



CALDERYS
LEADING
IN HIGH
TEMPERATURE
SOLUTIONS

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THE RIGHT SOLUTIONS FOR HIGH TEMPERATURE APPLICATIONS

➤ **High temperatures imply high energy, and as industries around the world adapt to the energy transition and strive to reduce their carbon emissions, Calderys can play an important role in helping to reduce this footprint with high quality, efficient, and sustainable solutions.**

Calderys is a leading provider of products and services for high temperature applications in the field of refractories, steel casting, metallurgical fluxes and molding processes. Our materials know-how allows us to offer the right solution for our customers, whatever their high temperature challenge. We draw on our global technology networks, our technology center and our numerous formulation labs to find new and creative ways to unearth the value of minerals through market-driven product developments.

Leveraging over a century of experience, a global presence, and a truly diverse team, we work closely with customers and suppliers to turn our unique process insights into industrial solutions. We're continuously looking to improve and innovate. We ensure an end-to-end offer with tailored services to meet our clients' challenges. We see our customers as partners; our aim is to be the best in class in terms of services.

LEADING THE WAY



As a world leader in high temperature solutions, Calderys has a pivotal role to play in ensuring that companies — from small-scale entrepreneurs to industry leaders — are equipped to meet the demands of tomorrow, and in pushing the boundaries of innovation and excellence in our sector.



Industries around the globe are rapidly implementing changes to overcome the complex challenges defining our era. With more than two-thirds of the world’s population expected to live in urban areas by 2050, the demand for essential materials needed to extend buildings and infrastructure — such as high-quality steel, iron and cement — is set to soar in the coming decades.

Meanwhile, climate targets and a boom in e-commerce are pushing the transportation industry towards electrification and lighter vehicles, further driving demand for high-grade steel, aluminum and heat-resistant components.

As such, it is my conviction that the transformation of the high temperature solutions landscape calls for a new definition of expertise — one underpinned by precision, agility and, above all, new standards of customer-centricity.

At Calderys, we strive for improvement, to provide the right products, services, and solutions, to meet customer needs without compromising on safety and environmental stewardship.

AN EXCITING NEW JOURNEY

As a privately owned company, proud of its long history and global footprint, we face this new era with optimism and aspirations but without complacency.

Our promise is founded on our global infrastructure of local plants and suppliers, our truly diverse team of experts and 100 years of process insights and technical know-how. But it is also propelled by our exciting new journey to push the frontiers of automation, process innovation and intelligent software. Our investments in digitalization are a vital part of how we maintain top-notch safety standards, use our resources more efficiently and contribute to the health and climate ambitions of our partners around the world.

We’re a people business — our skilled teams work closely with our customers whatever the challenge. As a market leader and pioneer, our goal is to be the best in class, to be the best partner for our customers and set a new benchmark for the industry.

Thanks to our people, there are no limits to what we can achieve.



Michel Cornelissen
President and
Chief Executive Officer Calderys



CALDERYS AT A GLANCE

Calderys leads the global market in high temperature solutions, based on unique process insights from refractories to casting fluxes and molding solutions.
Calderys boasts an international network of top local experts and a full century of field experience.

INDUSTRIES WE SERVE

Calderys serves all major players in high temperature industries, from choosing and tailoring the right product and equipment to designing and applying our groundbreaking installation techniques.



> IRON & STEEL

Our product portfolio ranges from acidic monolithics to basics and bricks, while our services include everything from ironmaking and continuous casting to the supply of equipment for the full steel process.



> FOUNDRY

As experts in both ferrous and non-ferrous foundries, we offer an array of turnkey solutions for foundry refractories, as well as core and molding sand additives.



> THERMAL

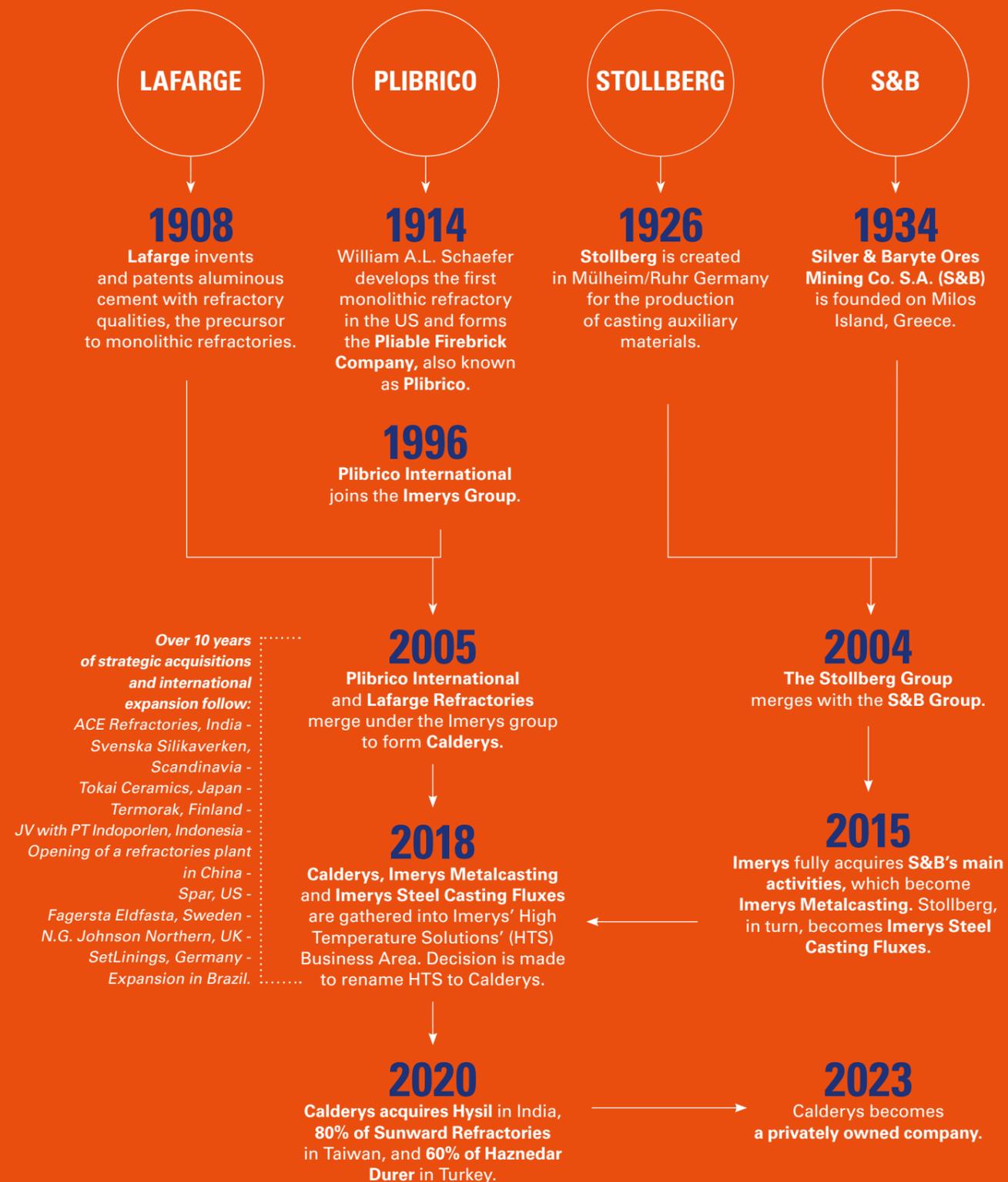
We offer a wide range of products and services for boilers and incinerators, as well as high temperature solutions designed for aluminum, cement, and petrochemical projects.

