

*ENGINEERING
YOUR SPRAY SOLUTION*



SPRAYING FOR METALLURGY

Optimizing processes from mining to finishing

METALLURGY



WE SHAPE FLUIDS FOR EFFICIENCY



At Lechler, we are experts in understanding droplets at all stages, from their formation at the nozzle to their deposition in droplet separators. Our expertise is based on a blend of cutting-edge testing and simulation techniques, combined with hands-on experience in metallurgical spray solutions.

We have been a leader in our field for over 140 years, continuously innovating and developing new solutions. Our commitment to research and development has allowed us to perfect spray control, ensuring superior performance, quality, and efficiency in producing iron, steel, and aluminum.

We provide comprehensive, process-independent solutions based on our extensive expertise across multiple industries. This allows us to integrate every step of the metallurgical production process – from raw materials to finished products.

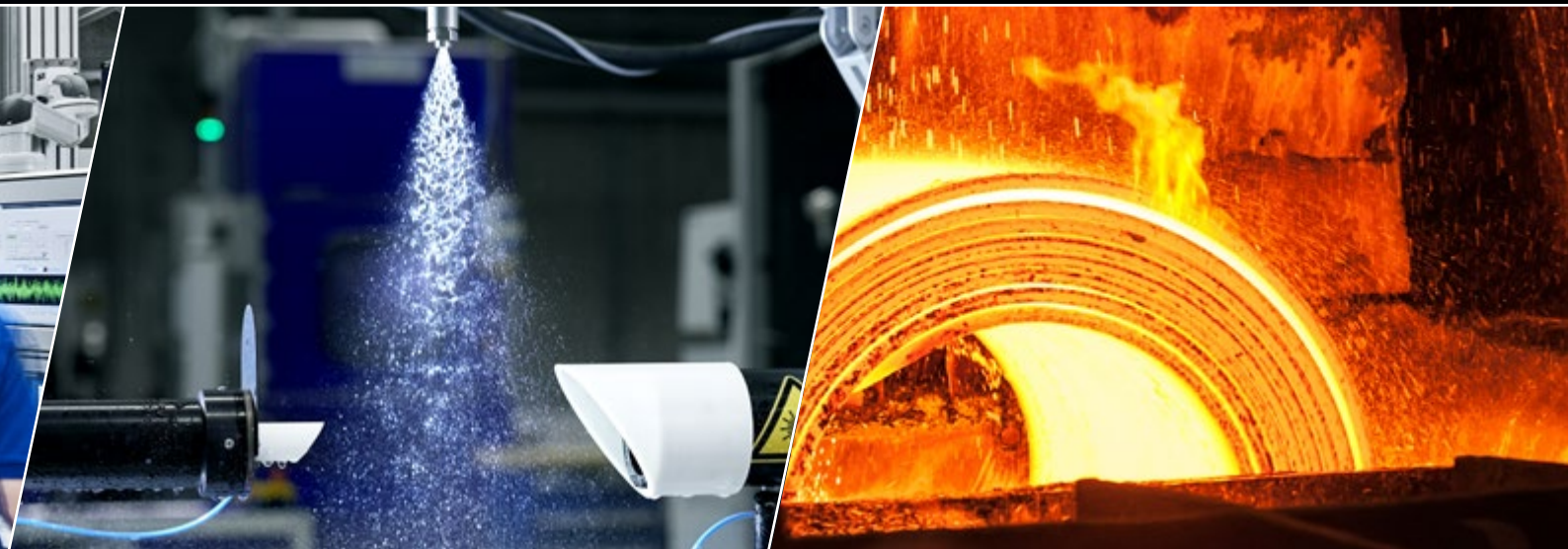
Today, Lechler operates globally with over 900 employees and 11 subsidiaries in Europe, North America and Asia. Our global reach enables us to provide tailored support wherever our customers need it.





Your main benefits with Lechler

- In-depth understanding of metallurgical processes
- Decades of experience
- Customized, cross-process solutions
- State-of-the-art simulation and testing facilities
- Worldwide and local presence



➤➤ HAVEN'T YOU ALWAYS ...

... wondered about **improving the pickling process** and how to deal with spent acid?

... been concerned about **reducing air pollution** caused by primary scale particles from the strand surface and **minimizing water waste** by evaporation in the casting process?

... thought about how to **prevent stains on the surface** of rolled products and material downgrades by blowing them off?

... aimed to **improve surface quality, remove the grease layer** on the product, and **manage excessive heat** in the galvanizing and strip processing lines?

... dreamed of solving the shape and flatness issues of rolled products, **reduced mill speed**, and low mill productivity?

... been looking for a solution to **reduce operating resources** and energy consumption in gas cooling processes?



... wanted an **integrated solution** for droplet generation and separation for your gas conditioning?

... aimed to improve strand surface quality by **reducing cracks, overcome casting speed limitations**, and gain more flexibility in casting new steel grades in the casting process?

... wondered how to reduce **energy consumption** in descaling without compromising the surface quality?

... strived to **eliminate surface problems**, stripes, rolled-in scale, and quality downgrades in hot rolling for steel and copper?

... wanted to increase productivity by **reducing the processing time** for hot slag?

... sought to address the **high wear of rolls**, high replacement costs and **frequent roll changes** in hot and cold rolling?

... thought about **reducing dust development** in sinter lines while simultaneously improving the process quality?

... longed for a **solution partner who can meet all your requirements**, from droplet generation to droplet separation?



