



TAILOR MADE
MELTSHOP SOLUTIONS

sarralleTM

Steel Melting Plant

Best performance through the highest automation

sarralle

steelmeltingplant@sarralle.com



SARRALLE OVERVIEW

Founded in 1965, and nowadays with more than 55 years' experience on international projects, SARRALLE is your partner in the Environment, Energy & Steel Worlds.

We are an innovative Design, Engineering, Manufacturing and Installation company, with more than 700 dynamic, highly-qualified and multicultural employees.



Steel Melting Plant

Scrap Cleaning Machine
Electric Arc Furnaces (AC/DC EAF)
Secondary Metallurgy (LF/VD-VOD/VIC/RH)
Continuous Casting Machines (CCM) billet, bloom and slab
Fume Extraction Systems (FES)
Waste Heat Recovery System
Material Handling Systems (MHS)
Hydrogen Technologies
Water Treatment Plants
Electrical, Control & Automation
Auxiliary Equipments
Spares & Service Solutions

ABOUT SARRALLE

700 EMPLOYEES

Dynamic, highly-qualified and multicultural team.

4 BUSINESS LINES

Environment, Energy and Steel sectors.

10 LOCATIONS

Spain, Italy, USA, Mexico, UAE, India, China.

OWN MANUFACTURING FACILITIES

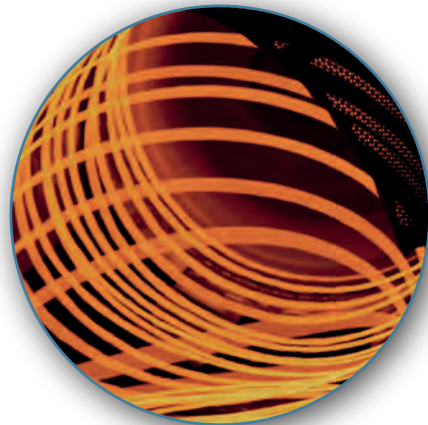
Europe and India

TAILORED SOLUTIONS

Greenfield or Brownfield

TECHNOLOGY & INNOVATION

Constant research for smarter, automated, environment friendly, efficient and safe plants.



Rolling Mill

Medium Section Mills
Heavy Section Mills
Merchant Bar Mills (MBQ) / Bar Mills
SBQ Mills
Wire Rod Mills
Reheating Furnace (Green Hydrogen)
Hot Charging System
Water Treatment Plants
Electrical, Control & Automation
Spares & Service Solutions



WHY SARRALLE?

SERVICE

The best during and after sales service.

CLOSENESS

Direct relationship.

ADAPTABILITY & FLEXIBILITY

What do you need? We can adapt for you. Tailored solutions.

TECHNOLOGY & SUSTAINABLE SOLUTIONS

Our solutions and products with the latest technology.

COST EFFECTIVE

Best balance between the best technology with a correspondence price offer and perfect after sales.



Processing Lines

Cut-to-length Lines (CTL)
Slitting Lines (SLL)
Recoiling and Inspection Lines
Packaging Lines
Pickling Lines
Tension leveling Lines
Electrical, Control & Automation
Spares & Service Solutions

OUR SERVICES

- EPC Projects
- Greenfield & Brownfield Project
- Management & Control
- Engineering & Design
- Process Consultancy
- Own Manufacturing & Assembly
- Factory Acceptance Test
- Logistics
- Site Construction
- Comissioning & Start Up
- Training
- Spare Parts & After Sales Service



Environment & Energy

Industrial Water Treatment
Waelz Oxide & Metal Recovery
Hydrogen Technologies
Waste Treatment



SARRALLE



SARRALLE

SARRALLE Steel Melting Plant

SARRALLE a key player in the steel industry, design and supply metallurgical plant equipment, including process technology for steelmaking, secondary metallurgy and continuous casting machines. We provide innovative and integrated solutions for complete process areas, including EPC projects.

The aim of SARRALLE is to evaluate and recognize every aspect of your needs: from the concept phase through the erection of the equipment including the development of the layout, definition of the processes, to the engineering and fabrication of the equipment. Our installations pay attention to both energy saving and effective pollution reduction, essential criteria for the sustainable development of your company.