OUR SERVICES

Calderys provides a full range of services to customers to deliver a world-leading offer of products and high temperature solutions. These include:

- Material selection & customized fluxes formulation
- For refractories: engineering & design, installation, dry-out & commissioning, maintenance, assessments
- End-to-end project management
- Technical support

A WORLDWIDE HISTORY of combined expertise





CALDERYS IN NUMBERS

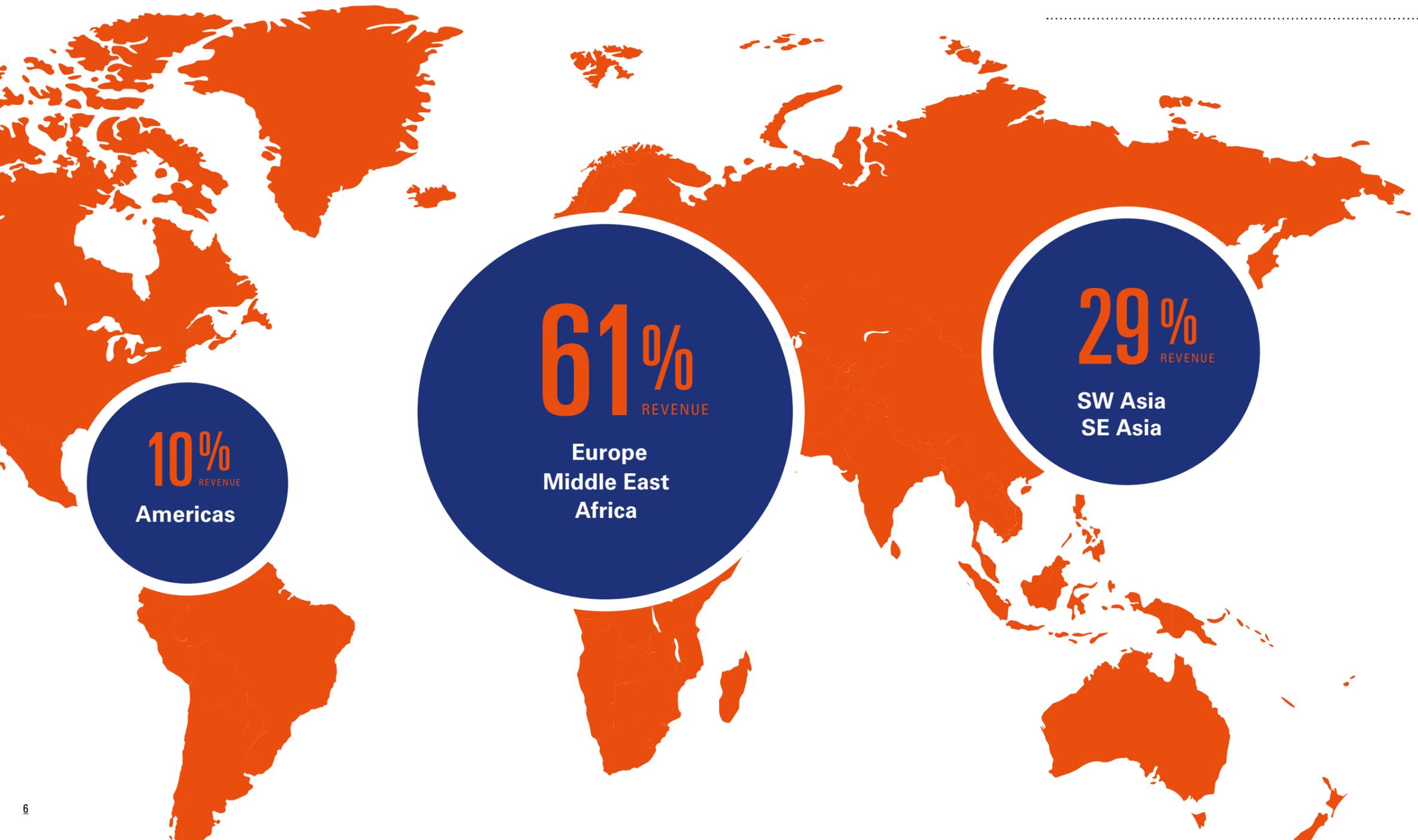
Calderys has broken down barriers to create a truly global refractory network spanning production plants, local labs, sales offices, engineering centers, external partners, and full-time workers on customer sites.

