similar to a nutrition label, captures the sustainability and provenance credentials of Rio Tinto's products across up to 14 ESG metrics, providing transparency on where and how materials were made.

START™ tracks a range of products, and is currently available for aluminium, copper cathode and metal powders.

Learn more at [www.startresponsible.com](http://www.startresponsible.com)





## About Rio Tinto

Rio Tinto is a leading global mining and materials company. We operate in 35 countries where we produce iron ore, copper, aluminium, critical minerals and other materials needed for the global energy transition and for people, communities, and nations to thrive.

We have been mining for more than 150 years and operate with knowledge built up across generations and continents.

Our purpose is finding better ways™ to provide the materials the world needs – striving for innovation and continuous improvement to produce materials with low emissions and to the right environmental, social and governance standards. But we can't do it on our own, so we're focused on creating partnerships to solve problems, create win-win and meet opportunities.

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