## **ESSENTIALS**



## To become a leader in the responsible transformation of the Earth's mineral resources for the benefit of all.

Because the availability and quality of raw materials are crucial to the ecological and energy transition, we are mobilizing to address this.

Because we are convinced that the environmental issue cannot be tackled without addressing societal issues head on, we are taking action.

Underpinning these values and our efforts is our corporate mission: To become a leader in the responsible transformation of the Earth's mineral resources for the benefit of all.

This statement reflects our aim of being an effective, committed and civic-minded agent for change. It guides all our strategic decisions and boosts our creativity and agility.

Whether it is contributing to the circular economy, controlling our energy use and emissions, strategically repositioning ourselves to produce metals that are essential to the ecological transition, sharing added value, or preserving biodiversity, this philosophy embodies our vision as a company. It provides a foundation for the way we think about people, be they our employees— whose safety is our priority—, the communities in the areas where we operate —to which we are committed—or, more broadly, the public for whom these metals are essential in terms of their personal and collective well-being.

This statement acts as a compass orienting us with regard to the most important challenges that lie ahead: meeting the needs of current and future generations by supplying metals for the energy transition and economic development, ensuring responsible supply, and carefully managing the Earth's resources.

## We are Eramet.

Resolutely committed to becoming a key player in the mining and metallurgical industry and creating the conditions for sustainable harmony between humankind and the Earth.

## THE GROUP'S CORPORATE MISSION AS VIEWED BY THE MEMBERS OF THE EXECUTIVE COMMITTEE



"It's about making the work performed by each of our employees meaningful, which is essential to their sense of personal fulfillment and performance."

Anne-Marie le Maignan, Executive Vice-President Human Resources, Health & Security

#PEOPLEFIRST



"Providing the world with the metals needed for the development of society and for decarbonization."

Geoff Streeton,

Chief Development Officer, in charge of Strategy, Innovation and Business Development

#SUSTAINABLEMETALS



"Creating sustained value, for the Group, for its teams and for its partners."

Nicolas Carré, Chief Financial Officer, in charge of Procurement and IT

#### #SUSTAINEDVALUECREATION

"It's about building a path to operational excellence that is always synonymous with CSR excellence."

Virginie de Chassey, Chief Sustainability and External Affairs Officer

#RESPONSIBLEMINING



"Becoming the leader in this new era of metals, driving economic development and the energy transition in order to make a better future for everyone."

Kleber Silva, Chief Operating Officer

#BETHEBENCHMARK



"Writing a new chapter in the history of Eramet."

Christel Bories, Chair and CEO

#ERAMETPEOPLE



"Being a trusted and exemplary company and partner in all our areas of activity."

Guillaume Vercaemer, General Counsel

**#PREFERREDPARTNER** 



"AFTER A RECORD YEAR AND THE FINALIZATION OF OUR STRATEGIC REFOCUSING, ERAMET IS NOW POSITIONNED AS A PEOPONOLOGIC UPOTIONNED AS A PEOPONOLOGIC UPOTIONNED AS A PEOPONOLOGIC VALUE CHUIN."

INTERVIEW WITH CHRISTEL BORIES, CHAIR AND CEO OF THE ERAMET GROUP/ Eramet's strategic roadmap, focused on its mining and metallurgical activities, has allowed it to confirm its ambition of becoming a leader in the responsible transformation of the Earth's mineral resources for living well together. Analysis and outlook.

The year 2022 was a record-breaking year in Eramet's history. Can you tell us about the Group's main achievements?

Christel Bories : 2022 was a record year for Eramet in several areas—starting with our record-breaking financial performance: our adjusted EBITDA rose by 58% to €1.9 billion and, despite sustained investments, we generated €824 million in free cash flow, which enabled the Group to significantly reduce its debt. These results were underpinned by excellent operating performance for manganese in Gabon and nickel in Indonesia, as well as by a very supportive environment in the first half of the year. In terms of CSR, we exceeded several targets in our roadmap, and our strong performance was once again recognized by the main extra-financial rating agencies. I would particularly like to point out our excellent results in the area of safety, which positioned Eramet as a leader in its sector.

Once again, this first-rate performance reflected the commitment of our teams in a year marked by a series of crises. I am very proud of all the work we have accomplished together to make Eramet a strong group that is now ready to enter a new growth phase.

## You have finalized the Group's strategic repositioning. What are the broad lines of your long-term vision?

C. B. : We have completed our strategic refocusing around our core business. Eramet is now positioned as a responsible upstream player in the metals value chain, backed by a core set of high-quality, growth-generating assets. Our current strategy revolves around two components: the metals necessary for global economic development, and metals for the energy transition. Thanks to our strong financial situation, we are currently accelerating our promising growth projects for this second component. With regard to lithium, the start of production in Argentina is scheduled for 2024.

And we are already working on tripling the facility's production capacity, to make it one of the world's largest lithium mines. As for nickel-cobalt salts for batteries, we are continuing to carry out feasibility studies for our project in Indonesia, in partnership with BASF. Moreover, we have projects underway in Europe in the areas of geothermal lithium and battery recycling. Our corporate mission, strategy and CSR roadmap all converge towards a single goal: making Eramet a leader in responsible mining and metallurgy.

## What do you mean by responsible mining?

**C. B.**: To meet the objectives of the energy transition, we need to produce more and produce better. For if we extract the metals necessary for this transition while emitting high levels of CO<sub>2</sub> and neglecting water, biodiversity and

the well-being of our communities, we are missing the point! Today, we are acknowledged by our clients and by the countries and the communities where we operate as being a responsible and respectful company that invests in and contributes to the regions in which it is based. There is still work to be done. but we are ready to have our mining model assessed by independent third parties in a perfectly transparent way. That is why we are a member of the Initiative for Responsible Mining Assurance (IRMA), the only standard that assesses the entire life cycle of a mine to certify it as "responsible," whether in terms of ethics. human rights. social responsibility, or respect for the environment. Self-assessments have already been undertaken by our sites in New Caledonia. Indonesia and Argentina, and a first external audit is in progress in Senegal. We have set the target of having all of our mining sites audited by 2027.

## What are your plans for the Group's employees?

C. B. : We can't do anything without the women and men who work for the Group! We owe our excellent results to them. Our number one priority is their safety, and our goal is zero accidents. Thanks to the numerous measures implemented in the workplace, we have divided the number of accidents by six within five years. We are now one of the leading companies in our sector from a safety point of view.