SEGMENT BREAKDOWN*

~41%
Iron & Steel

~24%
Foundry

~31%
Thermal



10%
REVENUE
Americas

61%
REVENUE
Europe
Middle East
Africa

29%
REVENUE
SW Asia
SE Asia

100+ years' experience

€981** million revenue

6,000+ customers served

30+ countries host our operations with sales in **100+ countries**

36 plants in **16 countries**

5,000+ people worldwide including **2,000+** contractors

50+ nationalities

* 4% others

** Based on 2022 results

IRON & STEEL



As a prominent ally to the Iron & Steel industry, Calderys has steadily enlarged its service solutions from ironmaking and continuous casting to a full range of steel processing equipment. With innovation and sustainability as fundamental parts of our DNA, we have pioneered a tremendous number of new applications, such as low volatile emission tap-hole clay for blast furnaces and our cutting-edge mold fluxes.



Using the same vision to develop applications at the steel workshop, the product portfolio has been significantly enlarged from acidic monolithics to basics and bricks. Calderys provides a complete range of products and bespoke solutions, meeting the demands of every project with the highest level of efficacy.

SERVICES

Calderys' tailored service packages are created with end-to-end solutions in mind, covering every possible customer need. Our selection of products and vessel designs optimizes cost efficiency and meets the user's metallurgical aims — from steel cleanliness to process productivity. We carry out high-quality installation services using cutting-edge, in-house equipment, and we also provide complete project management services including consultation, planning, supervision, site management and training. In order to provide the best possible maintenance service, we offer robotics combined with digital equipment designed to enhance the efficiency of our products and reduce the need for on-site maintenance.

IRONMAKING & DRI

Calderys' products and services are underpinned by state-of-the-art innovation, pioneering implementation techniques and ambitious customization. Our portfolio covers every step of the ironmaking process, from the coke oven and sinter plant to the blast furnace, casthouse floor and hot metal transport and treatment, including the new Direct Reduction Iron process (DRI) that will require an H2-compatible refractory solution.

- Blast furnace stack gunning or shotcreting
- Tap-hole clay customization and innovation
- Complete lining for runners
- Refractory solution for DRI, H2-compatible

STEELMAKING

Our comprehensive product portfolio includes shaped and unshaped refractories, both acidic and basic, covering all application demands.

- Complete refractory solutions for BOF's, from initial lining to full range of repair products and services
- A market player in products and services for EAF
- High technology and economic solutions for all ladle requirements
- Complete product portfolio for secondary steelmaking applications
- Dedicated hot and cold repair products and machinery to extend vessel availability
- Smart Tundish solutions and refractories, including flow dynamics simulations and studies

CONTINUOUS CASTING

Our internationally recognized casting fluxes are tailor-made to fit with any type of casters and steel grades. The performance of these customized fluxes can be enhanced by the continuous and controlled feed from our automatic feeders. In its third generation, the automatic feeder will incorporate additional digital services to facilitate the monitoring of the continuous casting.

REHEAT FURNACES

Calderys refractories for reheat furnaces include customized solutions for every type of furnace up to 1,500°C. Our solutions optimize the overall cost/performance covering installation, manpower, energy consumption and CO₂ emissions. We offer local services thanks to an extensive network of Calderys plants around the world.

FOUNDRY



Calderys is a one-stop shop for all aspects of metal processing for both ferrous and non-ferrous foundries, from melting, treating and transferring to the casting process. Our teams have accumulated valuable insights from local and international projects, and today we offer unique engineering know-how as well as state-of-the-art products, project management, and customized installation services.

SERVICES

Calderys conducts extensive analysis of materials, and our customers' unique processes and equipment to provide finely tailored solutions, including thermal profiling and innovative installation techniques. We offer vibrating equipment, wall and bottom compaction for coreless induction furnaces (CIF) as well as a wide range of pre-shaped solutions. Calderys' specialized project engineers are equipped to plan and control every aspect of the project life-cycle, from concept to definition, installation, dry-out and commissioning. Our project management services also include engineering, delivery scheduling, site and sub-contractor management, and staff training. Remote assistance and technical service provide sustainable, safe and rapid expertise. We also offer consulting services in molding line and defect management for high-quality casting.

In addition to permanent on-site predictive maintenance and repair, Calderys carries out off-site relining of all foundry equipment at our German site. We also offer special linings solutions and repairs thanks to a wide range of gunning, self-flowing, patching and dry, semi-wet or plastic ramming materials.

Calderys can also track silo materials in real time from stock to delivery with smart sensors that alert the customer when the silo stock is low and send an automatic purchasing order through the ERP system.

> CASTABLES

Calderys' castables bring superior performance to many applications, including bricks, without compromising on ease of installation. Our castables offer high abrasive, alkaline, carbon oxide and corrosion resistance as well as quick drying.

> BRICKS

Calderys' bricks can be used in backup linings for installation and safety linings, iron channel holders, big ladles, large copper melting and holding furnaces.

> MELT SHOP ADDITIVES

Preventing refractory damage caused by zinc for any acidic, neutral and basic DVM refractory materials, Calderys' shield mix forms an impervious layer during the sintering phase to repel vapour ingress. The furnace operator benefits from increased robustness of the hot face lining, reduced coil damage caused by vapour condensation and improved reliability of the hot face lining when melting zinc-plated scrap.

> SLAG COAGULANTS & COATING MATERIALS

Using our own resources, we offer low-dust perlite as a slag coagulant for the reduction of heat losses and removal of slag from the melt surface of iron, steel or copper alloys to support further filtration and smooth mold filling — avoiding dross and corresponding surface defects.

MELTING SOLUTIONS

> LINING SOLUTIONS

We deliver refractory solutions for CIFs, cupolas, ladles, receivers, converters, holding and pouring furnaces, as well as bricks and specialty insulating materials. Our silica-based refractories range produced with Swedish quartzite boasts the highest grade of raw material in the world. Its excellent thermal stability Dry Vibrating Materials (DVM) and resistance to chemical attacks make it the perfect lining for both CIFs and inductors. The Spinel-forming DVMs product line is a historical industry benchmark for the steel coreless induction furnaces — containing highly refractory raw materials and well-balanced corrosion resistance.