OUR LINE PORTFOLIO

- Scrap Cleaning Machine
- Electric Arc Furnaces (AC/DC EAF)
- Secondary Metallurgy (LF/VD-VOD/VIC/RH)
- Continuous Casting Machines (CCM) billet, bloom and slab
- Fume Exhausting Systems (FES)
- Waste Heat Recovery System
- Material Handling Systems (MHS)
- Hydrogen Technologies
- Water Treatment Plants
- Electrical, Control & Automation: Level I, Level II
- Auxiliary Equipments
- Spares & Service Solutions

OUR MAIN DRIVES

- Productivity
- Reliability
- Ergonomic and easy-to-use machines
- Delivery Time & Quality Control by Own Manufacturing
- High availability rate





COMPLETE MELTSHP

Supporting every step of the project with turnkey Engineering, Manufacturing, Site Construction and Commissioning.



SCRAP CLEANING MACHINE

Scrap cleaning equipment improves the melting process, obtaining benefits such as reducing energy, raw materials, refractories and electrodes consumption.



Technologies & Benefits:

Reduce energy consumption in the electric arc furnace, using the energy just in the fusion of iron-based materials.

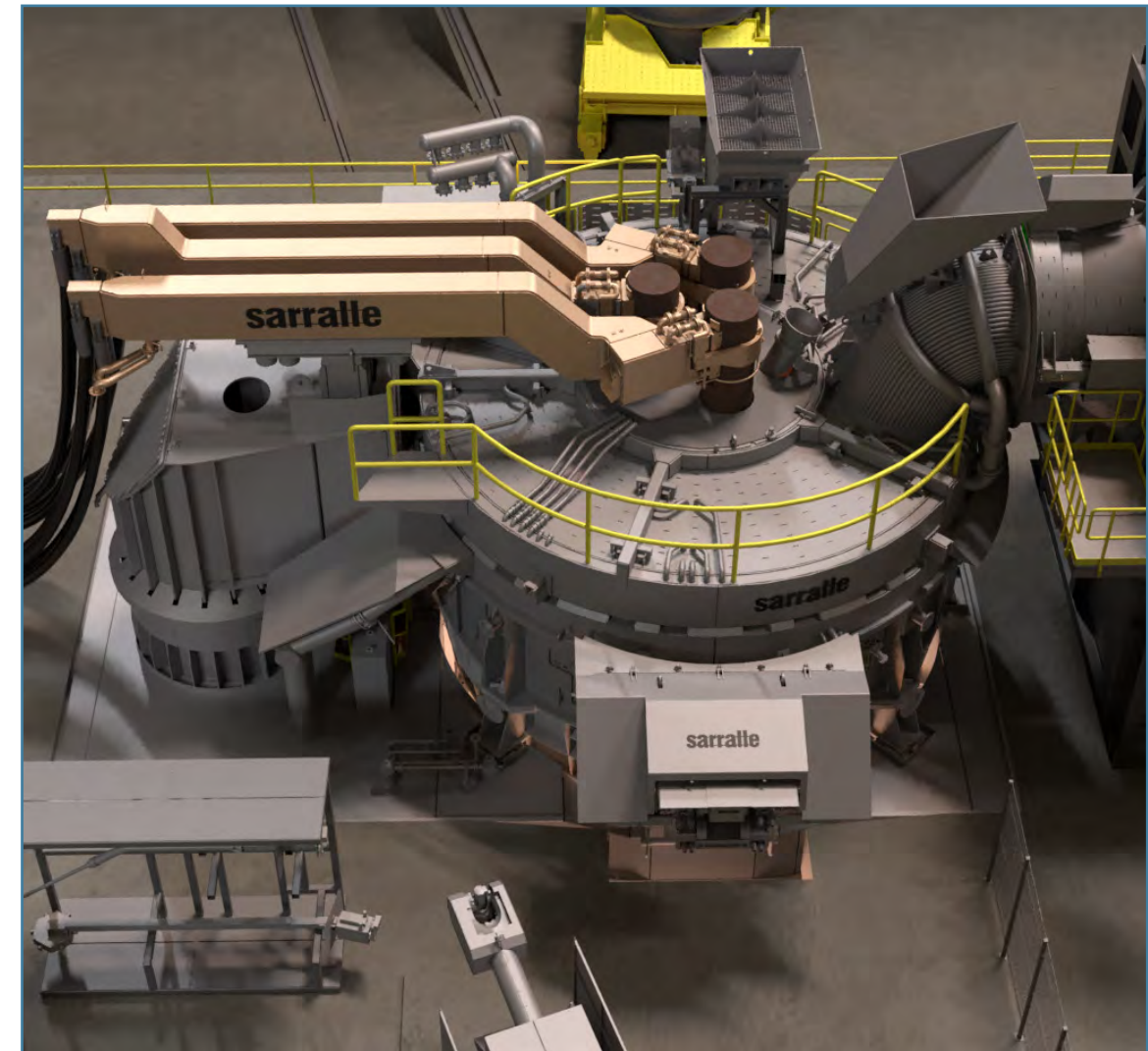
Better automation of processes and greater respect for the environment, reducing NOx and CO2 emissions.

