

# ESSENTIALS



Become a reference  
for the responsible  
transformation  
of the Earth's mineral  
resources, for living  
well together.



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

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

Underpinning these values and our efforts is our corporate purpose: **“Become a reference for the responsible transformation of the Earth’s mineral resources, for living well together.”**

This statement reflects our aim of being an agent for change, committed **to being an effective and contributive corporate citizen.**

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 corporate purpose carries our collective ambition. It provides the foundation






for the way we think about people, whether they be **our employees**— whose safety is our priority— **the communities established in the areas where we operate**—to which we are committed—and, more broadly, the **public as a whole**, for whom these metals are essential to 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 a responsible supply, and carefully managing the Earth's resources.

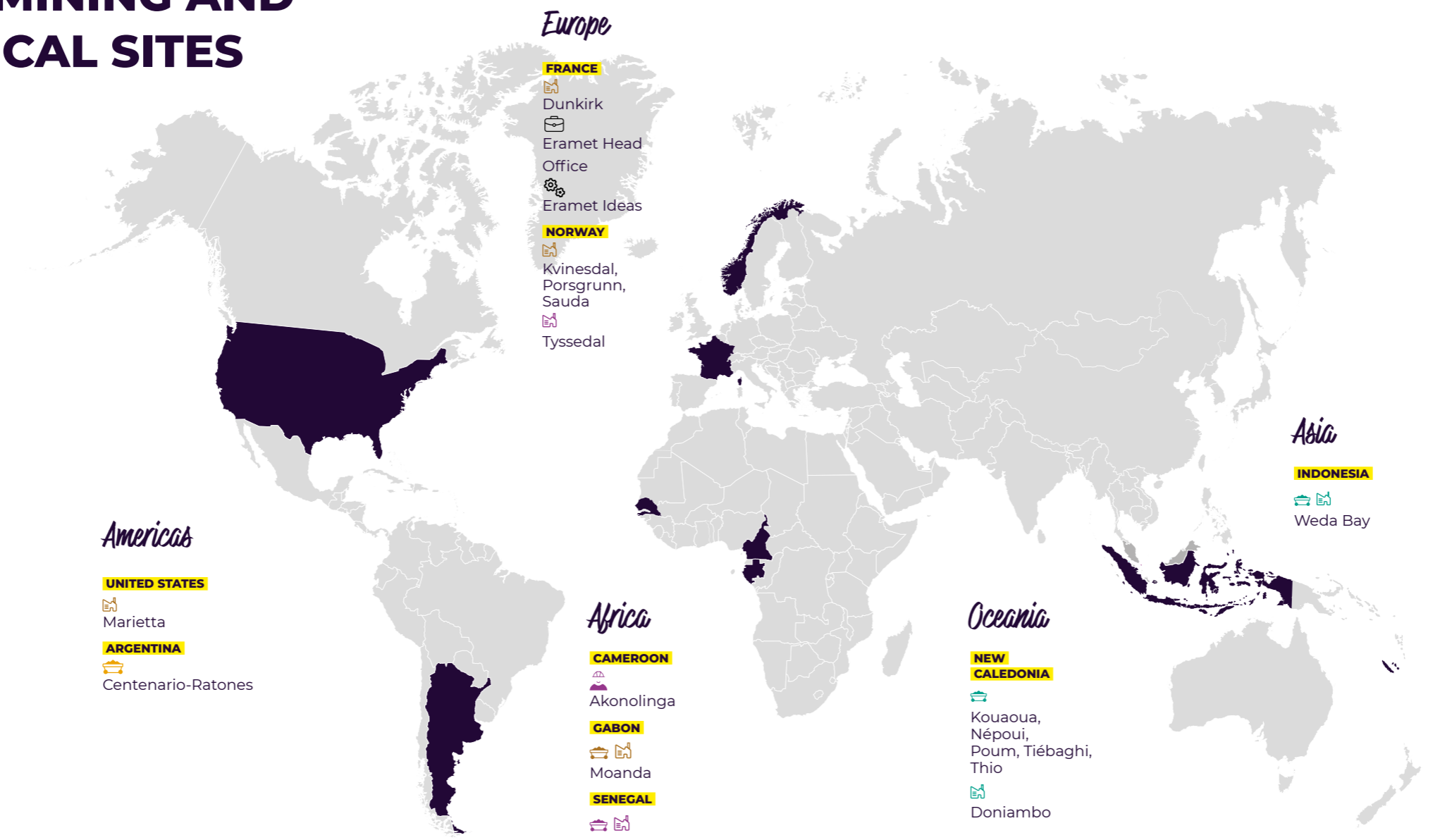
**We are Eramet.** And we are firmly committed to becoming a key actor in the mining and metallurgy industry and to creating the conditions for a sustainable and harmonious relationship between humankind and the Earth.



# Map OF OUR MINING AND METALLURGICAL SITES

-  PROJECT
-  MINING SITE
-  TRANSFORMATION
-  RESEARCH & DEVELOPMENT
-  HEAD OFFICE

- Manganese
- Nickel
- Mineral Sands
- Lithium




## Americas

### UNITED STATES




 Marietta

### ARGENTINA

 Centenario-Ratones

## Europe

### FRANCE

 Dunkirk  
 Eramet Head Office  
 Eramet Ideas

### NORWAY

 Kvinesdal, Porsgrunn, Sauda  
 Tyssedal

## Africa

### CAMEROON

 Akonolinga

### GABON


 Moanda

### SENEGAL

 Diogo

## Oceania

### NEW CALEDONIA

 Kouaoua, Népoui, Poum, Tiébaghi, Thio

 Doniambo

## Asia

### INDONESIA

 Weda Bay

## STRATEGIC REPOSITIONING /

**ERAMET IS REPOSITIONING ITSELF AND IS BECOMING A PURE PLAYER IN MINING AND METALS.**

In line with its strategic roadmap, the Group is refocusing on its growth-oriented activities. Accordingly, certain assets have been repositioned (sale of the Sandouville site, the ongoing sale of Aubert & Duval and the planned sale of Erasteel). Our strategic choices, backed by our industrial and commercial activities in more than 20 countries on 5 continents, will enable us to fast-track our development in mining and metallurgical activities and move fully into the era of metals.



