

ALUMINIUM

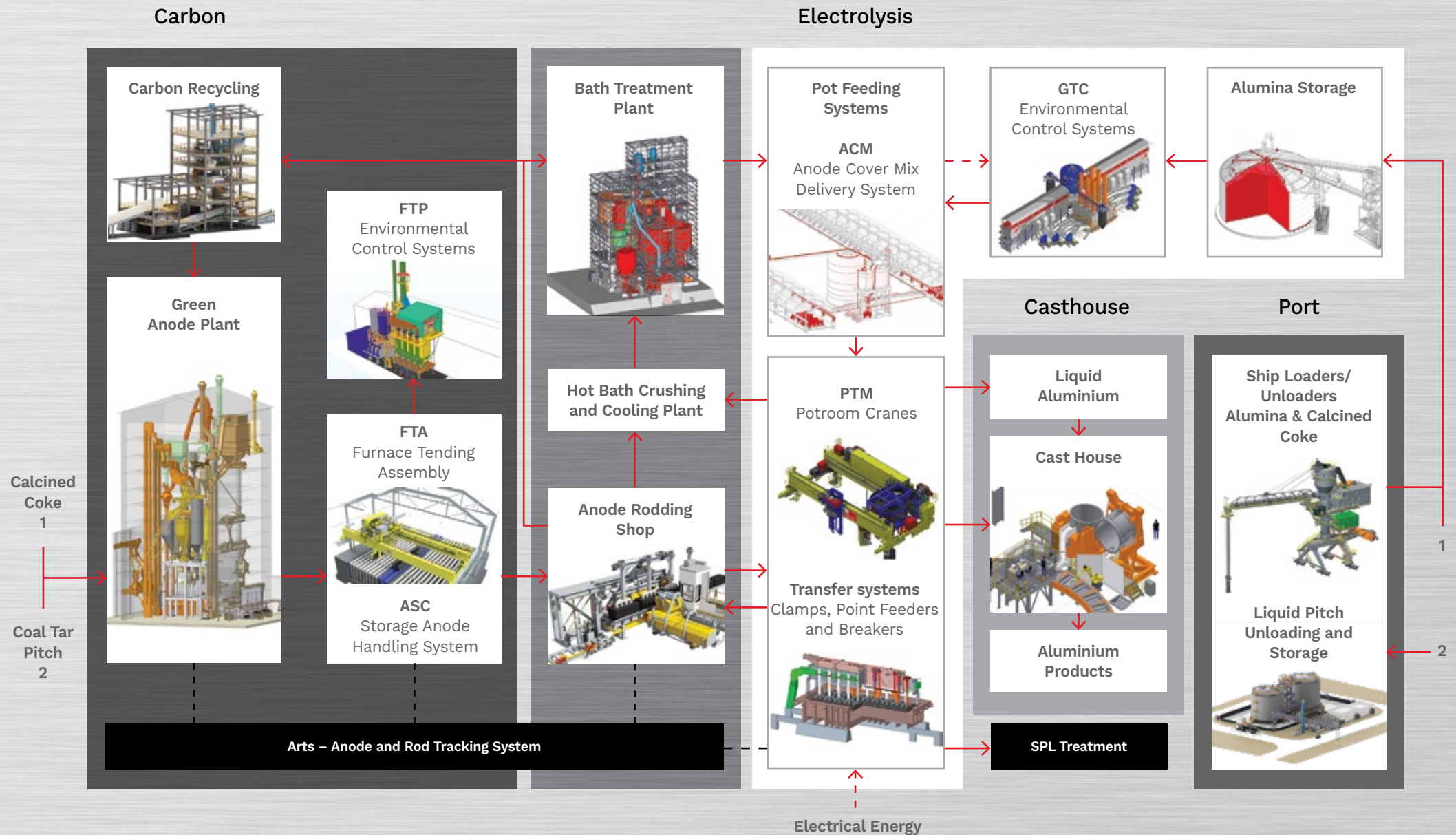
GLOBAL SOLUTION
PROVIDER TO THE
COMPLETE PRIMARY
ALUMINIUM INDUSTRY

***TOGETHER
TOWARDS***

PERFORMANCE



Global Solution Provider to the Complete Primary Aluminium Process



A Global Vision that Delivers

Total Efficiency

REEL International is a global leader in delivering complex and robust lifting and material handling equipment to sectors where safety and reliability are critical. As an integrated engineering company with a strong international presence, we design, manufacture, supply, commission and maintain high-performance solutions adapted to evolving industrial markets and client requirements.

For over 80 years, REEL International has developed innovative engineered systems and solutions for major heavy industries worldwide. Supported by more than 3,400 dedicated employees and extensive engineering expertise, we are a trusted partner across the energy, aeronautics, offshore, defence, metallurgy, industrial and environmental sectors. We work closely with our clients to improve their production processes, delivering solutions that are integrated, sustainable and optimised both technically and economically.