Lower Power time is necessary so higher productivity is reached.



BLUE EFFICIENT ARC® NEW GENERATION ELECTRIC ARC FURNACE

SARRALLE DC/AC Electric Arc Furnace (diameters. 4300 to 7500 mm and tap weight ranged from 40 to 200 mt) for various charge mixes (scrap, HBI, Cold DRI/Hot DRI and Hot Metal).



SAFETY TECHNOLOGIES/ /FULLY REMOTE EAF OPERATION

Automatic Slag Door
Automatic Temperature & Sampling Robot
EAF Inspection Camera
Automatic EBT Stand Filling System
IREKI - Tap hole opening Robot
EBT Cleaning Device
EBT Inspection Camera
Slag Detection Camera

PROCESS TECHNOLOGIES

Sarjet Injector - Sarralle chemical package
SARCON - Sarralle Electrode Regulation System
Suburu - Sarralle Off-Gas Analyzer
Level II - Automation and Process Control



VACUUM DEGASSER (VD/VOD)

Ladle capacities ranging from 20 to 210mt.

Technologies & Benefits:

Optimized calculation of suction capacity for pump down and deep vacuum control.

Reliable design and operation, maximizing process efficiency.

Tailored solutions to work within existing plants and customer requirements.

Dry mechanical pumps or steam ejectors for vacuum generation.

Fixed or moveable roof designs.

Single or twin tank configurations.

Level II automation for consistent operation.



VACUUM INGOT CASTING (VIC)

The Vacuum Ingot Casting process is applied to produce forging ingots of 100-800 metric tons. Steels for the production of such ingots should contain very low hydrogen level, typically below 1ppm.

Technologies & Benefits:

Customized equipment solutions to allow operators to combine several smaller heats into a large ingot.

Degassing of the steel concurrently takes place under vacuum during the casting process.

Can work in combination with existing standard degassers prior to final the vacuum ingot casting process.

The ingot mold is safely and securely located on the bottom of the tank.



LADLE FURNACES

SARRALLE LF with capacity range from 20tn to 320tn powered with transformer from 8 to 30 MVA.

Technologies & Benefits:

Robust & maintenance-friendly design.

Robust durability of components.

High efficiency and maintenance-friendly current conducting electrode arms.

Compact gantry design for easy maintenance, reduced electrode breakage and space requirements.

Modular roof design including an independent top section to reduce air intake around the electrodes.

Quick roof exchange based on Sarralle's fork-type roof lifting system.

SARCON electrode regulation similar to EAF platforms.

Automatic argon coupling for increased operator safety.

Level II automation for consistent process optimization.