# “I AM A GREAT BELIEVER IN ERAMET’S POSITIONING AS A *committed and contributive corporate citizen.*”

**INTERVIEW** / The Eramet Group has adopted a new strategic roadmap which focuses on its mining and metallurgy activities, enabling it to pursue its ambition of becoming a reference in the responsible transformation of the Earth’s mineral resources, for living well together. Analysis and outlook.

**Christel Bories,  
Eramet Group  
Chair and CEO**

**The planets are aligning for Eramet. How do you explain all the progress that has been made?**

**Christel Bories:** We have done a lot of work to transform the Group over the past few years. I’m proud of how far we’ve come, thanks to the commitment and flexibility of all our teams. The excellent performance of our mines and plants demonstrates the soundness of our operating model, which generates a great deal of value. We have made bold strategic choices. We have repositioned our asset portfolio exclusively on mining and extractive metallurgy by selling our traditional downstream processing activities. We are fortunate to have world-class mining deposits that are extremely

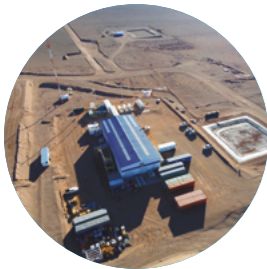
well positioned in terms of their size, potential, maturity and cost. Building on these strengths, we have implemented a two-pronged strategy: contributing to global economic development through metals essential to infrastructure (manganese, nickel and mineral sands); and contributing to the energy transition through the development of critical metals for energy storage (lithium, battery-grade nickel and cobalt). Ongoing market developments have fully vindicated our decisions: the world needs more and more metals! As a result, we are entering this new phase in the Group’s history in a stronger position, with the objective of making Eramet a leading mining and metallurgical company and a world-class producer of metals for the energy transition.





**WE ARE GOING TO SEE A HUGE EXPLOSION IN THE DEMAND FOR METALS BETWEEN NOW AND 2030.”**

**DEMAND FOR METALS BY 2030:**



**6** times  
more lithium



**2** times  
more nickel



**3** times  
more cobalt

**How does Eramet intend to meet the challenges of the energy transition?**

**C. B.:** We are experiencing a unique historical moment: the energy transition—which is essential and urgent—is changing everything. In order to move away from an oil-based economy and achieve the objective of carbon neutrality by 2050, as set out in the Paris agreements, we are going to need considerably larger amounts of metals. We are going to see a huge explosion in demand between now and 2030: to make electric cars, wind turbines and other energy storage systems, we are going to need six times more lithium than today, twice as much nickel, three times as much cobalt, etc. Having access to these strategic metals is becoming a prerequisite for achieving this transition. And Eramet is particularly well positioned to meet the challenges of this new era. We have launched our lithium production project in Argentina, where the first few tons will be produced in 2024. We are accelerating our nickel and cobalt salt production project in Indonesia in partnership with BASF. And in response to strong environmental and societal demands, we are working to create a new model for mining. Our corporate purpose, strategy and CSR roadmap all converge

toward a single goal: making Eramet a leader in responsible mining and metallurgy.

**What do you mean by “responsible mining”?**

**C. B.:** To meet the ecological 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> yet neglecting water, biodiversity and the well-being of our communities, we are missing the point! Today, we are acknowledged by our clients, the countries and the communities where we operate, as a responsible and respectful company that invests in and contributes to the regions in which it is based. This sustainable and responsible approach is just as crucial as our financial performance. And it is thanks to the commitment of all our teams around the world that we are able to achieve this.

**In practical terms, what does this mean on the ground?**

**C. B.:** As I often say—and this is something I strongly believe—Eramet wants to be loved in its host countries, not merely tolerated. I am a great believer in Eramet's positioning as a committed and contributive corporate citizen. To that end,

we are helping to develop economic activities in the areas around our mines so that these communities are not solely dependent on us for employment. And we are also committed to improving education, health and vital infrastructure in all the countries where we operate. For example, we have supported the reintroduction of quinoa near our mine in Argentina and we have also helped the local population create an organic cooperative, a project that creates jobs—particularly for women—develops the local economy and reduces child malnutrition.

**Are Eramet employees fully behind this new vision?**

**C. B.:** We can't do anything without the men and women who work for the Group! Our excellent results are down 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 reduced the number of accidents by six in 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. We are working on several fronts: increasing the number of women in our workforce—today we have 26% female managers and our objective is to reach 30%.

We are promoting diversity and inclusion by mentoring underprivileged young people or opening the doors of our sites to make people with disabilities want to join us. We also regularly measure the commitment levels of our teams; in 2021, we achieved a score of 74%. This is a barometer, but also a tool enabling us to introduce initiatives to meet the expectations of our employees, to help them develop and thus to retain them. Investing in our human resources is essential to support the Group's growth and attract new talents.

**How do you see the next few years?**

**C. B.:** The global context in which we have been operating for the past few years requires us to be vigilant and extremely agile. However, 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.



**OUR CORPORATE PURPOSE, STRATEGY AND CSR ROADMAP ALL CONVERGE TOWARD A SINGLE GOAL: MAKING ERAMET A LEADER IN RESPONSIBLE MINING AND METALLURGY.”**

# ERAMET at a glance

## 2022 PROFILE

A long-standing force in the era of metals that is now reinventing itself to meet the challenges facing us today.

SLN (Société Le Nickel) was created in 1880, when Jules Garnier discovered nickel ore in New Caledonia. One hundred and forty years later, Eramet operates in 20 countries and has become a world leader in the responsible recovery of ores and metals and in the production and processing of high value-added alloys. Today, our ambition is to make our mark in 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 new generation battery industries.

## OUR 2 STRATEGIC AXES



### 1/ GROWING IN METALS FOR GLOBAL ECONOMIC DEVELOPMENT

**Resilient markets**  
Manganese ores & alloys  
Nickel  
Mineral Sands



### 2/ DEVELOPING CRITICAL METALS FOR THE ENERGY TRANSITION

**High-growth markets**  
Lithium  
Nickel/cobalt salts  
Battery recycling

## STRUCTURE OF THE GROUP

Our Mining and Metals activities are divided into four Business Units (BUs) which correspond to our main markets.