One of the pillars of the Group's vision is to become a model employer. In addition to offering well-paid jobs, we are working



on a number of other fronts: increasing the number of women in our workforce -today, 26% of our managers are women, and we aim to reach 30% in the near future—and promoting diversity and inclusion, by undertaking to welcome and integrate all talented people, regardless of age, gender, origin, sexual orientation. disability and religious convictions. We want everyone to be able to express themselves fully at Eramet! In recent years, we have taken a number of steps in favor of equal opportunities and well-being in the workplace, which benefit all in line with our corporate mission. In early 2023, we added sexual orientation to our Ethics Charter as a ground for discrimination recognized by the Group. Investing in our human resources is essential to support the Group's growth and attract new talent.

## What does 2023 hold in store?

C. B.: The global context in which we have been operating for the past few years and the weaker environment in 2023 are requiring that we be vigilant and extremely agile. But I am confident: we have regained our financial freedom, our fundamentals are now extremely sound, and the strategic choices we have made mean that we are well positioned to meet the crucial challenges of the energy transition. Driven by the energy of our teams all around the world, we are forging ahead with the ambition of becoming a champion in the new era of metals.

## ERAMET AT A GLUNCE

Eramet is a key player in the responsible mining of ores and metals and aims to make a mark on the energy transition market. Our Group boasts exceptional mining reserves, world-class R&D, high-performance industrial facilities, and top-level expertise.

Our customers are leaders in the steel, stainless steel, pigment, energy and nextgeneration battery industries.



(1) In compliance with IFRS 5 "Non-current assets held for sale and discontinued operations", the financial and non-financial performance indicators provided do not include operations that are in the process of being sold (see chapter 3, notes 2) and 32 and chapter 6 of the Universal Registration Document). Excluding the IFRS 5 restatement, the Group's revenues amounted to €4.499 billion in 2021; EBITOA was €1031 million, current operating income was €751 million and FCF was €401 million. Including operations that were being sold, TF2 was down by 46% and the number of employees worldwide stod at 13373 at the end of 2021.

## **OUR ACTIVITIES**

## Manganese

High-grade ore, sinter, alloys (silicomanganese and low-carbon silicomanganese; high-, mediumand low-carbon ferromanganese)

## **OUR STRATEGIC VISION**



## Nickel

Ore, ferronickel, nickel ferroalloy, high-purity nickel

## **Mineral sands**

Titanium dioxide and high-purity cast iron, zircon and ilmenite

## Lithium

Lithium carbonate (beginning in 2024)

## OUR STRATEGIC AND CSR AXES



GROWING IN METALS FOR GLOBAL ECONOMIC DEVELOPMENT

Resilient markets: Manganese ores & alloys, nickel, mineral sands.

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4	<b>م</b>

## SUSTAINABLE DEVELOPMENT OF CRITICAL METALS FOR THE ENERGY TRANSITION

Rapidly growing markets:

Lithium, nickel/cobalt salts, battery recycling.

## DEPLOYMENT OF AN EXEMPLARY CSR APPROACH

Making a commitment to people. Being a responsible economic actor. Making a firm commitment to the planet.



2023 Essentials













FCF IN 2022<sup>(1)</sup>

## MAP OF OUR MINING AND METALLURGICAL SITES

PROJECT

MINING SITE

TRANSFORMATION

Constraints

RESEARCH & DEVELOPMENT

HEAD OFFICE

Manganese

Nickel

Mineral sands

Lithium

## Americas

## **UNITED STATES**

😭 Marietta

## ARGENTINA

Centenario-Ratones

없 Dunkirk 문ramet Head Office මි<sub>ල</sub> Eramet Ideas Norway

Europe

FRANCE

Kvinesdal, Porsgrunn, Sauda M Tyssedal

## ABICU INDONESIA C IS

100

Weda Bay

8 2023 Essentials

Africa

<u>مم</u> 

CAMEROON

Akonolinga GABON CABON Moanda SENEGAL Cigo Diogo





14

 Kouaoua, Népoui, Poum, Tiébaghi, Thio
 Doniambo

## **STEPPING UP OUR CSR** COMMITMENTS **IN ORDER TO** preserve the WORLD IN WHICH WE OPERATE

Eramet's social and environmental responsibility is at the heart of the Group's strategy, both in its operations and in the development of its projects on the five continents. It is reflected in a roadmap based on three priorities and 13 objectives to be achieved by the end of 2023, in line with the Sustainable Development Goals (SDGs) defined by the United Nations. Overview of some of our latest initiatives.

#### ROMOTING **OMEN'S** NEURSHIP NTREPRE



In 2022, under the partnership agreement signed with Women in Africa alongside the Gabonese government, Eramet launched "Femmes d'avenir". the first women's business acceleration program in Gabon.

As part of this program, a total of 130 women's SMEs in Gabon will be supported through training, mentoring and financial assistance until 2025.

The first 30 selected companies are currently being mentored, while the second aroup of 50 women's companies is being recruited. In 2023, the Group will extend its partnership with Women in Africa to Senegal.

## **RESTITUTION OF** A REVEGETATED MINING SITE

In 2022, GCO officially returned 85 hectares of revegetated land to the Senegalese Department of Water and Forestry, representing a first for the country. By 2025, around 950 hectares will gradually and continuously be returned, in the same or better condition as initially.



(Scopes 1 and 2) for 2035. This target. included in our CSR roadmap, has been approved by the Science-Based Targets initiative (SBTi). Furthermore, 100% of our mining and metallurgical sites have been ISO 50001 certified since the end of 2022.

## ESG PERFORMANCE **EVALUATIONS**

26.1 Rating SUSTAINALYTICS (September 2022) A- Rating CDP Climate Change **HCDP B-**Rating CDP Water Security (December 2022) MSCI A Rating ESG RATI CCC 8 88 888 AA AAA

(January 2023)



How do you go about managing and demonstrating CSR performance when it comes to a mine or a supply chain? This is the challenge Eramet is tackling by subjecting its mining model to a transparent process of evaluation according to the highest standards of responsible mining, such as the Initiative for Responsible Mining Assurance (IRMA) standard.