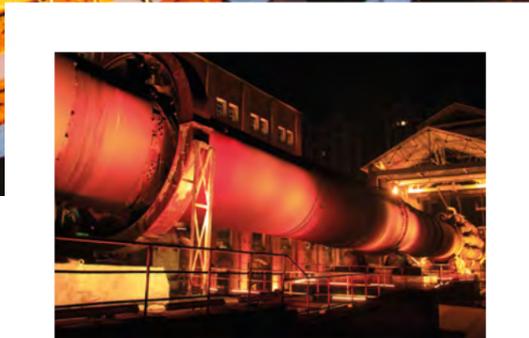
MOLDING SOLUTIONS

We offer a wide range of innovative solutions tailored to customer specifications for molding sand additives that guarantee top-of-the-line health and environmental safety standards. Thanks to deep mineral and application expertise, Calderys delivers the best bentonites with high thermal stability and strength. For green engineered blends, our experts will formulate specific solutions based on site visits and thorough analysis. For core sand additives, we offer approved organic, inorganic, and hybrid solutions, to avoid expansion defects and allow, under certain conditions, coating free solutions. Our natural and synthetic special sands offer very high refractoriness at improved health and environmental safety standards.

THERMAL



Thermal industries have entered an era of transition: many companies are striving to increase the productivity of their operations in the face of supply chain volatility, stiff competition and mounting climate demands. To Caldeyrs, this is an opportunity to innovate and adapt our solutions for industries such as aluminum and non-ferrous, cement, petrochemicals and other industries.



On the back of a century of global process insights, on-the-ground site experience and a robust international supply chain, our teams offer the technical expertise and resources required for companies to stay ahead of competition. We minimize repair and maintenance downtime, maximize operations efficiency, and transfer our own top-of-the-line health and safety standards to our customers worldwide. What's our secret? Forgoing a uniform model, constantly fine-tuning solutions and working closely with our clients — from planning to execution.

SERVICES

Caldeyrs provides complete project management services including expert consultation, planning, delivery scheduling, supervision, inspection, site management and also direct training for customer personnel. At the heart of our management strategy is the determination to minimize downtime and maximize the cost-effectiveness of our clients' operations — without ever compromising on safety or environmental stewardship. Our experienced engineers also optimize the ideal dry-out schedule for each customer to ensure both energy savings and maximum performance of the refractory lining.

ALUMINUM & NON-FERROUS

As a world leader in monolithic refractory solutions for the aluminum industry, Caldeyrs serves all customers from primary and secondary producers to casting foundries. Our international teams are also reliable partners for zinc, copper, titanium, nickel, and other non-ferrous metals.

CEMENT

We work as a team alongside our customers, striving to deliver high-performing, reliable and bespoke solutions based on the knowledge we have cultivated over the past 100 years of serving the cement market.

ENERGY & ENVIRONMENT

Our worldwide operations and expertise allow us to propose the most suitable technical solutions for operating your waste-to-energy facilities — be it domestic, industrial or hazardous waste. We partner with engineering companies and plant operators to further develop gasification and other technologies (such as boilers and incinerators) that contribute to a circular economy through waste recovery and reuse.

CHEMICALS ENGINEERING & PETROCHEMICALS

From increasing the energy efficiency of an oil refinery to providing the best custom-made refractory solutions for hydrogen plant, Caldeyrs is dedicated to helping its customers transition to decarbonization. Whether you are a technology licensor, an engineering procurement and construction (EPC) company, an original equipment manufacturer (OEM) or an end user, the expertise of our diverse teams guarantees tangible results that optimize plant performance, shorten downtime and increase operations' safety and sustainability.

INDUSTRIAL MINERALS

Caldeyrs provides brick and monolithic refractory solutions for the extraction, refining, and beneficiation of industrial minerals. Our solutions are adapted to the type of furnace, the temperature requirements, and the type of minerals processed.



DELIVERING THE RIGHT SOLUTIONS

When it comes to extreme conditions, all our customers have their own unique requirements; a challenge fully embraced by Calderys, making us a market leader in high temperature solutions. We consider all their constraints to ensure we provide the right solution offering the best results.

CHANGING CLIENT NEEDS



Global warming, automation, and changes in globalization are forcing an unprecedented shift in the way we produce, consume, travel, and build for the future.

At the same time, technological innovation is creating new possibilities while putting pressure on finite resources. As a consequence, companies around the world are caught in a balancing act between the need for less energy-intensive industrial processes and rising demands for productivity and efficiency.



OUR PHILOSOPHY



These are complex challenges, and experience has taught us there is no silver bullet that can respond to all at once.

Rather, the situation calls for a wide range of solutions; some involve delicate adjustments to existing formulations, others require a totally new and disruptive approach. Some actions can be implemented straight away, others require medium- and longer-term planning. Sustainability is a key component of customer needs and one of our strategic priorities. We have a responsibility to help industries meet the needs of a rapidly changing society, be that in building new housing and offices for a growing urban population, extending and refurbishing infrastructure, or providing high-quality materials for the booming e-vehicle sector, in the most sustainable way.



END-TO-END SOLUTIONS



Calderys provides solutions with a level of precision, discipline, and expertise to guarantee their ultimate efficacy. That means an end-to-end offering of tailored solutions, where future challenges are predicted, energy efficiency is prioritized, maintenance is incorporated, and cost-savings are guaranteed by reduced downtime, smart troubleshooting, and innovative process optimization. Above all, we see our customers as partners, and our teams bring the same dedication to performance to every project — large and small.



RELIABILITY



The ability of our industry to rapidly adapt to a new energy and technological paradigm requires reliable delivery of both top-quality materials and services. Calderys possesses a dynamic worldwide network of suppliers and logistical infrastructure, which provides supply-chain security and enables us to stay close to the operations of our customers. We work continuously to extend our global network and make it even more robust, agile, and aligned with the evolving needs of our customers.

INNOVATION



Calderys has embarked on an exciting journey to strengthen innovation and address the challenges of the energy transition. Innovation is not limited to a single department; it is an integral part of our company culture. Our approach is to continuously improve, to test new ideas and solutions and develop practical solutions. We draw on our international network of technical support, quality control and formulation laboratories to find new and creative ways to unearth the value of minerals through market-driven product development, optimizing sustainable processes and digitalization.

PROCESS & MATERIAL INSIGHTS



The singular skillset of our teams has been accumulated over 100 years to formulate the right material solutions for our customers and partners around the world.