### Manganese BU

High-grade ore, alloys

### Nickel BU

Ore, ferronickel, high-purity nickel, nickel ferroalloys

### Mineral Sands BU

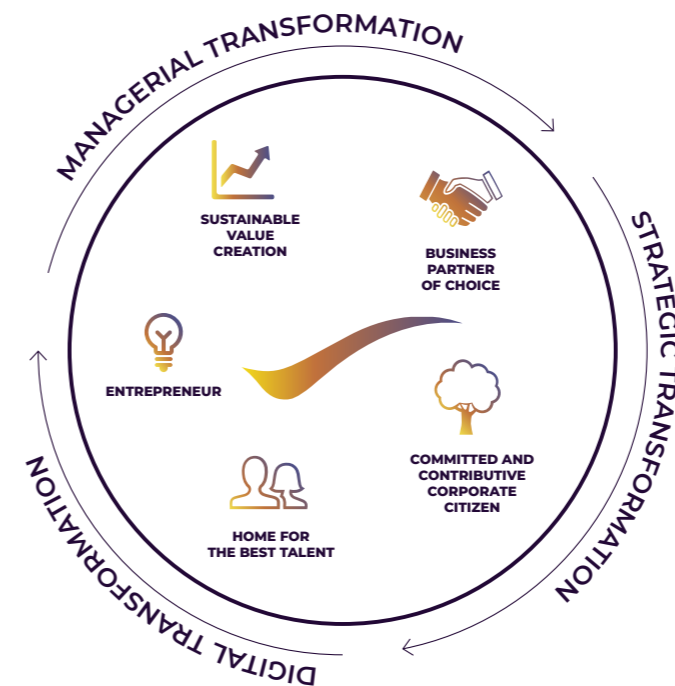
Titanium dioxide and high-purity cast iron, zircon and ilmenite

### Lithium BU

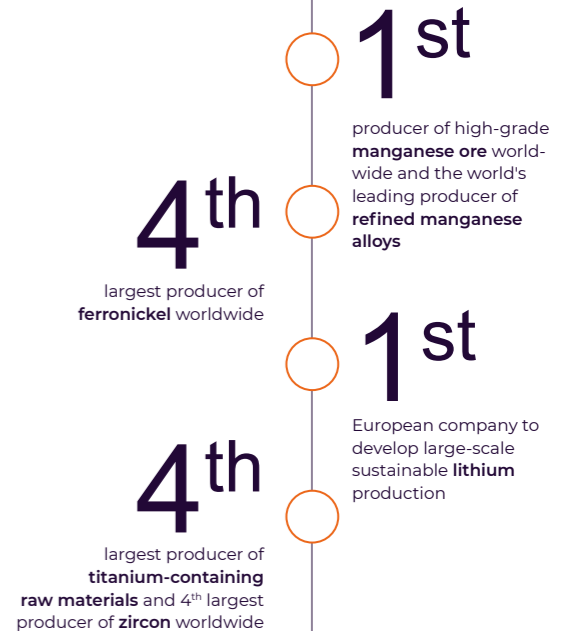
Lithium carbonate (beginning in 2024)



## OUR STRATEGIC VISION



## A LEADING INTERNATIONAL COMPANY



**8,523**

EMPLOYEES WORLDWIDE AT THE END OF 2021<sup>(1)</sup>

**66**

NATIONALITIES

**€ 3.668** billion

IN REVENUES IN 2021<sup>(1)</sup> OF WHICH

**26%**

OF MANAGERS ARE FEMALE

**62%**  
IN THE MANGANESE BU

**29%**  
IN THE NICKEL BU

**9%**  
IN THE MINERAL SANDS BU

**€ 784** million  
CURRENT OPERATING INCOME<sup>(1)</sup>

**€ 1 051** million  
EBITDA<sup>(1)</sup> 2021

**€ 526** million  
FCF 2021<sup>(1)</sup>

(1) Pursuant to IFRS 5 "Non-current Assets Held for Sale and Discontinued Operations," the financial and non-financial performance indicators presented do not include discontinued operations (see Chapter 3, Notes 2.1 and 3.2 and Chapter 6 of Eramet's 2021 Universal Registration Document). Excluding the IFRS 5 restatement, Group sales amounted to €4,499 billion in 2021, EBITDA to €1,031 million, current operating income to €751 million and FCF to €401 million. Including discontinued operations, the FR2 was down -46% and the workforce included 13,373 employees worldwide at the end of 2021.



# OUR CSR roadmap

Eramet implemented a CSR roadmap in 2018, focusing on 3 pillars and 13 objectives to be achieved by 2023. Aligned with the Sustainable Development Goals (SDGs) defined by the United Nations, this roadmap constitutes a precise program that guides the Group in the realization of its societal and environmental ambitions.



Together, these targets and the related progress reports reflect the Group's CSR performance.



## COMMITTED TO PEOPLE

AREA	KPI 2023	2021 RESULTS	2021 PERFORMANCE
1	Ensure the Health and Safety of employees and subcontractors	Zero fatalities Workplace accident frequency rate with and without work stoppage FR2 < 4	FR2 = 2.2 1 severe accident
2	Build skills and promote talent and career development	100% of worldwide employees participate in at least one training course per year	76% of employees
3	Strengthen employee engagement	Group employee engagement rate > 75% (barometer)	70% commitment rate
4	Integrate and foster the richness of diversity	30% of managers are female	26%
5	Be a valued and contributing partner to our host communities	100% of sites have established a mechanism for dialogue with local stakeholders, 100% of sites have implemented an investment program to contribute to local development, with a focus on actions in favor of young people	100% of mining sites: dialogue and IFC compliant community investment (CI).

## COMMITTED TO ECONOMIC RESPONSIBILITY

AREA	KPI 2023	2021 RESULTS	2021 PERFORMANCE
6	Be an energy transition leader in the metals sector	Committed diversification of Eramet's business portfolio in relation to the supply chain for electric mobility batteries	- Restart of the Centenario project (partnership with Tsingshan to begin lithium production in 2024). - Accelerate development of the Sonic Bay project with BASF
7	Actively contribute to the development of the circular economy	Quantities (t) of additional materials recovered through the circular economy action plan, 2Mt of low-grade incidental ores and tailings recovered over the 2019-2023 period 10kt of waste recovered in the period 2019-2023	1,227,000 tons recovered 127,000 tons recovered
8	Be a reference company in terms of respect for human rights in our field of activity	Recognition for our application of the United Nations Guiding Principles, measured by reaching a mature level according to the UNGP Reporting Framework (Shift-Mazars)	1) IRMA self-assessments (Indonesia, Thio and Tiébaghi) 2) Analysis of sites' compliance with the Group HR policy 3) Monitoring of the HR risk mapping action plan
9	Be an ethical partner of choice	100% of sales and purchasing teams trained on anti-corruption every year	60% of purchasers and salespeople trained
10	Be a responsible company of reference in the mining and metallurgy sector	100% of the Group's suppliers and customers identified as high-risk are in line with Eramet's CSR/Ethics commitments <sup>(1)</sup>	82% of suppliers and 99% of assessed at-risk customers are compliant