Our Aluminium Businesses

Through our entities and brands, REEL Alesa, NKM Noell Special Cranes, REEL Möller, the former aluminium business of OUTOTEC, now operating as the business unit BU Anodes, and with the former GE Environmental Control Solutions division (CCUS, ECS), we cover the complete primary aluminium processes.

We provide customised solutions, that address the challenges and complexities of the aluminium industry for clients worldwide. Our end-to-end lifting and material handling equipment and services accelerate process automation, maximise smelter performance, and safeguard employee health and safety.

TOGETHER TOWARDS PERFORMANCE

High Performance, Enhanced Competitiveness

Our goal is to optimise your processes and performance while reducing the environmental footprint of your plants. Whether for greenfield or brownfield operations, our broad portfolio of innovative and proven technologies is designed to strengthen your competitiveness. By continuously investing in new technologies, we help you further sharpen your competitive edge.

With multiple manufacturing sites across three continents, we are recognised for our responsiveness, flexibility and deep expertise in aluminium production process integration and automation. We understand the demands of your operating environments and tailor our solutions accordingly.

Our focus is on adding value at every stage, from engineering and project management to procurement and manufacturing, as well as site works and maintenance.

WHETHER YOU NEED TO UPGRADE OR
REPLACE EXISTING EQUIPMENT, OR INCREASE
PRODUCTION CAPACITY, OUR EXPERTS HAVE
THE RIGHT SOLUTION TO MEET YOUR NEEDS.



Customised lifting and materials
handling solutions for optimal
efficiency and productivity
across your aluminium
production process.

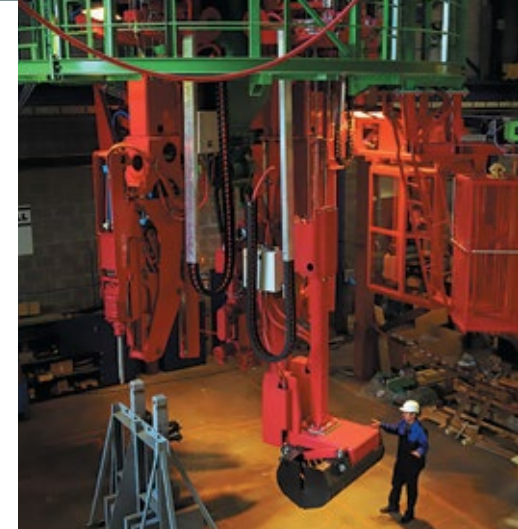
EXCELLENCE
IN GLOBAL
SUPPLY TO
THE PRIMARY
ALUMINIUM
PROCESS
INDUSTRY



5
MANUFACTURING
SITES WORLDWIDE

2,400+
HIGHLY SKILLED
EMPLOYEES

LEADING-EDGE EXPERTISE IN MECHANICAL,
ELECTRICAL, INSTRUMENTATION AND
CONTROL (I&C) SYSTEMS.



From left to right

Ship Unloading; Furnace Tending Assemblies
and Anode Handling; Pot Tending Machines



FROM THE
PORT FACILITY
TO THE OPERATING
SMELTER PLANT...
TOGETHER
TOWARDS
PERFORMANCE





Complete Lifting and Materials Handling Solutions

Storage Systems

Ship Loaders/Unloaders

Dense/Solid Phase and
other Conveying Systems

Potfeed e.g. HyperDense Phase
Systems (HDPS™)

Dosing Devices

Centrifugal Blowers

Bath and Carbon Recycling
Plant Systems

Pot Process Control Systems

Electrolysis Handling Equipment

Carbon: Green Anode Plant, Rodding and
Anode Handling Systems

Baking Furnace, Lifting Solutions

Casting Equipment



From left to right

Alumina Handling; Pot Tending Machines;
Pot Alumina Feeding



Carbon Recycling Applications



Two-stage crushing and screening system for recycled anode scrap, enabling a high crushing ratio and reduced CAPEX

Proprietary anode crusher for primary crushing of recycled anode scrap and full-size anodes

Fe-separation system for the removal of tramp iron and separation of thimbles remaining on butts after stripping

PLC-based automation system

From top to bottom

Green Anode Plant
and Butt Crushing
Liquid Pitch Unloading &
Storage (at port) and
Handling Systems



Anode Rodding Shop

REEL Plant and Rodding Shop Solutions

Basic and detailed engineering for complete plant solutions

Supply of proprietary and key equipment

Site supervision, commissioning and start-up services

Complete turnkey plant delivery

Plant retrofit and machinery upgrade services

Paste Plant Applications

Screening and crushing of calcined coke and recycled anode scrap for fraction classification