Today, we bring our unparalleled process insights to deliver cost and energy savings and increased productivity to all industries operating with extreme temperatures — from Iron & Steel to Foundry to Thermal.

HUMAN EXPERTISE & KNOW-HOW



Calderys is a melting pot of passionate people from different backgrounds and nationalities, each with their own specific expertise. Our diverse team is ultimately what allows us to

take a truly customer-centric approach, where no one model is ever considered to be beyond improvement and customization. Hundreds of customers around the world can testify to our unparalleled ability to manage projects and deliver the right solutions at the right time.



A PEOPLE BUSINESS

At Calderys, people are at the center of our strategy. They are the foundation of all our past successes and future achievements. They are at the heart of our ambition to foster a positive impact with all our stakeholders. More than 5,000 people, including 2,000 contractors in more than 30 countries contribute to and perpetuate our refractory expertise. Every day they build the future of our company through teamwork, dedication, customer focus and a proactive mindset.



AN EMPLOYER OF CHOICE

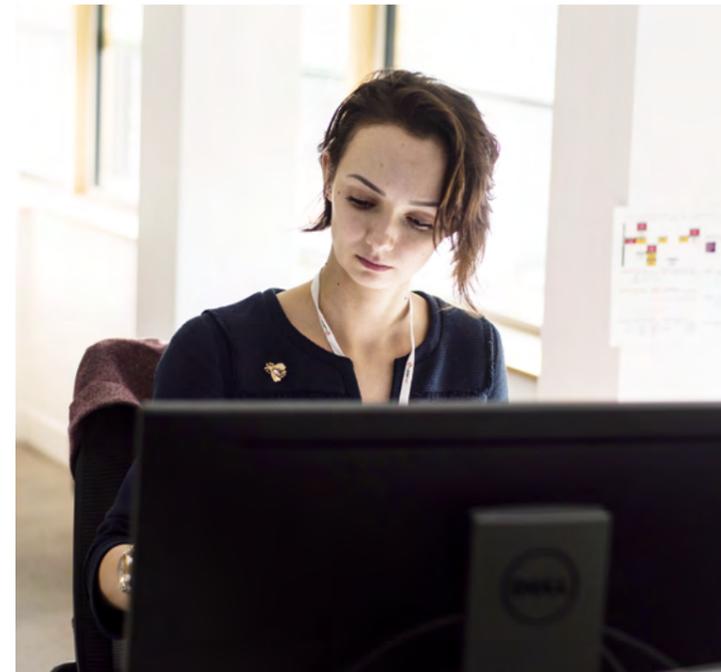
Our business is a people business. Our services and solutions depend upon the expertise and commitment of our employees. So we ensure that they have the scope and opportunities to develop their potential within an international and collaborative setting. We promote inclusive leadership – management has a critical role to

play in leading by example and supporting the wellbeing and sense of community of their teams. We aim to be an employer of choice. Calderys is an exciting place to work, with lots of opportunities for growth, and we are always looking to attract new talent.

A CUSTOMER ORIENTED CULTURE

At Calderys we operate in fast-growing and rapidly changing markets which offer lots of opportunities for growth. This environment requires an open mindset, strong business orientation, and agility to act and take decisions. Within an established framework, we encourage ownership and responsibility, setting new standards of customer focus.

Advising customers and helping them to choose the right solution that meets their specific needs is our "raison d'être". This involves blending products to get the perfect formulation. This means understanding our customer's needs, being resourceful, and applying our know-how to deliver the proper solution. It's a specific skill that our customers know they can rely on.



A DIVERSE AND INCLUSIVE WORKPLACE

For an international company, working with customers around the world, diversity and inclusion are of great importance. They go beyond ethics and corporate responsibility by embracing different ideas, cultures, and backgrounds to promote creativity and innovation which provide solutions to customer challenges and generate concrete results.

We set the tone from the top: our management team includes seven nationalities and women hold one third of senior management positions.

At Calderys we pay close attention to building a diverse and inclusive workplace, mirroring our customers. We embrace team spirit and ambition, and we promote equal access to managerial positions for employees wherever they are in the Group.



KNOWLEDGE TRANSFER WITH CALDERYS ACADEMY

Calderys is a company where performance is recognized, and learning is promoted. As we strongly believe that people make the difference, we have developed Calderys Academy, our in-house learning program to welcome our newcomers, transfer our unique expertise, and promote our customer focused approach. It is an investment to build a shared identity and unite our employees around a common culture and ambition.

Calderys Academy provides a structured way of developing expertise from mature markets to new and fast-growing regions and transferring knowledge from senior experts to young trainees. With an effective combination of digital and participative modules covering theoretical topics and practical applications, it is designed to equip our employees with the skills to meet the demands of tomorrow.

Supported by passionate managers, Calderys is the place where our employees can thrive and fulfil their potential.

5,000+
people, including 2,000+ contractors

50+
nationalities



HEALTH & SAFETY

The same attention to detail that helps us provide personalized products and solutions is also applied to our rigorous health and safety criteria. We have procedures, controls, and company-wide safety standards to protect our own employees, as well as our subcontractors and temporary workers from exposure to hazardous situations. We integrate environment, health, and safety (EHS) into how we run our business to ensure that management of risk and regulatory compliance are overseen at the highest levels of the company.



Since our people are our greatest asset, Health & Safety is a core value. Our goal is to achieve zero work-related illnesses and zero accidents. We maintain a strong Health & Safety culture across the business by focusing on the following priorities:

PUTTING SAFETY FIRST

We encourage our employees to take the time to do things properly and halt operations if safety conditions do not meet our standards and protocols. Leaders actively engage and visibly demonstrate their commitment to an incident-and injury-free culture.

PROMOTING COMMUNICATION

We encourage continuous improvement, an in-depth understanding of protocols, clear communication, the scrupulous application of best practices and a serious approach to all incidents.

TAKING OWNERSHIP

We encourage employees to understand the impact of their individual responsibilities towards themselves, colleagues, contractors and clients — both inside and outside of the company.

WORKING TOGETHER

We encourage everyone to treat safety as a collective effort, stepping in if they see a high-risk situation — for themselves and their teammates.