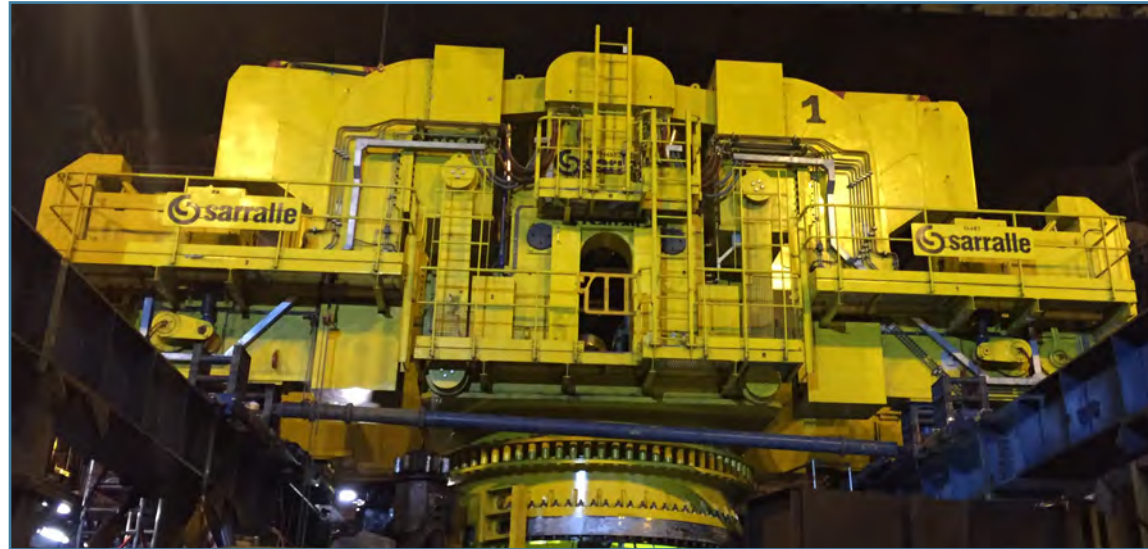
Single & Twin ladle station possibilities.



CONTINUOUS CASTING MACHINE (CCM)

From One to Seven Strands, One to Five unbending points and machine radius designs from Six, Eight, Twelve meters for Billet, Bloom and Slab.

As an example our Slab Caster technology allows to produce high quality IF, ULC, LC, MC, HC, HSLA, API, and Peritectic Steel grades, with 200, 250, 300 mm thickness and from 1.2 to 2.2 m width.



Technologies & Benefits:

CCM's for billets, blooms, rounds, beam blanks and slabs designs based on latest high quality technologies.

All main components are pre-assembled and tested in Sarralle owned works- shops before delivery.

Equipment designs are custom tailored for customer specific plant and existing equipment conditions and requirements.

All supplied equipment is engineered to achieve maximum productivity at the lowest energy consumption.

Performance to weight ratio is optimized using FEM (Finite Element Method) analysis without sacrificing equipment longevity.

Level II automation to optimize caster through-put and quality over the complete casting process.



BLUESKY-PLANT® FUME EXHAUST SYSTEM (FES)

With capacities ranging from 0.8 to 2.5 million m³/h.



ECO-Technologies & Benefits:

Greatly reduced damage to the bag filter structure due to Sarralle's innovative spark capture system for particles smaller than 5mm.

Optimized fume temperature reduction to minimizes the furan and dioxin generation.

Active carbon injection systems for dioxin and furan emission reduction.

Protection of employee health due to the reduction of harmful particle content in the EAF working and surrounding area. Atmospheric emissions capability < 1 mg/Nm³.

Continuous fan suction speed regulation control to minimize FES plant energy consumption up to a 20%.

Real-time analysis of CO, CO₂, T, O₂, H₂O, Ox, NO_x to adjust the exothermic combustion inside the furnace.

Efficient suction results in a healthier workplace and an eco- friendly to meet the most demanding environmental standards and regulations within and near the plant surroundings.