## COMMITTED TO THE PLANET

AREA	KPI 2023	2021 RESULTS	2021 PERFORMANCE
11	Reduce our atmospheric emissions	Tons of ducted dust emitted by industrial facilities: -80% in 2023 compared to 2018	-64%
12	Protect water resources and accelerate the rehabilitation of our mining sites by fostering biodiversity	Ratio of rehabilitated areas to cleared areas ≥ 1 over the period 2019-2023 <sup>(2)</sup>	1.32
13	Reduce our energy and climate footprint	KPIs: Reduction of tCO <sub>2</sub> /t outgoing product (ref. 2018) -26% in 2023 compared to 2018 <sup>(3)</sup>	-39%

(1) Identified as "high-risk" refers to parties evaluated as critical and/or sensitive (in terms of importance to Eramet or CSR risk – depending on the business activity or country concerned), which must be compliant, verified on the basis of a CSR/Ethics evaluation. If they do not comply following the evaluation, the Group encourages dialogue and support, but reserves the right to terminate the business relationship. (2) Excluding long-term infrastructure. (3) Of which 16.5% is due to the business mix effect related to the Group's strategic choice to develop its mining activity, which is lower in emissions than its processing activities.



# STRENGTHENING OUR CSR COMMITMENTS IN ORDER TO *preserve the world* IN WHICH WE OPERATE

Fully committed to the energy transition, we aim to become a reference for the responsible transformation of the Earth's mineral resources, for living well together... Whether it is in terms of social, societal or environmental responsibility, it is our efforts on the ground that set us apart and establish us as a committed, civic-minded corporate citizen. An overview of some of our latest initiatives.

## DIVERSITY AND INCLUSION

In addition to Eramet's own engagement programs, awareness-raising campaigns are conducted for local teams at our sites. In 2021, Eramine, our Argentinian subsidiary, distinguished itself by joining the Women in Mining network, achieving Great Place to Work® certification and receiving official recognition from the Ministry of Education, Culture, Science and Technology for its commitment to supporting education in the province of Salta (support programs for high school students, university scholarships, creation of a school radio station, organization of business courses and training with the Global Compact Chair, etc.).



**CREATION OF THE LÉKÉDI BIODIVERSITY FOUNDATION IN JUNE 2021 IN GABON.** Its mission is to ensure the long-term preservation of the Lékédi Park, reintroduce endangered species such as the great apes, restore biotopes, as well as study, raise awareness about and protect Gabon's biodiversity.

# 19

Eramet entities have already obtained ISO 50001 certification, which represents almost 90% of the Group's 2021 greenhouse gas emissions. These are the Group's main energy consumers and carbon dioxide emitters. The next in line to achieve certification are the Moanda mine and Metallurgical Complex in Gabon.



In 2021, Eramet joined the act4Nature International initiative, which aims to showcase projects that promote biodiversity at international events. The Group is rehabilitating more land than it clears (a ratio of 1.32) in the course of its mining operations.



## HOW WE CONTRIBUTE TO COMMUNITY DEVELOPMENT IN SENEGAL

Grande Côte Opérations (GCO), a Group subsidiary, has established a social mining program with the Senegalese government as part of its mining agreement. We are committed to making annual investments in local communities.

REPRESENTATIVES FROM GCO

A TRIPARTITE COMMITTEE IN CHARGE OF ALLOCATING FUNDS

REPRESENTATIVES FROM THE LOCAL COMMUNITY AND CIVIL SOCIETY

LOCAL ELECTED OFFICIALS

EDUCATION	ECONOMIC DEVELOPMENT AND DIVERSIFICATION	HEALTH	INFRASTRUCTURE
<ul style="list-style-type: none"> <li>• 8 schools refurbished.</li> <li>• 500 tables donated.</li> <li>• Annual financing for 7 student associations in the area.</li> </ul> <p><b>EXAMPLE:</b> Improved learning conditions for 8,500 students in the Diogo area. Students are able to continue their studies by living outside their community.</p>	<ul style="list-style-type: none"> <li>• Continued support to 13 EIGs created by GCO between 2015 and 2019.</li> </ul> <p><b>EXAMPLE:</b> The EIGs bring together more than 400 people. Most have service contracts with GCO. These EIGs are in addition to the 11 EIGs receiving support as part of the resettlement process.</p>	<ul style="list-style-type: none"> <li>• Purchase of medicines for health centers in 9 communities in the Diogo area.</li> <li>• Contribution to the operating costs of household garbage management for 12 villages surrounding the Diogo site.</li> </ul>	<ul style="list-style-type: none"> <li>• Financing for the building of the walls surrounding the Diogo bus station.</li> <li>• Financing for the water borehole in the village of Darou Beye.</li> </ul>

## 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) sixfold in five years; this translates into approximately 1,000 accidents avoided annually!



GOAL OF ZERO ACCIDENTS



Virginie de Chassey, Chief Sustainability and External Affairs Officer

"With a CSR roadmap performance index of 104 in 2021, we are ahead of schedule with regard to several commitments, such as reducing our carbon footprint and recovering our production waste. And our results thus far have emboldened us to redouble our efforts! We are now working on a new Responsible Mining roadmap for 2025-2030, and on the best way to implement our corporate purpose across all our activities and projects. Our goal is to consistently deliver both operational and CSR excellence. This is how we intend to become a reference."

## BECOME A BENCHMARK FOR RESPONSIBLE MINING

How do you go about managing and demonstrating CSR performance when it comes to a mine, a supply chain or a value chain? This is the challenge we are tackling by subjecting our 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. We are convinced that our efforts to meet the very highest CSR standards will provide us with a powerful differentiating factor in terms of our employees and future talent, as well as our customers, partners and local stakeholders.

# 400

EMPLOYEES FROM SENIOR MANAGEMENT, HUMAN RESOURCES, CSR, PURCHASING, SECURITY AND ETHICS HAVE TAKEN AN E-LEARNING COURSE ON "UNDERSTANDING AND INTEGRATING HUMAN RIGHTS INTO THE COMPANY."