Eramet is convinced that its efforts to meet the very highest CSR standards will provide the Group with a powerful differentiating factor in terms of its employees and future talent, as well as its customers. partners and local stakeholders. In 2022, Eramet set the target of having all its active mining sites audited by 2027. The lithium mining project in Argentina and GCO's activities in Senegal have already undergone self-assessments. The first IRMA audit was initiated in May 2023 for the Eramet GCO site in Senegal.

## How does IRMA work?

- Self-assessment by the site;
- Initial audit by an independent third party whose results are published on the IRMA website;
- Recertification audit every three years.

The site is given a ranking that reflects the gradual improvement of its performance: IRMA Transparency (based on the external audit). IRMA 50. IRMA 75, IRMA 100.



Virginie de Chassey, Chief Sustainability and External Affairs Officer

"With a CSR roadmap performance index of 115 in 2022, we are ahead of schedule with regard to several commitments, such as reducing our carbon footprint and dialoguing with communities. And our results thus far have emboldened us to redouble our efforts.

Our roadmap is about to expire and is therefore currently being updated, with an even greater will to carefully address the needs of women, men, and nature. Our goal is to consistently deliver both operational and CSR excellence. This is how we intend to become a reference."

## SAFETY AT WORK

Achieving zero accidents is Eramet's number one priority and is central to its CSR roadmap. By increasing the number of initiatives on the ground, the Group has cut its accident frequency rate (FR2) by more than six within a five-year period.

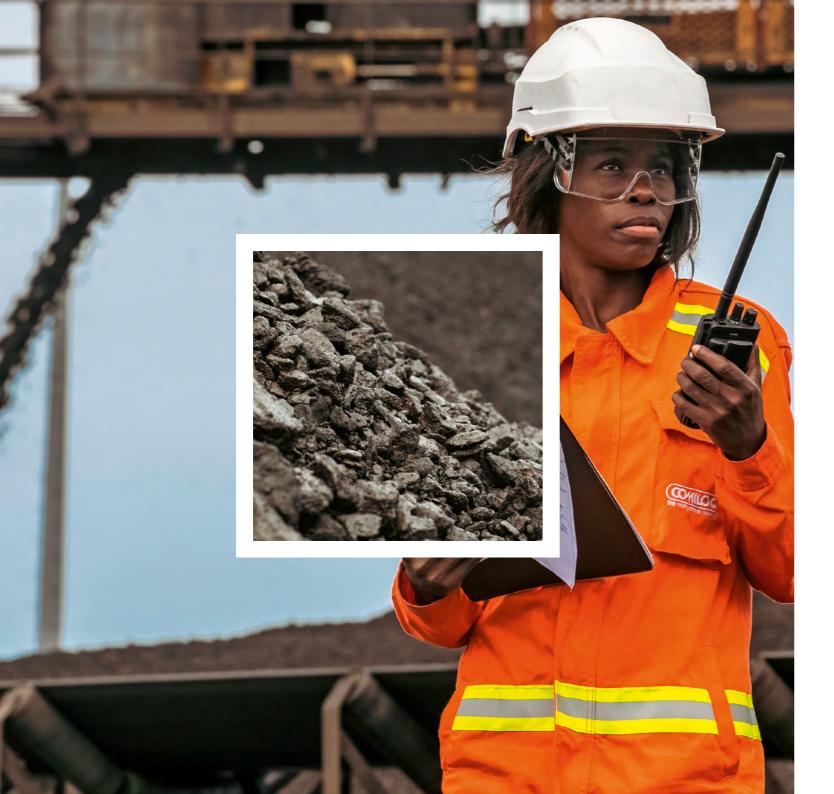
In 2022, the Group's employees took part in the first edition of the Eramet Safety Champions League, Several of them put forward innovative initiatives —a rollover protection system for trucks, a mobile app for safety routines in the field— to help strengthen the Group's safety culture.





RATE OF REHABILITATION OF OUR MINING SITES OVER THE 2019-2022 PERIOD (RATIO OF REHABILITATED AREAS/CLEARED AREAS).

RATIO OF REHABILITATED AREAS > 1 SINCE 2019.



## MANGANESE, TO SUPPORT global economic development

From mining to processing manganese ore, from Gabon to Norway, via France and the United States, we are the world's leading producer of high-grade manganese. While we aim to consolidate this position, we are also working to preserve the environment and biodiversity, as well as contributing to local economic development. This work is being conducted in cooperation with local communities.



4,625 employees



anganese is one of our Group's long-standing businesses. It is the foundation on which we have built

and consolidated our leadership position. We are currently the world's leading producer of high-grade manganese ore and the world's leading producer of high value-added manganese alloys, known as "refined" alloys. This leadership position is based primarily on our mines in Moanda, Gabon, which are operated by our subsidiary Comilog. With an output of 7.5 million tons in 2022, it is currently the world's leading manganese mine.

Our Manganese business also includes ore processing facilities in Gabon, as well as four plants in Europe (three in Norway and one in France) and a plant in the United States, in Ohio. Their mission? To transform ore into manganese alloys. In 2022, total alloy production reached 677 kt.



## WORLD LEADER IN MANGANESE ORE PRODUCTION

The world's leading producer of manganese ore, Comilog —Compagnie minière de l'Ogooué is distinguished by its long and rich history, which has given it extensive expertise in the mining and processing of manganese ore.

For 60 years, the company has been processing ore from the Moanda mine in Gabon. Thanks to the reserves of this world-class deposit, Comilog's growth prospects for the coming years are excellent. The Ogooué highlands contain around 200 million tons of ore with a manganese content of 48%. This is enough to meet world demand for several decades.



#### COMPOSITION

Manganese has been used as a pigment in paintings dating back more than 17,000 years.



#### USES

Nowadays, it is turned into manganese alloys to make carbon steel (about 90% of the total output), for the construction, automotive and food industries: beams, rails, batteries, ceramics, vegetable and citrus fruit farming, etc.

## **ITS STRENGTHS?**

A high level of resistance to corrosion and non-magnetic properties.



4<sup>th</sup> most used metal in the world.