Fine milling of undersize coke material using an air-swept ball mill or vertical mill

Proportioning and preheating of dry material fractions, followed by mixing with binder pitch to produce homogeneous anode paste

Vibrocompacting of green anode blocks

Water cooling of green anode blocks by spraying or submersion

Pitch fume treatment using thermal oxidation or dry scrubbing

Heat transfer medium system for the generation and distribution of process heat

Fully automated plant solution with remote process operation, monitoring and analysis through an intuitive graphical interface



From top to bottom

Green Anode Plant
Anode Casting Station
and Pouring Car

A Comprehensive Range of State-of-the-Art Environmental Control Solutions

With more than 230 installations worldwide, our leading environmental control solutions have evolved over the past 60 years to meet the demands of increasing pot amperage, increasingly stringent environmental regulations, and the maximum recovery of valuable materials back into the process.



Gas Treatment Centres (GTCs), including SO_x Wet Scrubbing

Based on our innovative ABART technology, delivering maximum environmental performance.

Fume Treatment Centres (FTCs)

Our novel FTC is designed around our unique integrated gas conditioning and energy recovery heat exchanger (AHEx).

Solutions for SO_x Wet Scrubbing

Including centralised wet scrubbing systems or systems distributed at each filter, based on seawater or NaOH.

Solutions for Gas Cooling and Energy Recovery

Including water cooling systems and heat exchangers, specifically developed to address the challenges associated with pot gases and baking furnace fumes.

Solutions for Minimising Roof Vent Emissions

Our portfolio of solutions covers all sources of emissions and includes boosted suction systems and solutions for spent anodes.

Material Handling Equipment

Including our highly reliable potfeed systems, HDPS and AlFeed, designed to minimise dust entrainment.



Industry Experts with Proven Experience

Whether you are developing a long-term environmental roadmap, increasing production capacity, responding to tightening regulations or delivering a new turnkey treatment unit, including material handling, REEL is your partner of choice. We also provide service agreements and spare parts to support long-term performance.

Whatever the scale of your project, from small upgrades to major greenfield smelters, we are ready to support you at every stage.

Our highly experienced team will help you identify the most relevant solutions for your specific requirements and constraints, supporting you throughout every stage of implementation and beyond.



Pneumatic Conveying and Storage Technology – Power Plants

Complete pneumatic systems for fly ash handling and wood pellet transport

Long-distance pneumatic conveying using TURBUFLOW® and Multi-TTS systems

Large-capacity silos for long-term storage with capacities of up to 40,000t

Dust-free dry ash loading systems for road and rail tankers, as well as ships, including wet ash conditioners and open-truck loading equipment

Coal fuel injection and ash removal technologies

Lime supply and storage systems for desulphurisation plants

Mechanical silo discharge and dosing systems

Complete systems for refuse combustion plants

From left to right
Detail view of Gas Treatment
Centre and Pneumatic Conveying

Primary Alumina, Secondary Alumina, Crushed Bath and Aluminium Fluoride

Silo Technology

Capacities of 85,000 m³ and more

Silo feeding with anti-segregation systems

Silo discharge systems

TURBUFLOW® Dense Phase Conveying

Efficient dense-phase material conveying

Direct Pot Feeding Systems

Combined dense-phase / Möller Fluidflow®

100% Möller Fluidflow®

Airlift Systems

Capacities of 600 t/h and more

Truck & Wagon Systems

Loading and unloading systems



Committed to Your Success, Every Step of the Way

From the moment you partner with us, we become fully engaged in your project, providing a highly experienced and knowledgeable team committed to your success. Whatever area of your operations we are optimising, our goal is always to exceed your expectations.

From initial concept through project execution and comprehensive after-sales services, every REEL employee assigned to your project shares the same objective: delivering excellence on time and within budget, while maintaining a zero-harm culture.

Our dedicated project management teams apply industry best practices to minimise operating and maintenance costs and optimise lifecycle management. By integrating the latest technologies, we help take your operations to a new level of efficiency and productivity. **This is our commitment to you.**

Transport of
Ship Unloader

EXPERT PROJECT
MANAGEMENT AND
AFTER-SALES
SERVICES





Our Services to Support You Include

Feasibility studies to turnkey project execution for brownfield, greenfield and creep projects

Equipment and key component supply

Spare parts supply

Process and equipment evaluation

Support for continuous improvement programmes

On-site training

Maintenance and site assistance

Remote systems maintenance and management capabilities



Pot Tending Machine;
Anode Jacking Frame

A Trusted Partner

Over the past eight decades, we've built a reputation as the industry's most trusted partner. An unwavering commitment to our values and to your success lies at the heart of this reputation. So does our determination to foster a zero-harm culture that ensures the health and safety of your employees as well as our own.