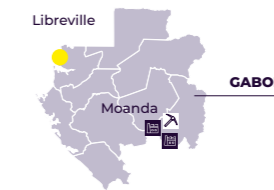


# MANGANESE TO SUPPORT ECONOMIC DEVELOPMENT WORLDWIDE

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.

**COMILOG SETRAG**  
**ERAMET MARIETTA**  
**ERAMET NORWAY**  
**COMILOG DUNKERQUE**

**M**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 million tons in 2021, it is currently the world's leading manganese mine. Our Manganese business unit 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. Their performance has been excellent, with total alloy production increasing by 7% to approximately 750,000 tons in 2021.



## 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. As on all Eramet's mining sites on the Bangombé plateau, the ore is

### A CLOSER LOOK

## MANGANESE

### COMPOUND

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.



# 25

graduates and 27 new students admitted to the School of Mines and Metallurgy in Moanda in 2021



teleconsultation booth in the Marcel Abéké hospital in Moanda, set up by Comilog in 2020

# 14,000

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

# €5.5 m

(i.e. approximately CFAF 3.7 billion) allocated to the CSR Fund in 2021 for health, education, infrastructure and sport



**“In 2021 Comilog became the world’s leading producer of high-grade manganese. We aim to consolidate this position by reaching 7.5 million tons per year. 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, CEO of Comilog

# 21

classrooms in 2 elementary schools in Moanda renovated in 2021 by Comilog, following on from 12 others in previous years

# 581

hectares rehabilitated in five years on the Bangombé plateau by Comilog

# 80%

reduction in carbon emissions in the electricity mix at Comilog’s plants



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 the composition of batteries and an essential ingredient in agrochemicals.

### ORGANIC GROWTH IN THE SERVICE OF THE COUNTRY

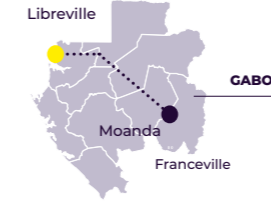
To enhance production on the Bangombé plateau, Comilog has been using a dry ore treatment process since 2018. Not only does it boost the mine’s production output, thanks to screening machines that sort the ore, but it also eliminates water consumption, resulting in a more environmentally friendly outcome. 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 or 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

As of 2022, the production target for ore has been raised to 7.5 million tons. This growth momentum is being supported by a program to renovate the Trans-Gabonese 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 the ISO 50001 energy certification. At the same time, the company has begun to move forward with its Mine 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 Trans-Gabonese railway serves 24 stations, transporting passengers, goods, concentrated ore and Comilog’s metallurgical products.

Franceville. 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.

### ITS OBJECTIVES?

To reduce travel time, increase track speed, improve passenger service, guarantee the safety of people living near the tracks as well as the safety of the trains carrying people and goods.



# 648

kilometers of railway track linking Franceville to Libreville

# 32,000

people educated about railway safety

The impact of the railway extends to the areas around the stations and the towns it passes through, in particular thanks to the 500 employees (out of a total of 1,200) who work at various points along the line from Ntoum to



Eramet's manganese alloys production facilities are spread across three continents: Eramet Marietta in the United States, Eramet Norway in Norway, Comilog Dunkerque in France and the Moanda 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.



**THE UNITED STATES: A STRATEGIC LOCATION FOR A UNIQUE PRODUCTION PROCESS**

Our plant is one of the few manufacturers of manganese alloys in operation in the United States. Eramet Marietta is also one of the largest producers in the country, manufacturing 120,000 tons of alloys per year. The plant manufactures mainly silicomanganese, ferromanganese and byproducts such as manganese tetraoxide and manganese slag. Its products are used by stainless steel producers and companies in the automotive industry. They are also in demand from steel producers (for the construction, energy and transportation sectors) and producers of special alloys (for the aerospace market). Manganese ore arrives from Gabon by ship. Loaded onto barges, it is transported to the Eramet Marietta site, located on the Ohio River. It is then mixed with other raw



materials in a unique process before being melted in an electric furnace. The molten metal is then tapped to make a final product that is free of impurities, before being cast and cooled. These pieces of cast manganese are then broken down into different sizes, according to customer requirements. Eramet Marietta is highly involved in its community and is committed to environmental protection, with a focus on reducing its CO<sub>2</sub> emissions, waste and water consumption. Its ISO 14001 and ISO 50001 certifications attest to the efforts that have already been made, such as the installation of a smoke collector filter to reduce emissions from the site's largest furnace or involvement in the creation of Good River Distribution, a new, highly energy-efficient water pumping and distribution facility. Eramet Marietta is also involved in supporting local associations such as the YMCA, the EVE domestic violence shelters and veterans' groups.

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

**\$50m** contributed to the local economy each year by Eramet Marietta

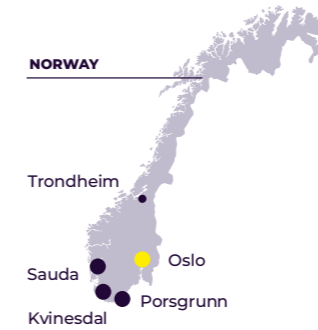
**43%** reduction in CO<sub>2</sub> emissions: this is Eramet Norway's target for 2030



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

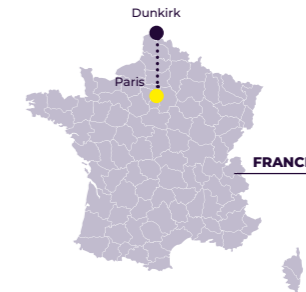
**Kleber Silva,**  
Chief Operating Officer

**\$60m** invested by Eramet Marietta in energy efficiency projects on air quality over a period of more than ten years



**IN NORWAY, THE ENVIRONMENT IS SECOND NATURE**

A world leader in refined manganese alloys, Eramet Norway manufactures products for use in the production of steel. Located on fjords in the southwest of the country, its three plants are mainly supplied with manganese ore from the Comilog mine: Eramet Norway Kvinesdal has three silicomanganese furnaces and a thermal power plant that generates about 80GWh of electrical energy and large quantities of thermal energy for a nearby fish farm; Eramet Norway Porsgrunn specializes in refined ferromanganese alloys; Eramet Norway Sauda is the largest manganese foundry in Europe and one of the world's leading producers of refined ferromanganese. Eramet Norway is engaged in a number of noteworthy environmental initiatives, including sourcing electricity at a competitive price from two wind farms in Norway. In order to reduce the carbon emissions at its plants, Eramet Norway has renovated a furnace on the Sauda site, which is showing promising results. Its penchant for innovation has led it to develop an industrial pilot for the production of manganese alloys that do not result in any CO<sub>2</sub> emissions, thanks to a bio-reduction process.