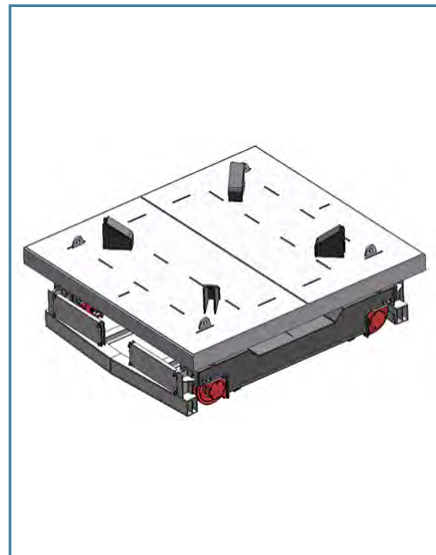


MATERIAL HANDLING SYSTEM (MHS)

- Fully automatic system
- Local control of equipment
- Control of incoming DRI
- Independent and precise lime and DRI charging
- DRI bins safety
- Ferroalloys
- Environment



AUXILIARY EQUIPMENT



Scrap Bucket Car



Ladle Car



Ladle



Scrap Bucket



Ladle Preheater



WASTE HEAT RECOVERY ⚡

This innovative system captures and utilizes waste heat generated in the fume exhaust process, converting it into a valuable energy resource.

Crafted with SARRALLE's signature precision and engineering expertise, this solution not only enhances environmental sustainability by reducing waste but also contributes to increased energy efficiency in industrial operations.

Immerse yourself in a cutting-edge solution that aligns with SARRALLE's commitment to advancing both environmental stewardship and operational efficiency.



DRYERS & PREHEATERS



SARRALLE has undertaken a transformative initiative involving the conversion of Ladle and Tundish dryers and preheaters, transitioning from conventional NG/air combustion to a more advanced H₂/O₂ system. At the heart of this technological evolution is the patented Sarralle GN/H₂/O₂ burner, boasting a versatile power range spanning from 0.15 MW to 5 MW.

Through oxy-combustion, this innovative approach achieves up to 50% fuel consumption savings (using hydrogen or natural gas) compared to traditional air combustion. Operating at temperatures up to 1250°C enhances efficiency and results in a substantial decrease in NO_x emissions, approaching near-zero levels, aligning with environmental sustainability goals.

WATER TREATMENT PLANTS ⚙️

We specialize in optimizing water-based industrial processes, including heating, cooling, processing, cleaning, and rinsing of untreated water. Our methods vary based on specific material contact requirements, utilizing non-contact water techniques in applications like the Meltshop and direct-contact water processes in scenarios like Continuous Casting.

Our expertise extends to purifying industrial wastewater, ensuring compliance with regional standards. We provide customized water treatment plants for diverse industrial contexts, incorporating innovative systems like GEM (Gas Energy Mixing) and Flotation. Strategic partnerships with industry leaders like CLEAN WATER TECHNOLOGY and ZEWA TECH further strengthen our position in sustainable water treatment solutions.





SPARES & SERVICE SOLUTIONS

SPARE PARTS

Our dedicated team of experts ensures that you are prepared for all contingencies and keep your production line up and running.

Fast delivery of spares worldwide.

SERVICES SOLUTIONS

Our committed technical team works constantly solving customers problems and helping with their expertise in mechanics, hydraulics and automation.