7

critical safety standards

5

step safety process to strengthen awareness and prevent accidents

PREVENTION & AWARENESS

Our stringent health and safety protocols go beyond reporting and filing obligations. We are serious about awareness, prevention and continuous improvement, and all our programs, like occupational injury and illness prevention, are geared towards the ultimate goal of an injury-free workplace.

We cultivate this culture of prevention and responsibility by sharing best practices, showcasing achievements, and fostering positivity around safety through Visible Felt Leadership, which promotes ongoing discussions between all parties, from management to factory workers. Numerous measures are put in place to deter accidents, including a brief, five-step process carried out both individually and as a team before a shift or a specific task. This guarantees all employees take a moment to stop, think, and take into account any potential risks or workplace changes. Our performance is monitored and regularly reviewed to ensure our standards of conduct meet our high expectations.

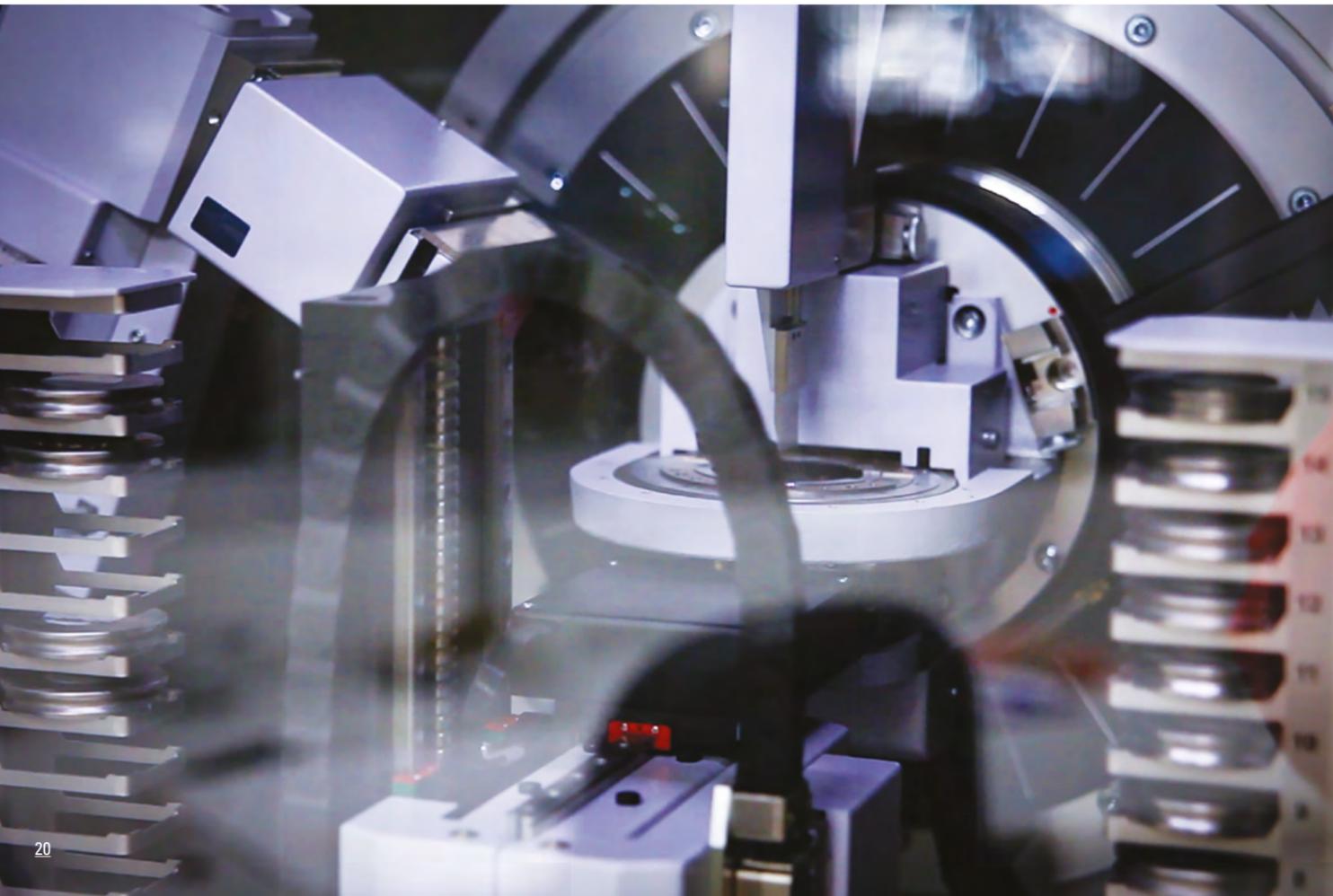
MINIMIZING RISK ON CUSTOMERS' SITES

Our key leaders, project managers and supervisors work hand-in-hand with our customers to create the safest work environment for all employees. All workers are given our detailed safety installation guides before they set foot on the site. Upon arrival, they are already familiar with our numerous protocols. In parallel, our risk assessment team provides in-depth, customized evaluation and monitoring.



A WORLD OF INNOVATION

Calderys has embarked on an exciting journey to strengthen our innovation and address the challenges of the energy transition. This involves combining incremental product evolution with disruptive solutions for a low-carbon environment. Sustainability underpins our R&D activity for both products and services. Digital tools will speed up development and leverage data to drive new solutions for our customers, their industries, and the planet.



Our innovation strategy is supported by five priorities

INCREMENTAL PRODUCT EVOLUTION

We serve our customers by improving what's already there — be it revamping equipment to increase yield or tweaking product formulas to cut installation or reparation downtime. For example, our special shotcreting material is 35% faster than standard shotcreting, and 70% faster than regular casting solutions, saving time, labor and money.



DISRUPTIVE SOLUTIONS

We leverage 100 years of expertise, material know-how, and strategic partnerships to push the frontier of high temperature solutions. We are working closely with partners in the steel industry on Direct Reduced Iron (DRI) production using hydrogen instead of coal blast furnaces. Another area of research involves extending the potential to store heat from new processes and reuse it later.

SUSTAINABLE SOLUTIONS

Our R&D teams continuously develop new formulas to provide sustainable solutions which are focused on three main aspects.