**IN FRANCE, THE FOCUS IS ON QUALITY**

Comilog Dunkerque processes manganese ore from Gabon. The company specializes in the production of silicomanganese, which is then used to enhance the mechanical properties of certain materials and in particular to toughen steel. Its toughening properties make it particularly sought after by European steel industry customers in search of quality products.

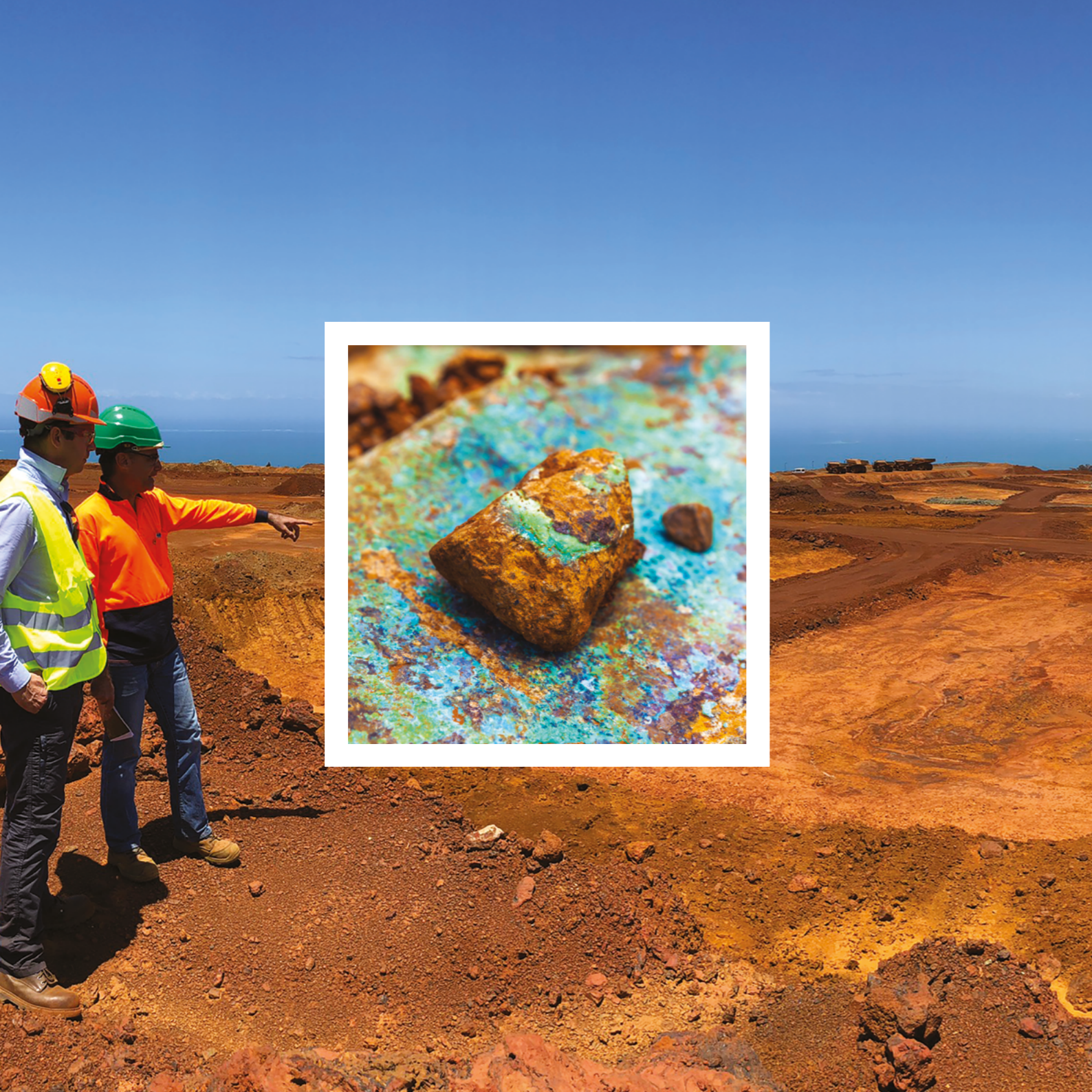
**LEARN MORE**

**FIRST PAH-FREE ELECTRODE FURNACE**

The electric furnaces in Eramet Norway's plants are heated using electrode pastes containing PAHs (Polycyclic Aromatic Hydrocarbons), which are highly toxic to human health and the environment. The teams at the Kvinesdal plant have developed a PAH-free paste. The plant's furnace is the first in the world to be equipped with this technology.







# NICKEL: A HISTORIC METAL, 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.

**SLN | WEDA BAY**

Utilized in the construction industry, transport, 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 long-standing subsidiary. Via SLN, we operate five nickel mines and a pyrometallurgical plant that produces ferronickel. SLN exports of nickel ore are growing, 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 in Indonesia, 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.

A CLOSER LOOK

## NICKEL

### COMPOUND

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.

### ITS STRENGTHS?

Nickel also offers greater energy density in electric vehicle batteries, which makes it an essential metal in terms of the energy transition.







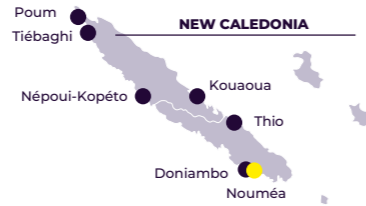
**7,000**  
rare and  
endangered plant  
species seedlings  
planted in 2021  
by SLN

**39**

hectares rehabilitated  
in 2021 by SLN in New  
Caledonia (ratio: 1.5)

**5.4**

million wet tons  
of ore produced  
at SLN in 2021



**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 facilities and “offsite” mines, all of them opencast. SLN is the world’s fourth largest producer of ferronickel—with 39,000 tons of contained nickel produced in 2021—a product intended for the stainless steel market.

Its mines are located at altitudes of 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. In 2021, this ratio stood at 150% i.e. 39 hectares rehabilitated.