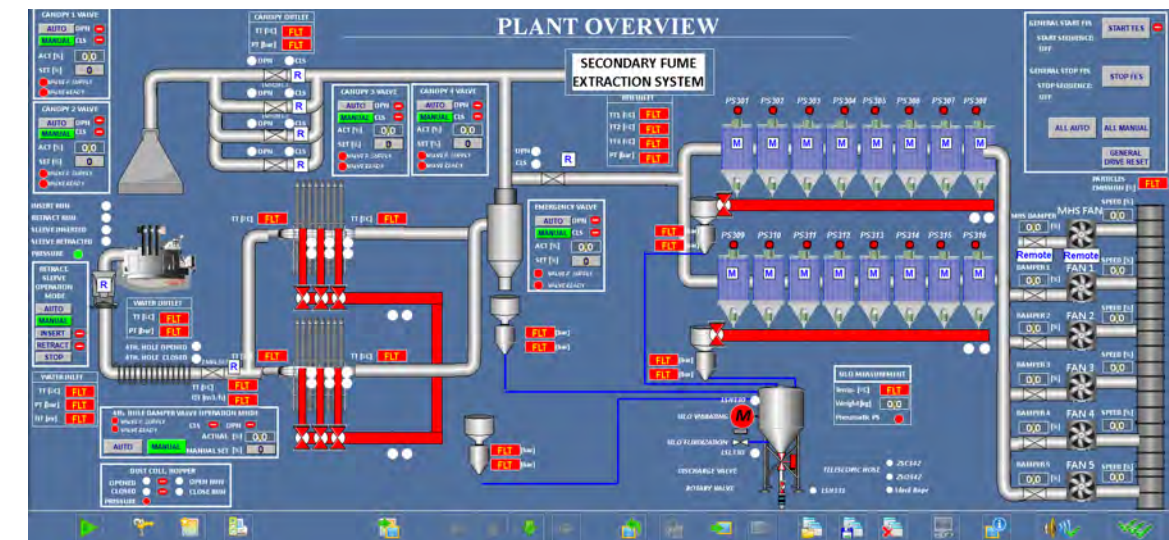
From annual maintenances, to adjustments or unexpected breakdowns, our team gives support to our customers for as long they own the equipment.

Our Teleservice package ensures your production at any time, helping your maintenance and production personnel by contact with the remote sources of Sarralle Steel Melting Plant.



Automation: Level I

Among the services we offer in our Automation section, the design and implementation of control systems and supervision on live and historical processes stand out. Integration of different systems and equipment on the same platform, programming of control systems and training and technical assistance to our customers.



Automation: Level II

Expert help systems in the optimization of processes and production assistance in real time to the operator. Synchronism between the productive areas for the integral management of production. Greater control and supervision of events through a system of incidents and messages.

Thanks to our experience and knowledge in the industrial process automation sector, we can provide customized solutions that fit the specific needs of each client, which translates into greater energy efficiency, sustainability, productivity and profitability for your business.