# **7.5** Mt

graduates and 30 new students admitted to the School of Mines and Metallurgy in Moanda in 2022

**48** 



of manganese ore produced in 2022





patients treated free of charge in the local facilities of the Gabonese Samu Social (humanitarian emergency service) in Moanda, Bakoumba and Mounana, thanks to Comilog's CSR Fund

## <mark>14,000</mark>

hectares of tropical forest and savannah comprise the Lékédi park, an area protected by Comilog

## <mark>1,500</mark>

students have benefited from construction work and the installation of equipment at the public elementary school and high school in Ndjolé



"Comilog has reaffirmed its position as the world's leading producer of highgrade manganese. We aim to consolidate this position by reaching 7.5 million tons produced in 2022. We need to pursue our transformation by making safety the priority in our operations, and by working to ensure strict compliance with environmental standards and biodiversity across all our projects."

Leod Paul Batolo, Director and CEO of Comilog



As on all Eramet's mining sites on the Bangombé plateau, the ore is processed in an opencast mine on two plateaus (Bangombé, Okouma). Before being sold, the ore is crushed, ground, washed and sorted. Some of the ore is also sent to the Moanda Industrial Complex (CIM) for enrichment in order to increase its manganese content to just over 50%. A portion of the ore is mixed with coke and subjected to high temperatures; this sophisticated concentration stage increases its manganese content to 56%, one of the highest on the market. In addition, the Moanda Mine and Metallurgical Complex (C2M) produces silicomanganese, an alloy used in the steel industry, as well as manganese oxide, a product used in batteries and an essential ingredient of agrochemicals (to learn more about manganese alloys, see p. 16).

#### ORGANIC GROWTH IN THE SERVICE OF THE COUNTRY

To enhance production on the Bangombé plateau, Comilog has been using a dry ore treatment process since 2018. Not only does it boost the mine's production output, thanks to screening machines that sort the ore, but it also eliminates the need for water consumption, resulting in a more environmentally friendly outcome. In 2021, we expanded the mine's production capacity with the opening of the Okouma plateau, which is already supplying the world market.

As Gabon's second-largest private employer, Comilog makes a significant contribution to the country's economic development by supporting numerous projects through partnerships and corporate philanthropy. Its community outreach activities are conducted as part of a program and include sustainable commitments spread over several years. Comilog is especially focused on supporting young people and preserving the environment and biodiversity.

#### **NEW OBJECTIVES ON THE HORIZON**

In 2022, ore production reached 7.5 million tons. This growth momentum is being supported by a program to renovate the Transgabonese railway operated by Setrag, a Comilog subsidiary. This program of modernization is designed to help the company achieve its ambition of becoming the world leader in responsible manganese production. To improve its energy performance, Comilog has set about obtaining ISO 50001 energy certification. At the same time, the company has begun to move forward with its Mining 4.0 strategy through the introduction of digitization and automation across all its processes, from extraction to shipping. Drones, applications and connected stations are all routinely in use on the Bangombé and Okouma plateaus.







## BUILDING A WORLD-CLASS RAILWAY IN GABON

Since 2005, Setrag (Société d'exploitation du Transgabonais), a subsidiary of Comilog, has been operating at the request of the Gabonese authorities. It manages the country's only rail network linking the east and west of Gabon. The backbone of the country's economic development, the Transgabonese railway serves 24 stations, transporting passengers, goods, wood, concentrated ore and Comilog's metallurgical products.

The railway is thus helping to bring rural populations closer together, to transport more than 50% of Gabon's exports and to facilitate the movement of goods in five of the country's nine provinces.



Each year, 6 million tons of ore and goods are transported by rail to the port of Owendo in Libreville. At that point, the Railway and Port Facilities Department (DFIP) is responsible for handling the ore. In order to further develop its potential, Setrag is conducting a major program to modernize the rail network while at the same time complying with Eramet's Digital Transformation and CSR roadmaps.

LEARN MORE

## THE PRN

The Railway Upgrade Program (PRN) —2016-2024— was launched by the Gabonese government and Setrag in order to renovate and modernize the line.

The work is now continuing, with the consolidation of the rail platform; the renewal of the track superstructure, including the replacement of 60,456 ties in 2022; and the installation and commissioning of equipment required for the new rail signaling system (Train Controlling System, TCS).



linking Franceville to Libreville







1,000

patients benefited from ophthalmological consultations and the distribution of eyeglasses Eramet's manganese alloys production facilities are spread across three continents: Eramet Marietta in the United States, Eramet Norway in Norway, Comilog Dunkergue in France and the Moanda Mine and Metallurgical Complex (C2M) in Gabon. Located close to historical steel-making areas, the six plants provide our European and US steel industry customers with rapid delivery by road or sea.

as possible from raw materials. The plant has also expanded its markets and is currently able to sell 100% of its byproducts. Thanks to a large-scale investment program that has already reached \$40 million, combined with an ambitious roadmap for reducing CO<sub>2</sub> emissions. Eramet Marietta is committed to continuously improving its impact by reducing its environmental footprint.

Eramet Marietta is also invested in the local community, by supporting efforts to improve the provision of healthcare, with the Marietta Health foundation, and promote access to education for all, with the Eramet Foundation Scholarship at the local university.

## **27%** of energy recovered by Eramet Norway by 2030

reduction in CO, emissions:

for 2030

this is Eramet Norway's target

contributed to the local economy each year by Eramet Marietta



"Eramet has set itself one key objective: to become the world leader in the high-grade manganese market. Achieving this goal means making progress based on very sound fundamentals, by constantly improving our performance. We also have a duty to ensure the safety of our employees and subcontractors, to respect the environment and to contribute to the wellbeing of the communities in which we operate."

Kleber Silva, Chief Operating Officer of the Eramet group





of manganese allovs produced in 2022

## IN NORWAY, A SUSTAINABLE VISION OF THE METALLURGICAL INDUSTRY

Oslo

Porsarunn

NORWAY

Trondheim

Sauda 🦷

Kvinesdal

A world leader in refined manganese alloys, Eramet Norway manufactures products for use in the production of steel. Located on fjords in the south of the country, its three plants operate exclusively with renewable energy and are mainly supplied with manganese ore from the Comilog mine.

Eramet Norway Kyinesdal has three silicomanganese furnaces and a thermal power plant that produces about 80 GWh of electrical energy and large quantities of thermal energy for a nearby fish farm.

With its two furnaces (silicomanganese and ferromanganese), Eramet Norway Porsgrunn specializes in refined ferromanganese as does Eramet Norway Sauda, which has two large ferromanganese furnaces, making this plant the cornerstone of the Group's Manganese alloys business.