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 dumps 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.

In addition, for several years SLN has provided financial support to local development projects in the communities in which it operates. For example, in 2021 SLN helped finance the construction of a local housing development, the installation of a drinking water system, the expansion of a port, renovation work on a road and the restoration of forests (reforestation and control of invasive species).

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 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 35,000 tons of contained nickel.

In 2021, the Weda Bay mine produced 14 million wet tons, of which 10 million tons were either shipped to the joint venture plant or sold to the ferronickel production plants located in the industrial park near the mine.

In line with Eramet’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 it be in terms of preserving biodiversity (demarcation of plots to be cleared, planting local species in nurseries, restoration of damaged areas), water protection, management of waste rock (construction of waste rock piles, whose creation is incorporated into the mine planning process) and waste management.

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

partners in the Weda Bay Industrial Park. Numerous initiatives relating to economic development, education, health and culture have been undertaken as part of this program.

**92%**  
The proportion of local  
employment at Weda Bay Nickel



**“With high-potential deposits and unique metallurgical know-how, Eramet is well positioned to supply the critical metals needed for the energy transition. This partnership with BASF to produce an intermediate nickel and cobalt product in Indonesia, is an excellent opportunity that is in line with our ambition to provide 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

**A STRATEGIC  
PARTNERSHIP  
WITH BASF**

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 battery-grade nickel and cobalt salts using ore from the Weda Bay mine. Teams from the two European partners pursued their work in 2021. And this work is being accelerated in 2022.







# MINERAL SANDS: INCREASED MOMENTUM FOR GROWTH

Ilmenite, rutile, leucosene 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.

**GCO** | **TTI**

**W**e are now the world's fourth largest producer of titanium raw materials and the fourth largest producer of zircon worldwide. We operate in Senegal, via our subsidiary GCO (Grande Côte Opérations), and in Norway, where the TiZir Titanium & Iron (TTI) metallurgical conversion plant produces titanium dioxide slag and high-purity cast iron from ilmenite supplied by Grande Côte Opérations.

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 has 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.

**64,000**

tons of zircon produced in 2021 by GCO, Eramet's Senegalese subsidiary



# 98%

of the sand filtered by the facility is returned to the dunes



# 180

hectares rehabilitated each year, on average, by Grande Côte Opérations

# 1,714

direct and indirect jobs in Senegal



**“There is a way to conduct large-scale mining operations that complies with the highest standards of sustainable development. The company needs to continue to build its competitiveness by undertaking new projects that benefit all of our stakeholders.”**

Guillaume Kurek, CEO of GCO

# 1<sup>st</sup>

mine in Senegal to receive ISO 14001 and ISO 50001 certification



### SENEGAL, A MAJOR GLOBAL PRODUCER OF MINERAL SANDS

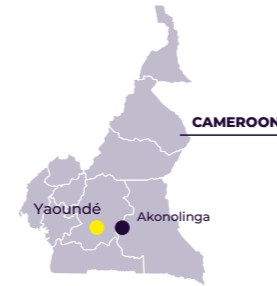
GCO's mineral sands mine is located along the Senegalese coast. The concession begins approximately 100 kilometers north of Dakar and stretches northward for more than 100 kilometers. The world's largest mining dredge (50 meters long and 17 meters wide) operates on a 600-meter long and 300-meter wide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

In 2021, mineral sands production increased to a record level of 804,000 tons (up 6%), thanks to strong operational performance as well as the higher average grade of sand



extracted from the deposit over the year. Zircon production increased by 8% to 64,000 tons.

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 13 local Economic Interest Groups (EIGs) involving 400 people, as well as through support for education and access to healthcare.



### STATE-OF-THE-ART METALLURGICAL CONVERSION TECHNOLOGY IN NORWAY

Established in 1986, TTI's metallurgical conversion plant is located in Tyssedal, in southwestern 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 215,000 tons of titanium dioxide slag and 85,000 tons of high-purity pig iron. The facility, which employs nearly 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 TTI site reached

209,000 tons in 2021, an increase of 5%, which represents the plant's best annual production performance since it began operating.

In order to achieve carbon neutrality, the TTI 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. TTI's Hydrogen Project is one of two Norwegian projects that are part of the European IPCEI (Important Projects of Common European Interest) scheme relating to the industrial use of hydrogen.

LEARN MORE

## AKONOLINGA

In Cameroon, we have 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 to diversify our product offering in the highly profitable rutile market and further strengthen our sand mining activities.

Alongside 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, as well as 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

Against 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.



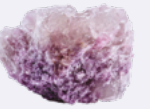
## A WORLD-CLASS PRODUCTION FACILITY

Our Lithium business unit 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

### LITHIUM



## CHARACTERISTICS

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

## COMPOUND

Lithium compounds, of which lithium carbonate is the most common, are mainly produced from:

- salar brines, large salt lakes located mainly in the "Lithium Triangle" in South America (Chile, Argentina, Bolivia)
- lithiferous minerals, mainly spodumene, which is mined in Australia.

## USES

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



# 292,000

tons of lithium carbonate equivalent (LCE) consumed worldwide in 2020



# 90%

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

# 1.1

million tons of lithium carbonate equivalent (LCE) reserves



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

Christel Bories,  
Chair and CEO of Eramet

Along with Chile and Bolivia, Argentina is part of the “Lithium Triangle” which, according to various institutes, is estimated to contain 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:

- The 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.



#### THE FUTURE PRODUCTION FACILITY SCHEDULED FOR 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. Ownership of the company's share capital is as follows: 50.1% held by Eramet, 49.9% held by our partner.

Eramet is in charge of overseeing the project and managing operations. The plant will have an annual production capacity of 24,000 tons of lithium (LCE). It is scheduled to start production in early 2024 and it is expected to reach its nominal capacity by the second half of 2025. The large size of the deposit means that further expansion is possible via the construction of other similar plants.

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



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

### EUGELI

The EuGeLi (European Geothermal Lithium Brine) project is a collaborative research project involving a consortium of nine partners.

Completed in December 2021, it has enabled the first ever production of lithium carbonate using geothermal water in Alsace.

#### ITS OBJECTIVES?

The goal for 2022 is to supplement these technical studies with an economic assessment in order to determine whether the project should continue.