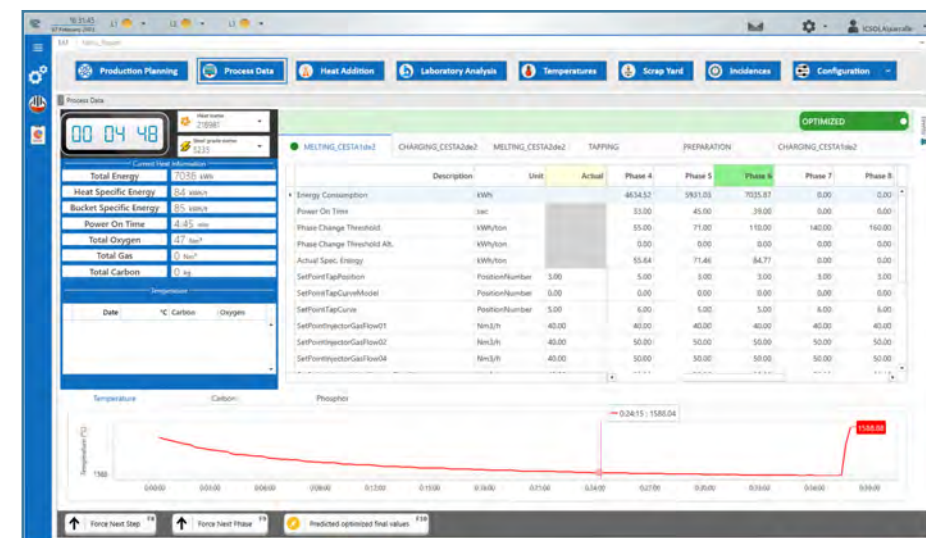
ELECTRICAL, CONTROL & AUTOMATION

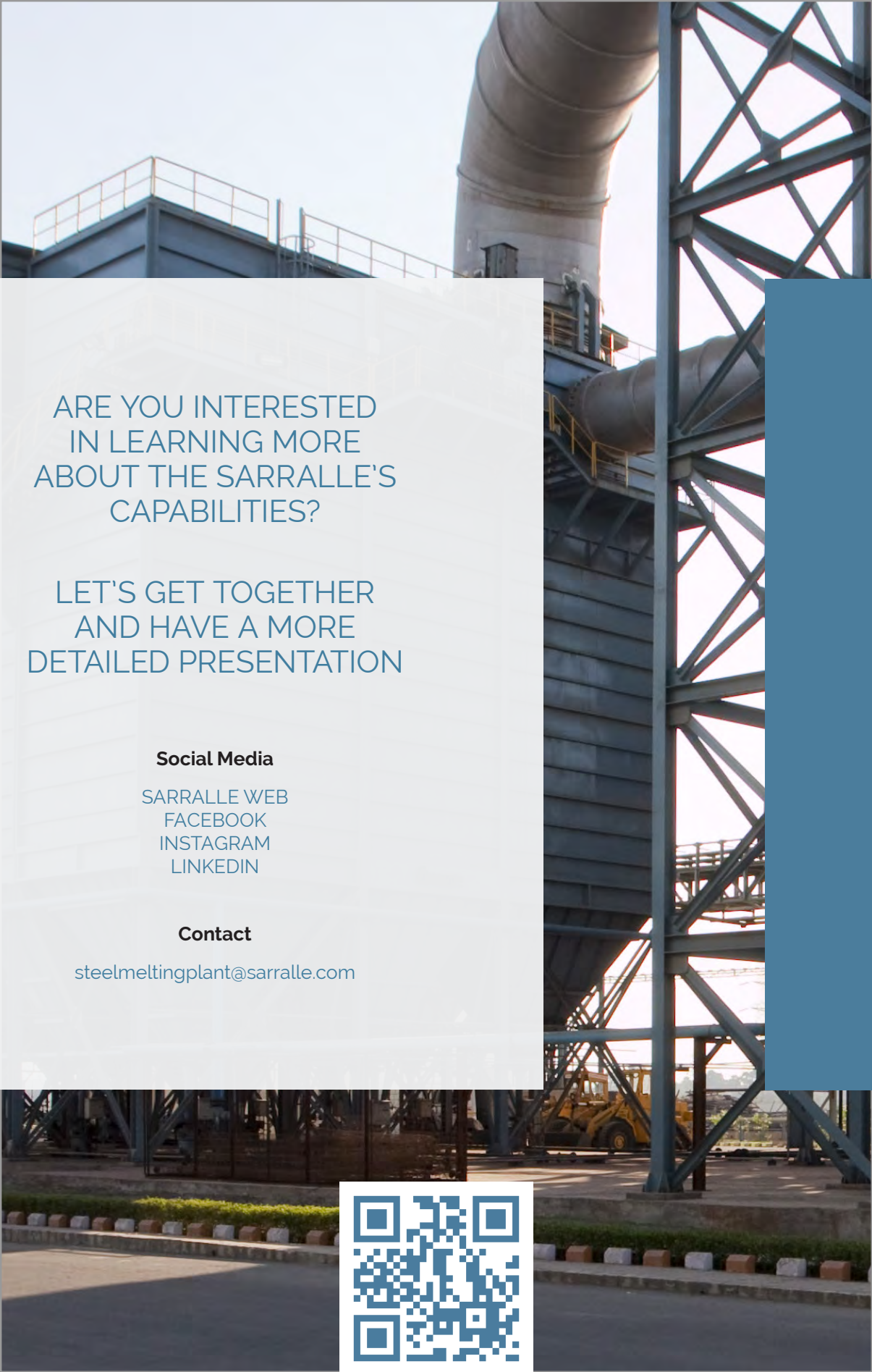
Automation: Electrical Workshop

We offer Level I and Level II automation solutions for steel mills, with the aim of improving the efficiency and productivity of their processes.

We work with the best brands in the market in terms of technology and industrial automation, which allows us to offer our clients quality and highly personalized solutions.

Experience in the design, own manufacturing, development and start-up of state-of-the-art automation systems.





ARE YOU INTERESTED
IN LEARNING MORE
ABOUT THE SARRALLE'S
CAPABILITIES?

LET'S GET TOGETHER
AND HAVE A MORE
DETAILED PRESENTATION

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LINKEDIN

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