Based on a successful pilot project, the Sauda plant is planning to build a large-scale energy recovery plant, financed in part by the Norwegian government. This plant will also supply heat for the town of Sauda. Eramet Norway has set the goal of being the first producer in its sector to reach the target of zero net emissions.

### THE UNITED STATES. A STRATEGIC LOCATION

Columbu

UNITED STATES

оню

Eramet Marietta is the largest producer of manganese alloys in North America and the only producer of ferromanganese in the United States. The Marietta plant is strategically located along the Ohio River, both to receive raw materials from Gabon and to deliver to its steel industry customers located nearby.

Eramet Marietta has developed a flexible organizational structure in order to serve its customers in real-time by delivering a comprehensive range of products (silicomanganese, ferromanganese, refined alloys) while recovering as much manganese



\$40 M

invested by Eramet Marietta in energy efficiency projects and air quality over a period of more than 10 years







### IN FRANCE, THE FOCUS IS ON OUALITY

Comilog Dunkerque processes manganese ore from Gabon. The company specializes in the production of silicomanganese, which enhances the mechanical properties and in particular the strength of steel. Its toughening properties are particularly sought after by European steel industry customers.

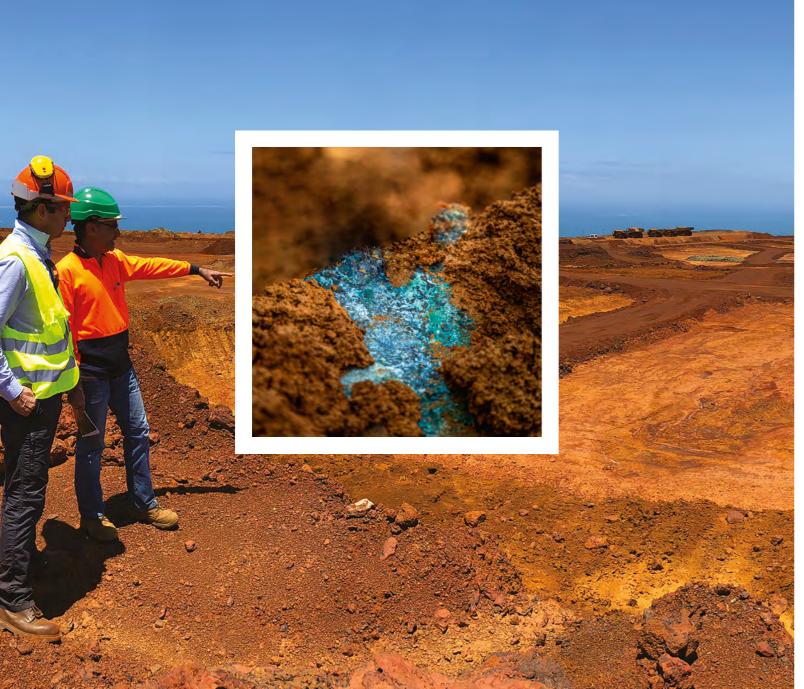
The plant is also determined to play an active role in protecting its environment and improving its industrial practices, by recycling rainwater in its processes and by transforming the dust emitted into briquettes that are then recycled in the furnace or sold.

## LEARN MORE

## **CLIMATE: TWO PROMISING PROJECTS IN NORWAY**

In 2023, Eramet Norway's efforts to preserve the environment and the climate were rewarded by Enova which allocated €12 million (132 million Norwegian kroner) in funding to support two projects aimed at optimizing its energy consumption and minimizing its CO emissions: a motor for recycling furnace gas and producing electrical and thermal energy; and a test pilot for capturing the CO contained in these gases, with a view to building a large-scale capture plant by 2028.





## NICKEL: A HISTORIC METAL, AND A Metal, of the future

Nickel is needed to supply two essential markets: global economic development and the energy transition. The Group has outstanding nickel deposits with which it can meet the needs of today and the future.



tilized in the construction industry, as well as in transportation, food safety and electronics, nickel is one of our

long-standing specialties.

We are now one of the world's leading producers of ferronickel in New Caledonia, which is operated by SLN (Société Le Nickel), our longstanding subsidiary that operates five nickel mines and a pyrometallurgical plant that produces ferronickel. SLN continues to export nickel ore, thanks to the introduction over the past three years of a business model that has rebalanced its two businesses: mining and metallurgy.

In Indonesia, we also started producing low-grade ferronickel in May 2020 using ore from Weda Bay, considered one of the world's major deposits.



We are enhancing the value of the nickel from this mine through a joint venture with China's Tsingshan, the world's largest producer of stainless steel. The mine, which started up in 2019, has experienced a very rapid ramp-up and the plant reached its nominal capacity in 2020.

In 2022, the mine broke a record with the sale of 21.1 Mwmt, i.e. an increase of over 100%.

## A CLOSER LOOK

## NICKEL

#### COMPOSITION

Nickel can be recycled endlessly without any loss of quality and has physical and chemical properties that make it a highly prized material. More than two thirds of the world's production is used to produce stainless steel for use in the construction, chemical and health sectors.

### PROPERTIES

Its ability to retain its mechanical properties at high temperatures means that nickel can be used in special steels and superalloys, which are widely utilized in the aeronautics industry, for example. It also offers greater energy density in electric vehicle batteries, which makes it an essential metal in terms of the energy transition.





hectares rehabilitated in 2022 by SLN in New Caledonia (ratio : 1,6)



of ore produced by SLN in 2022







## OUR LONG-STANDING SUBSIDIARY **IN NEW CALEDONIA**

Founded in 1880, SLN is the oldest nickel mining and metallurgical company in the world. The largest private employer in New Caledonia, it has five mining centers and "offsite" mines, all of them opencast. In 2022, it produced 40.9 kt of ferronickel, a product intended for the stainless steel market.

Its mines are located at altitudes between 250 and 1.000 meters. As with all our mining sites, SLN is engaged in an ongoing process of site rehabilitation. We are also committed to protecting water resources and speeding up the rehabilitation of all our mining sites while also preserving biodiversity, with the objective of achieving a ratio of rehabilitated areas to cleared areas greater than or equal to 1 over the period 2019-2023.

SLN is thus engaged in sustainable operations, including the control of impacts on the local population and environment. Given the large volume of waste rock being handled at the company's sites, SLN has ensured that this material is stored in appropriate structures and has made revegetation a top environmental priority.