Removing hazardous materials. To reduce the environmental impact of certain hazardous materials from our casting fluxes we are working to replace them with alternative solutions with the same chemical properties. For example, in our tap-hole clay, the traditional binder is replaced by a partially bio-based material. Another example is a newly patented pump to install DVM* products that significantly reduce dust level during installation.

Increased recycling and reuse of materials. We are working closely with our customers to improve our recycling systems for the raw materials used in monolithic refractories and increase the share of reused materials in our formulas, while maintaining optimal performance.

Energy savings and longer product lifetime. We aim to help our customers with technology to save energy and extend product lifetime. Our CALDE® SOL cast technology for incinerators has a much quicker dry-out which reduces commissioning time by around 50% and significantly improves the lifetime. By integrating product lifecycle management, we ensure more sustainable and environmentally friendly solutions for our customers.

* Dry Vibrated Mix

IMPROVED SERVICES

We are continually upgrading our services and equipment to ensure our products are easy and safe to use. Some of our recent innovations include:

- Developing **long-term leasing options** for our machinery, offering customers more security and lower monthly costs.
- Devising **automation solutions** for flux distribution in steel casting on our Indian sites. By removing the need for manual labor, safety and production quality are increased while our environmental impact is reduced.

DIGITAL SERVICES AND SOLUTIONS

We use the latest digital tools for everything from enhancing our interactions with customers to optimizing stock levels to monitoring equipment and refractory processes.

- **CALDE® e-Supply** allows our customers to track their silo materials in real time from stock to delivery. Our smart sensors alert the customer when the silo stock is low and send an automatic purchasing order through our ERP system.
- **CALDE® Smart Lens** enables remote technical support, installation, and training in remote areas. The electronic goggles allow real-time exchanges of on-site technical drawings and pictures between customers and Calderys' technical experts — leading to instant support, reduced emissions, and safer operations.



A UNIVERSAL APPROACH TO SUSTAINABILITY

Calderys pays particular attention to our industry's impact on the environment. From the raw materials that we source and use in our products to the high temperature processes they serve.

We take a sustainable business approach that is built on three key features: helping our customers in their energy transition needs, improving our own environmental footprint and being committed to our people and the local communities.



HELPING OUR CUSTOMERS IN THEIR ENERGY TRANSITION NEEDS

Industries around the world are rapidly implementing changes to overcome the complex challenges associated with the energy transition. This often means addressing the carbon intensity of their high temperature industrial processes. Calderys can play an important role in helping our customers with high quality, efficient, and sustainable solutions. We aim to deliver new products and services to drive change across the industry.

Key areas of development focus on energy efficiency measures to reduce drying times and improve the insulating properties of our solutions, as well as new technologies to support the adoption of hydrogen as a fuel for energy intensive industries.

SUPPORTING STEELMAKERS IN THEIR TRANSITION TO GREEN STEEL

To tackle the challenges of hydrogen and natural-gas based applications, Calderys is developing adapted approaches and partnering with laboratories in several studies to design solutions for the iron and steel industries' evolving needs. While traditional steel plants produce on average 1.85 tons of carbon dioxide per ton of steel, these new processes, coupled with adapted refractory solutions, will enable steelmakers to drastically lower this amount to 0.2 tons of CO₂ per ton of steel by 2050.

35%

cut in water use with our CALDE®
MAG TUN solution for tundish lining.

30%

of reduced CO₂ emissions with
our CALDE® MAG TUN solution



LOWER ENERGY AND WATER CONSUMPTION FOR TUNDISH LINING SOLUTIONS

Calderys has developed a new energy-saving solution for tundish lining – CALDE® MAG TUN. With no water added, the tundish dry-out is more energy efficient, saving a standard steel plant up to 100,000m³ of natural gas per year. Compared to wet tundish spray, this innovative solution reduces CO₂ emissions by 30% and water consumption by 35%.

BORON-FREE CORELESS INDUCTION FURNACES

Calderys has launched an innovative range of silica mix solutions which improve the safety and performance of high-powered coreless induction furnaces (CIF). The boron-free products offer significant technical advantages, ensuring better resistance to thermal shock and cracking.



IMPROVING OUR OWN ENVIRONMENTAL FOOTPRINT

To protect our planet, we must act to reduce our environmental footprint. We strive to achieve this by increasing the circularity of our materials through recycling and reuse, and growing the share of renewable energy in our operations.

Tracking CO₂ emissions is the new paradigm. From procurement to production, we are sizing our carbon footprint and that of our customers to optimize and reduce emissions. With our lifecycle assessment solutions, we can calculate the environmental footprint of our products to help customers save energy or move towards greener energy.

We are working to develop circular business models from the design stage which incorporate systems to reduce consumption of virgin material and increase the share of reclaimed minerals ahead of demolition and replacement. Moreover, we are working to curb the use of toxic materials by replacing them with more environmentally friendly solutions.

We have stringent environmental management standards to preserve resources and protect biodiversity. We are committed to reducing the share of coal in our electricity generation. We have discontinued the use of coal fired power generation in India and will extend this approach to our operations in China. We are rolling out the use of solar PV panels where it makes sense to do so.

SOLAR PANEL ROOFTOPS

Our Pingtung plant in Taiwan has completed the installation of a rooftop mounted solar power system enabling it to generate an estimated 2.25 million kWh per year of green electricity. In addition, the solar panels have reduced the indoor temperature of the plant by around 3 – 5°C, reducing the need for air conditioning.

MORE SUSTAINABLE PRODUCTION IN BRAZIL

The teams from our plant in Guaratinguetá, São Paulo, have made several adjustments to the production process of core products used by the steel industry, to reduce emissions and cut down the use of virgin materials. As a result, by June 2022, the teams had cut CO₂ emissions by 30 tons/year and reduced both fluoride generation and the depletion of mineral resources.

100% POWERED BY RENEWABLE ENERGY

Our Höganäs plant in Sweden is our first site to be 100% powered by renewable energy. The plant's electricity comes from wind and solar power, while its gas comes from biogas – produced from agricultural waste, sewage and food waste.