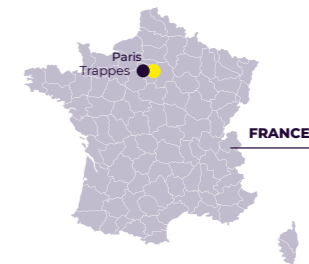


# ESTABLISHING OURSELVES AS A EUROPEAN CENTER OF EXCELLENCE

Developing metals for the energy transition, producing more and better, consolidating our positions in the markets of the future, devising new products and services to meet today's requirements and tomorrow's needs... these are the challenges that Eramet Ideas helps us to meet.

## ERAMET IDEAS

**E**ramet Ideas—which stands for Innovation, Development, Engineering for Advanced Solutions—is our research and innovation center. Its areas of expertise include: geometalurgy (using sample analysis to help manage the mining of complex deposits), hydrometalurgy (the processing of ore using chemical solutions), and pyrometalurgy (the processing of ore by means of melting and reduction at very high temperatures). Eramet Ideas is also studying solutions for recycling industrial waste in order to promote the circular economy and reduce the Group's environmental footprint. To drive sustainable performance, Eramet Ideas is focused on open innovation, an approach that involves reaching out to industrial and academic partners, with the aim of generating a challenging culture of knowledge sharing in order to become recognized worldwide as the leading center of excellence in Europe.



Among its latest achievements, Eramet Ideas has assisted Comilog and Weda Bay to increase their capacity and is behind the development of the optimized lithium recovery process at Centenario-Ratones.

And in order to generate potential opportunities for long-term growth that can succeed the projects currently underway, we are supported by our Exploration Unit, a development pipeline for promising ideas for which the development time, from exploration to investment, is approximately ten years. This unit focuses mainly on the metals in our portfolio (lithium, nickel, manganese, cobalt, mineral sands).



“Value creation is central to our approach to innovation, the aim being to increase the number of potential industrialization opportunities for both the Group's plants and our customers and partners. It is an essential condition for contributing to the transformation of the mining and metallurgical industry and enabling it to meet the great challenges that lie ahead of us in this century.”

Laurent Joncourt,  
Chair of Eramet Ideas,  
the Group's center of excellence



# Innovating TO MEET THE NEEDS OF THE PRESENT AND LOOKING AHEAD TO THE NEEDS OF TOMORROW

In order to meet the societal, economic and technological challenges that we face on a daily basis, we are committed to innovation and to our digital transformation. This is also enabling us to improve our CSR performance (installation of telemedicine booths, introduction of connected tires to improve safety, environmental protection at our mines, water management using connected sensors, etc.) and to make our mines and plants 4.0 a reality. Eramet's approach to innovation involves both the Eramet Ideas center and people on the ground in order to guarantee the effectiveness of the various programs from design to their on-site implementation.

## DATA FACTORY

CREATION OF A DATA FACTORY TO PROMOTE THE USE OF ARTIFICIAL INTELLIGENCE: OPTIMIZATION OF METALLURGICAL PROCESSES (NORWAY, NEW CALEDONIA), PREDICTIVE MAINTENANCE OF RAILWAY TRACKS (GABON), ETC. THE APPLICATIONS ARE MANY AND VARIED.

# 300

employees dedicated to innovation across the Group



## RESPONSIBLE MINING INNOVATION CHALLENGE

The start-up Bind-X, which offers an innovative solution for controlling dust emissions, has won the 2021 Open Innovation Challenge, organized by Eramet Ideas in partnership with EIT RawMaterials.

# 28

EUROPEAN COLLABORATIVE PROJECTS currently underway

## Digital Transformation

Certification in drone piloting for Setrag's mine surveyors and civil engineering structure inspection teams in Gabon; certification training in data science for geologists and metallurgists in New Caledonia; use of artificial intelligence (AI) to optimize manganese alloys production in Norway, etc.: digital technology is transforming the world of mining and metals.



# €35 m

(i.e. roughly 1% of our revenue) devoted to innovation

## 1<sup>ST</sup> MICROSCOPE IN EUROPE WITH THE QEMSCAN MINERALOGICAL ANALYSIS SOFTWARE

## RECYCLING ELECTRIC BATTERIES: AN AMBITIOUS CIRCULAR ECONOMY PROJECT

In partnership with Suez, Chimie ParisTech and the Norwegian University of Science and Technology, we are developing an innovative closed-loop recycling process for Li-ion (lithium, nickel, cobalt) batteries.

Our goal is to create an integrated industrial sector, from the collection and dismantling of batteries at the end of their useful life to the recycling of the materials they contain, in order to help secure metal supplies for Europe's energy transition.

To this end, Eramet Ideas has developed the recycling process that, thanks to the Group's expertise in mineral processing and hydrometallurgy, provides high-yield levels and complies with future European battery regulations. Several test campaigns carried out on a laboratory scale and then on a pilot scale at Eramet Ideas



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.

The success of these pilot projects and the results obtained mark an important milestone in terms of developing an industrial recycling solution for the European market, toward which Eramet's teams are continuing to work. This project is expected to contribute to the creation of a European short-loop recycling industry.



"The Group's future developments depend on the men and women working at Eramet, who constitute our greatest asset when it comes to performance. Energy transition, mines and plants 4.0: these are exciting challenges. Working for the Group means embarking on an ambitious path to sustainable performance."

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



# AN AGILE & PROACTIVE *management* APPROACH

To meet the challenges of tomorrow and the need for rapid transformation, the Group has set up a streamlined organizational structure to facilitate agile and responsive management.



From left to right: Jérôme Fabre, Virginie de Chassey, Jean de l'Hermite, Kleber Silva, Christel Bories, Geoff Streeton, Nicolas Carré, Anne-Marie le Maignan.

## EXECUTIVE COMMITTEE

The Executive Committee is made up of representatives from both Operational and Support departments. Each of its members is an advocate for the Group's corporate purpose and is committed to achieving the objectives it enshrines.



## OWNERSHIP OF THE COMPANY'S SHARE CAPITAL AS OF DECEMBER 31, 2021



## THE GROUP'S CORPORATE PURPOSE 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 to support societal development and decarbonization."

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

#SUSTAINABLEMETALS



"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



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

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

#SUSTAINABLEVALUECREATOR



"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



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

Jean de l'Hermite, General Counsel

#PREFERREDPARTNER



"Making Aubert & Duval a benchmark supplier to critical French and European industries."

Jérôme Fabre, Executive Vice-President High Performance Alloys Division

#PREFERREDSUPPLIER





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