For example, SLN sells one of the byproducts of its ferronickel operations, which is stored in slag heaps at its Doniambo site; this slag, which has been renamed "SLAND", is composed

of silica and magnesium, and it can be used to replace the natural sand used in the manufacture of concrete. which is usually taken from the natural environment. It is also used in asphalt, and can be utilized for sandblasting.

SLN is also actively pursuing a key pillar of its CSR strategy: Diversifying economic development in local communities. The company's aim is to become a driving force for local development above and beyond mining. This objective involves continued support for local community development projects, as well as for economic activities outside the nickel value chain.



Lastly, SLN is giving increased importance to supporting economic development and diversification in the areas in which it operates, in conjunction with the development of local natural resources (financing of a feasibility study for a multi-purpose tree nursery, financial support for associations working to promote entrepreneurship, etc.).



## EXCELLENT PERFORMANCE **OF OUR INDONESIAN SITE**

In Indonesia, our Weda Bay Nickel site began production in 2020, as part of a partnership agreement we signed with the Chinese steel group Tsingshan. This joint venture is focused on producing nickel ore on the one hand, and ferronickel on the other; the overall annual production target is approximately 35 kt of contained nickel.

In 2022, the Weda Bay mine produced 21.1 Mwmt. of which 3.2 Mwmt were shipped to the joint venture plant for the production of nickel ferroallovs. The rest was sold to the other plants located in the industrial park near the mine.

In line with Framet's CSR roadmap. compliance with environmental and societal commitments is an essential part of the operations conducted at Weda Bay. We have made our expertise in this area available to the partnership, whether in terms of preserving biodiversity (demarcation of plots to be cleared, planting local species in nurseries, restoration of damaged areas), water protection, the management of waste rock (construction of waste rock piles, whose creation is incorporated into the mine planning process), or waste management.

Lastly, as part of an ongoing dialog with local populations and the authorities, a CSR program has been implemented by IWIP, the company that includes

Nickel

all the partners in the Weda Bay industrial park. In early 2023, Weda Bay Nickel conducted a new edition of its social study on the populations living around its mining concession. The results are slated to be published in the summer of 2023. All this shows that a number of initiatives have been carried out in the areas of economic development, education, health and culture.

> proportion of local employment at Weda Bay Nickel













"Thanks to its large deposits and unique metallurgical expertise, Eramet is perfectly positioned to supply the critical metals needed for the energy transition. Our partnership with BASF in Indonesia to produce an intermediate nickel and cobalt product is a wonderful opportunity that is consistent with our aim to offer a reliable and responsible supply to the electric vehicle battery industry."

#### Geoff Streeton.

Chief Development Officer, in charge of Strategy, Innovation and Business Development

## LEARN MORE

## BASF: A STRATEGIC PARTNERSHIP

In order to meet the needs of the energy transition and the very strong growth in demand for the metals needed to manufacture electric batteries (nickel, cobalt, lithium). Eramet teamed up with BASF in December 2020 to study the feasibility of a hydrometallurgical plant in Indonesia that would produce batterygrade nickel and cobalt salts using ore from the Weda Bav mine. Teams from the two European partners conducted environmental and social impact studies in 2022. The decision to proceed with this investment is expected to be made in the second half of 2023.





# MINERAL SANDS: INCREASED growth momentum

Ilmenite, rutile, leucoxene and zircon: we are bringing together a broad range of expertise in order to process these mineral sands in Senegal and in Norway. We have the resources to supply a booming market.





the world's fourth largest producer of titanium raw materials and the fourth largest producer of zircon worldwide.

e are now

We operate in Senegal, through our subsidiary Grande Côte Opérations (GCO), and in Norway where the Eramet Titanium & Iron (ETI) metallurgic conversion plant produces titanium dioxide slag and high-purity pig iron from ilmenite supplied by Grande Côte Operations.

In Cameroon, following the issuance in 2019 of five exploration permits on the Akonolinga rutile block in the central region of the country, mining exploration work identified significant potential rutile reserves. Field work and feasibility studies are underway.

Paints, dyes, plastics, coating materials... the demand for raw materials, in the construction industry for example, is growing. This is why we are expanding our product offering in the rapidly growing sector of mineral sands, which are widely used all around us in our everyday environment.

## A CLOSER LOOK

## TITANIUM And Zircon

## USES

Mineral sands are primarily intended for the construction and home improvement markets.



## USES

Titanium dioxide (TiO<sub>2</sub>) is used to produce white pigments for paints, plastics and paper.



### USES

Zircon is used in the ceramics industry and for many other applications, such as in abrasive materials, the nuclear industry and dental prosthetics.

742kt of mineral sands produced in Senegal in 2022 98% of the sand filtered by the facility is returned to the dunes



government in 2022 **2,100** direct and indirect jobs on the GCO site



hectares of revegetated land

returned to the Senegalese

of zircon produced in Senegal in 2022

nine in Senegal to receive ISO 14001 and ISO 50001 certification



## GCO, A MAJOR GLOBAL PRODUCER OF MINERAL SANDS

GCO's mineral sands mine is located along the Senegalese coast. The concession begins approximately 100 kilometers north of Dakar and stretches northward for more than 100 kilometers. The world's largest mining dredge (50 meters long and 17 meters wide) operates on a 600-meter long and 300-meter wide artificial pond, 24 hours a day.

It moves about 30 meters per day between 7 and 13 kilometers per year. The extracted sand is sent to the Wet Concentration Plant (WCP), which is connected to the dredge by a 320-meter long pipe. The WCP is where the water, the heavier mineral sand and the lighter ordinary sand are physically separated. The remaining sands and the water it contains are returned to the dunes behind the pond. This sand is used to restore the dune as closely as possible to its original state and the water is returned to the pond to maintain a constant level for the dredge and the plant to carry out their work.

Using this mobile mine, Grande Côte Opérations produces mostly ilmenite and zircon, as well as rutile and leucoxene.

Guillaume Kurek, CEO of GCO

"There is a way to

conduct large-scale

mining operations that

complies with the highest

development. The company

standards of sustainable

build its competitiveness

projects that benefit all

needs to continue to

by undertaking new

of our stakeholders."

In 2022, mineral sands production increased to a record level of 742 kt (+6%), with zircon production coming to 57 kt.