ZERO DISCHARGE PLANTS

All our plants in India are zero discharge plants, which means that no industrial water is discharged into the environment. At our Katni plant, we have introduced a rain harvesting system which benefits not only the plant but also the nearby community of 3,500 people. Thanks to its dedicated filter system, the collected storm water is reused in our processes, for domestic purposes, as well as drinking.

BEING COMMITTED TO OUR PEOPLE AND COMMUNITIES

As a privately owned company, Caldeyrs is committed to maintaining the highest standard of corporate governance. This is integral to long-term business stability. Our approach is ethical and compliant. It encourages inclusivity and respects diversity. The result is a corporate culture of transparency that reflects our customers' expectations and aligns the objectives and interests of all stakeholders.

Wherever we operate, we promote equal treatment and good labor relations. We recognize performance and encourage learning, so that all our people are able to access managerial positions. Across all our entities worldwide, our health, safety and environment protocols are applicable to all our employees, but also to our contractors and temporary workers. They contribute to Caldeyrs's long-term goal – to reach zero injuries at our sites. During installation, we ensure that our customers also benefit from our safety experience.

We strive to operate close to our customers, to meet the specific needs and challenges of our local markets. To strengthen this undertaking, we are committed to playing a positive role in the communities in which we operate, to help them thrive by creating shared value and long-lasting benefits. We support education, infrastructure, and training programs throughout our growth regions.

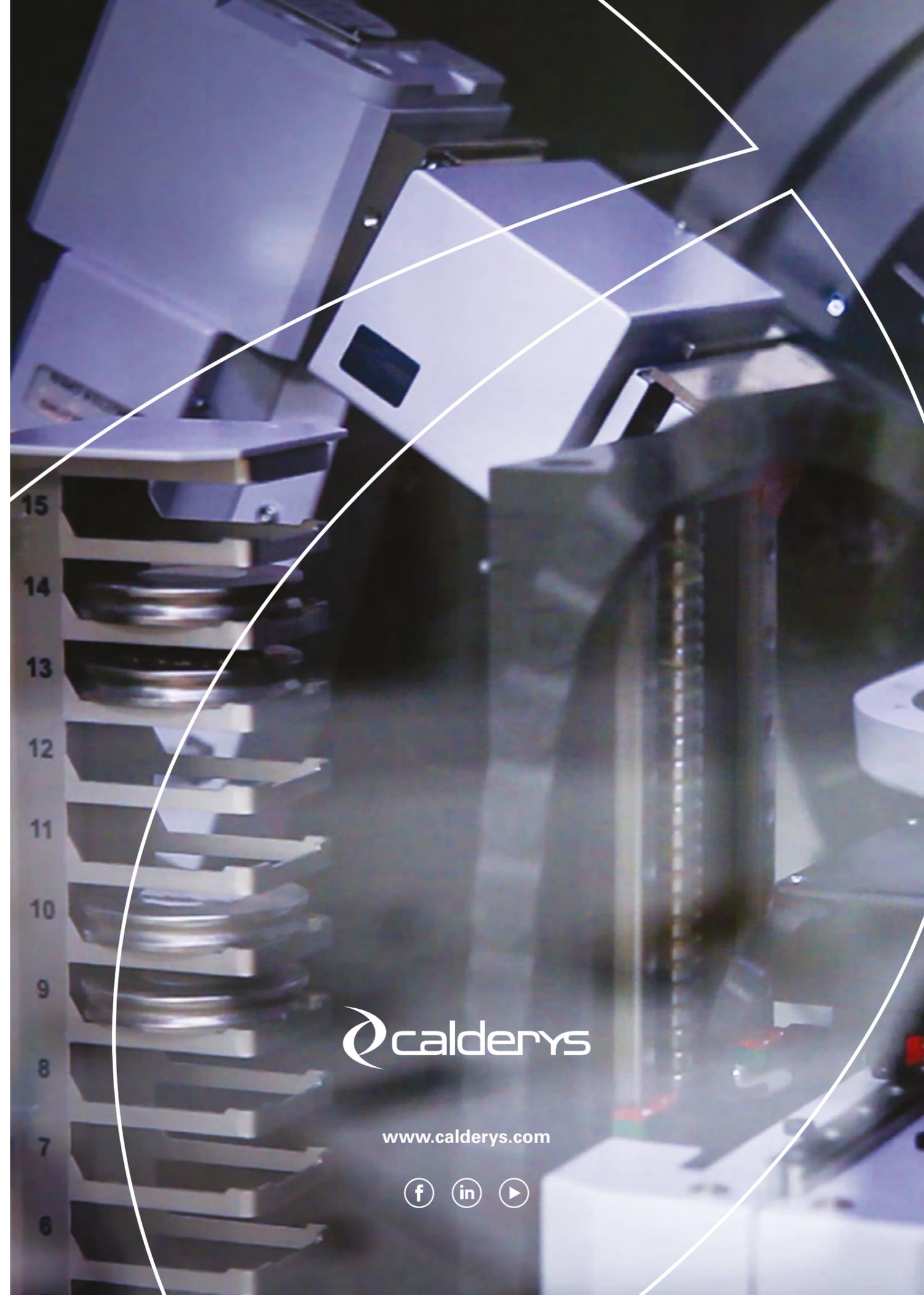
1,200 TREES PLANTED IN JUST 10 MINUTES!

In Dharuhera, India, 500 volunteers, including employees, local students and community members joined forces to support the TREE Innovative Foundation to plant 1,200 fruit-bearing saplings on local farmland. The project aims to support local farmers, improve quality of life and develop the local surroundings. The volunteers planted 1,200 trees in just 10 minutes and made over 2,400 social media posts about this initiative – a combination of facts that added to this amazing project a Guinness world record!

SUPPORTING SCHOOLS AND TRAINING IN INDIA

Following the success of its first school project in Katni, Caldeyrs has opened a second school in Wankaner, in partnership with the D.A.V. College Managing Committee, the most significant educational institute in India. This will extend quality education to more than 1,500 young people. In addition to supporting formal education, Caldeyrs in India also offers unqualified workers the opportunity to receive government-recognized trade qualifications through formal training and certifications. Since launching the program two years ago, more than 400 people have completed the training.





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