Safety is both an absolute priority and shared culture at REEL. Optimal performance requires complete safety. At REEL, they go hand in hand. A dedicated safety team oversees every activity on your site. We hold more than 120 safety training sessions annually to embed our zero-harm mindset across our organisation. Our comprehensive safety tools and management system also help keep employees and contractors healthy and safe.

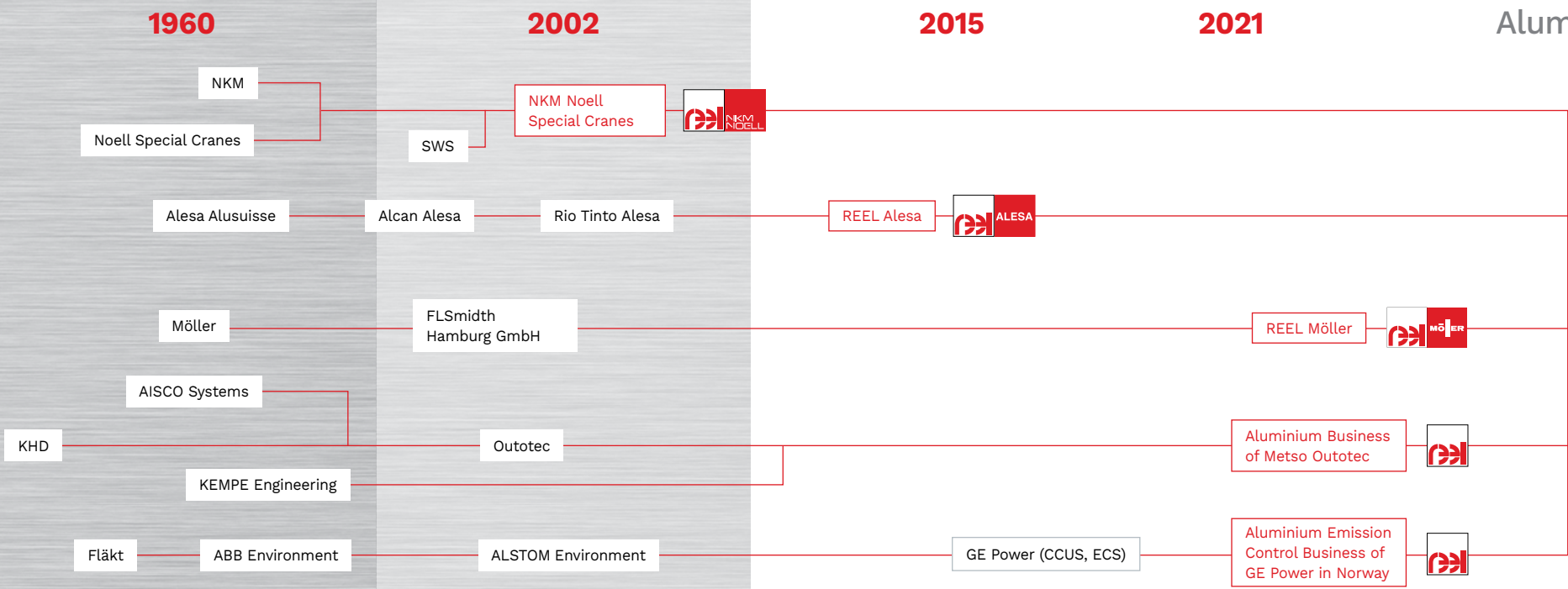
120
SAFETY TRAINING
SESSIONS ANNUALLY

OUR VALUES

Performance
Customer satisfaction
Respect
Commitment
Passion
Health & Safety



Aluminium Timeline





REEL ALESA AG
 REEL ALESA Ltd
 REEL ALESA SAS
 REEL Norway AS
 REEL Möller GmbH
 REEL GmbH NKM Noell Special Cranes™
 REEL GmbH
 REEL GmbH NKM Noell Special Cranes™
 REEL ALUMINIUM Inc
 REEL ALUMINIUM Pty Ltd
 REEL India Limited
 REEL Shanghai
 NNX Trading (Xiamen) Co Ltd
 REEL Middle East Dubai
 REEL Middle East Bahrain

Switzerland
 Canada
 France
 Norway
 Germany
 Germany
 Germany
 The Netherlands
 Canada
 Australia
 India
 China
 China
 United Arab Emirates
 Bahrain



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 Hovfaret 17, 2nd floor, 0275, Oslo
 Haderslebener Strasse 7 25421 Pinneberg
 Rudolf-Diesel-Straße 1, 97209 Veitshoechheim
 Albin-Köbis-Straße 8, 51147 Cologne
 Kruisweg 643, 2132 NC Hoofddorp
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