GCO has put community relations at the heart of its development strategy. Due to the mobile nature of the dredge, the main impact of operations on neighboring communities is the displacement of homes as well as agricultural and pastoral areas. GCO is thus committed to a cooperative approach to resettling the impacted populations; to this end, it conducts regular information and consultation campaigns, ranging from those stipulated by law to those carried out on a voluntary basis.

At the same time, Grande Côte Opérations is active in supporting the economic and social development of Senegal, in particular through the creation of four local Economic Interest Groups (EIGs) in 2022 involving 1,200 women, as well as through support for education and access to healthcare.







### ETI, STATE-OF-THE-ART METALLURGICAL CONVERSION TECHNOLOGY

The metallurgic conversion plant of Eramet Titanium & Iron (ETI) was created in 1986 and is located in Tyssedal, in the south-west of Norway. It uses a state-of-the-art process to melt ilmenite and produce titanium slag and high-purity pig iron.

These products are sold mainly to pigment manufacturers and ductile iron foundries. The plant is the only one in Europe to use this process. It has an annual capacity of 215 kt of titanium dioxide slag and 85 kt of high-purity pig iron. The facility, which employs approximately 300 people, has easy access to hydroelectric power and a wharf that allows for year-round loading and unloading of bulk carriers. Titanium slag production at the ETI site reached 188 kt in 2022. In order to achieve carbon neutrality, the ETI plant intends



to replace coal with hydrogen for the reduction of ilmenite at the pre-reduction stage. In order to achieve this goal, it is currently engaged in a multi-year development project.

ETI's Hydrogen Project is one of two Norwegian projects that are part of the European Important Projects of Common European Interest (IPCEI) scheme relating to the industrial use of hydrogen.

## LEARN MORE

## AKONOLINGA

In Cameroon, we decided to conduct a preliminary feasibility study in 2022 based on the work carried out by our Exploration Unit (drilling campaigns and an exploratory study for a mining project) in late 2021.

#### **ITS OBJECTIVES?**

This project should enable us diversify our product offering in the highly profitable rutile market and further strengthen our sand mining activities. Alonaside this exploratory work, a public consultation process was organized to explain the project and a census of the local population and agricultural plots was conducted in late 2021, in addition to a social and environmental impact study.





# LITHIUM: THE CORNERSTONE OF the energy transition

Without lithium, it would be impossible to produce rechargeable Li-ion batteries, and thus to manufacture smartphones or electric cars. Lithium is the cornerstone of the energy transition.

ERAMINE

gainst the backdrop of rapidly growing demand, and with a view to becoming a leading supplier of metals for the energy

transition, we have added lithium to our portfolio of metals, alongside nickel, manganese and cobalt, all of which are required to manufacture electric batteries.

At the end of 2021, we thus began construction work on a lithium production plant in Argentina, where we own a world-class deposit, in partnership with Tsingshan.





## WORLD-CLASS PRODUCTION FACILITY

Our Lithium business involves developing a lithium deposit in Argentina via our subsidiary Eramine Sudamerica.

In 2012, after two years of mining exploration, a deposit was discovered: the Centenario-Ratones "salar" (salt flat), located at an altitude of 3,800 meters in the province of Salta, in the Andes Mountains, in northwest Argentina. It has reserves of approximately 10 million tons of lithium carbonate equivalent (LCE). A CLOSER LOOK



## CHARACTERISTICS

An alkaline metal, llithium is never found in its pure state, i.e. in metallic form.

It mainly exists in dissolved form in fluids (brines and "salars", geothermal groundwater or seawater).

#### USES

It is used in the manufacture of batteries but also of glass and ceramics.



727,000

Estimated lithium demand in 2022.



**900%** The yield level of the direct lithium extraction process used at Eramine's pilot plant



"With our project in Argentina, Eramet will become the first European company to operate a sustainable, high-capacity industrial lithium complex. This is a source of pride for our Group as well as a major boost to European sovereignty in terms of the ability to ensure supplies of critical metals."

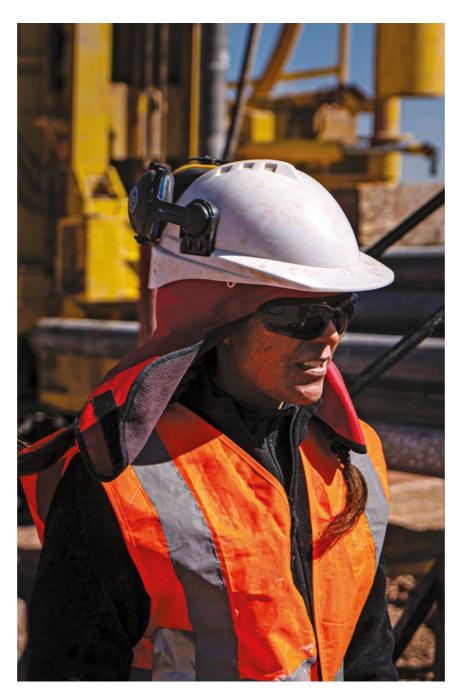
Christel Bories, Chair and CEO of Eramet group Along with Chile and Bolivia, Argentina is part of the "Lithium Triangle" which, according to various institutes, contains more than half of the world's lithium reserves.

In 2020, our pilot plant, a genuine small-scale replica of a future industrial plant, demonstrated the feasibility of our brine extraction process under real conditions.

#### AN INNOVATIVE EXTRACTION PROCESS

This innovative process enables the production of battery-grade lithium carbonate with an extremely high rate of direct extraction efficiency. It makes use of an active solid developed by Eramet Ideas, our R&D center. in association with IFPEN (Institut Français du Pétrole et des Énergies Nouvelles) and Seprosys, a company specializing in the development of solutions for the extraction and purification of molecules using a variety of separative techniques. Several years of laboratory tests and continuous monitoring have enabled Eramet Ideas' teams to develop this new process. Unlike the conventional method (by evaporation), it involves two phases:

·Use of an active solid to extract and concentrate the lithium. This solid functions similarly to a sponge: it captures the lithium contained in the brine. Fresh water is then used to release the stored lithium. To further concentrate the metal obtained, two successive processes are then conducted: nanofiltration and reverse osmosis. • Purification of the lithium, then reaction with sodium carbonate to convert it to lithium carbonate. Once filtered again and washed, it achieves the chemical quality of the finished product.



### **START OF PRODUCTION IN 2024**

The direct extraction process we have developed has achieved a 90% yield rate at the pilot plant, with a processing period of around a week. By comparison, the traditional procedure (based entirely on natural evaporation) delivers a yield of less than 50% in 18 months. With respect to the conventional process, a very special effort has been made to minimize the consumption of fresh water in our process by maximizing the water recycling rate, which now stands at over 60%.

In November 2021, we began construction work on our future production facility, in association with the Chinese company Tsingshan. Construction work on the plant began in May 2022.

Eramet is in charge of overseeing the project and managing operations. The plant will have an annual production capacity of 24 kt of lithium (LCE). It is scheduled to start production in 2024, and it is expected to reach its nominal capacity in mid-2025. We are also continuing with the feasibility study for the project's second growth phase, aimed at achieving a total annual production capacity of around 75 kt.

The project has a solid social foundation, particularly in view of the strong relationships that have been established with local communities over the past 10 years. Our process also offers advantages in terms of the use of water resources compared to projects based on conventional extraction processes.

rate of recycling of the

water used in the process

years of lithium carbonate

equivalent (LCE) reserves

Eramine is actively involved in the development efforts of local stakeholders, including the launch in 2015 of the Quinoa project, a program to reintroduce the age-old tradition of quinoa cultivation in the region, the main objective of which is the creation of alternative sources of income for the inhabitants and the elimination of child malnutrition.





## LEARN MORE

## GEOTHERMAL Lithium

In early 2023, Eramet and Électricité de Strasbourg signed an exclusive memorandum of understanding with the aim of studying the production of lithium from geothermal brines in the Alsace region.

#### **ITS OBJECTIVES?**

This agreement will enable the partners to consolidate their cooperation to eventually operate an extraction, refining and production facility for geothermal lithium. Eramet will contribute its unique and innovative direct extraction process. developed for its lithium project in Argentina, as well as its know-how in the extraction, refining, production and sale of lithium.

This French production project has an annual target of 10,000 tons of lithium carbonate, corresponding to the production of around 250,000 electric vehicle batteries per year.





Our experts continuously innovate to design metals for the energy transition, consolidate our positions in the markets of the future, and devise new products and services to meet today's requirements and tomorrow's needs.

### ERAMET IDEAS, **OUR INTEGRATED R&D CENTER**

Eramet Ideas, which stands for Innovation, Development, Engineering for Advanced Solutions is our research and innovation center. based in Trappes, France. Its areas of expertise include geometalluray. hydrometallurgy (chemical treatment with solutions) and pyrometallurgy (melting and reduction at very high temperatures). Its goals are to improve the Group's operational and environmental performance and develop innovative projects to support its strategic roadmap, especially projects focusing on the metals necessary for the energy transition. To drive sustainable performance, Eramet Ideas is guided in particular by open innovation, an approach that reaches out to industrial and



academic partners for a challenging culture of knowledge sharing.

### **EXPLORATION, THE DRIVING FORCE** FOR OUR GROWTH

Our Exploration Unit was created in 2019 and now has 70 employees, spread out between Eramet's head office and the countries where exploration efforts are being made (Gabon, Cameroon, Indonesia, Argentina, Chile, etc.). Its goal: to add new mining projects to the Group's portfolio, in order to sustain levels of mining resources.

## DIGITAL TRANSFORMATION: A MAJOR SOURCE OF VALUE CREATION

Digital technologies have provided us with an opportunity to rethink the way we operate our sites and transform our business models. Mines, Plants

and Logistics 4.0 are becoming a reality: IoT coupled with predictive maintenance algorithms, the use of drones in mining, as well as AI in geology and metallurgy: these are all areas where real and rapid progress is being made and is fostering the development of new activities and projects.

subsidized French and European projects

## 19

employees dedicated to innovation

Norwegian collaborative research projects



## RECYCLING ELECTRIC BATTERIES

In partnership with Suez, we are developing an innovative closed-loop recycling process for Li-ion batteries, to help secure metal supplies for the energy transition in Europe. Several test campaigns have enabled all valuable materials —nickel, cobalt, lithium and manganese to be recovered with very high yield levels and to be turned into new battery-grade metals.

## ITS OBJECTIVES?

Eramet Ideas is currently building a pre-industrial demonstrator. which is scheduled to start production in summer 2023. whereas the construction of a recycling plant in northern France is in the process of being studied. In early 2023, the European Commission backed the project by awarding an almost €70 million grant to Eramet.



# **BECOMING A** model employer

Over 9,000 employees of 72 different nationalities work at our sites spread out across five continents.

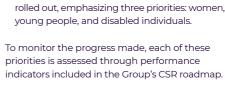
## ERAMET PEOPLE

he men and women who work for Eramet are the cornerstone of its corporate project. That is why their health and safety are our top priority as reflected in the first objective of our CSR roadmap. And to ensure their well-being and development, we are focusing on three main goals:

#### 1. INTEGRATE AND ENGAGE OUR EMPLOYEES,

both during the onboarding process and throughout their careers; develop teams; and actively promote diversity and inclusion. To achieve these goals, the Group has created a digital onboarding program, a skills and job reference system, and holds annual and mid-year interviews.

2. FOSTER THE DEVELOPMENT OF SKILLS through vocational training. To this end, Eramet offers several targeted programs based on coaching, as well as an open-access digital learning portal.



## SOCIAL DIALOG

Eramet considers that social dialog is a critical tool for achieving the actions in its strategic roadmap and driving its long-term performance. Ninety-seven percent of staff members are covered by agreements with employee representatives. Today, Eramet is seeking to step up the international dimension of its social dialog by creating a transnational forum, in which listening and sharing are encouraged, in order to more closely involve staff representatives in addressing the company's strategic and social challenges.



within the Group.



(permanents and temporary contracts)



of team members are young people hosted for internships. work-study pro-grams and international volun-teer work (VIE) programs

### **3. PROMOTE DIVERSITY AND INCLUSION**

which the Group considers as essential drivers of performance. For example, in 2022, a new and ambitious Diversity and Inclusion roadmap was







"People are the heart of our DNA, because we value high-quality human relations. listening. respect, kindness and integrity. We want our employees to feel fulfilled in their work and personal lives; we encourage them to contribute to our collective success and take civic initiatives, so that they may be proud to work in a Group that contributes to economic development and the energy transition and values diversity."

Anne-Marie Le Maignan, Executive Vice-President Human Resources, Health and Security of the Eramet group

2023 Essentials



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