THERE ARE ANSWERS TO ALL YOUR QUESTIONS

LECHLER SOLUTIONS FOR METALLURGY WE SUPPORT YOU WHERE YOU NEED US

Our comprehensive spray solutions address every facet of the metallurgical process, from ore refinement to final product finishing. We offer precision-engineered nozzles delivering exact flow rates, spray angles, and droplet sizes crucial for optimal production.

Beyond hardware excellence, our specialists understand both our products and your unique processes. Through advanced simulations, we fine-tune coolant application, enhancing quality, surface finish, and productivity.

By optimizing cooling rates, we can enhance both metallurgical and mechanical properties, leading to increased plant efficiency and consistent production. Additionally, by refining media usage, we lower pumping costs and reduce energy consumption. That way, we not only help you to save costs, but also accompany you on the road to green steel and aluminum production.

As industry demands evolve, we help you adapt your production facilities, keeping you at the forefront of metallurgical innovation.

1 CUSTOMIZED DROPLET SEPARATORS

Improve product quality and operational efficiency by effectively extracting water droplets, dust, and oil-polluted air in continuous casting machines and rolling mills.

3 ROLL COOLING PROCESS SIMULATIONS

Maximize rolling efficiency and product quality in both hot and cold rolling of steel and aluminum, ensuring optimal temperature control and uniform cooling.

5 STAMM SELF-CLEANING SHOWERS

Improve operational efficiency and environmental compliance in sinter plants, strip processing lines, and steel melt shops through effective dust suppression and consistent CaCl_2 application, while reducing maintenance downtime.

2 INDIVIDUAL CFD SIMULATIONS

Optimize fluid and gas flow in critical processes, enhancing cooling efficiency and product quality in continuous casting, roll cooling, descaling, and process lines.

4 DESCALING SOLUTIONS SUITE

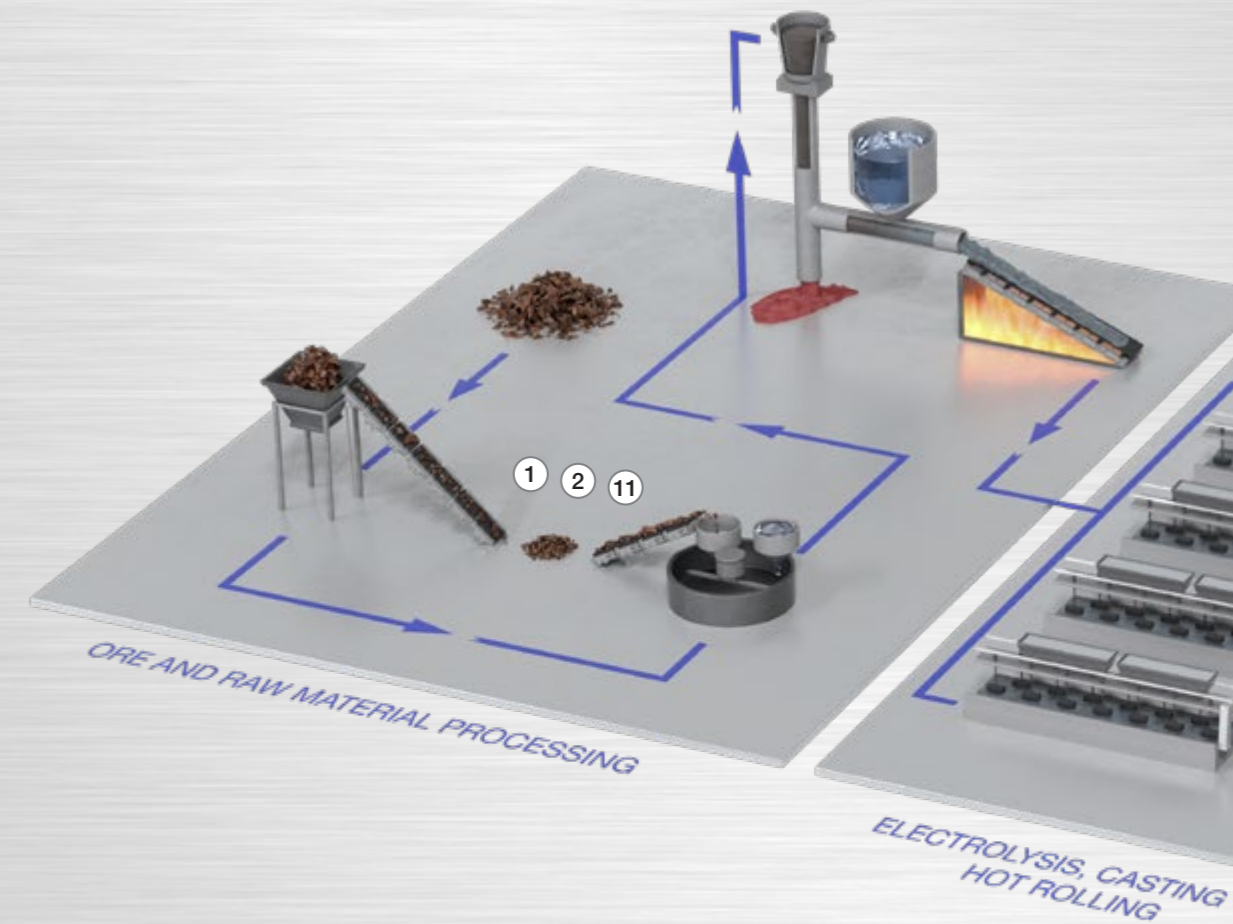
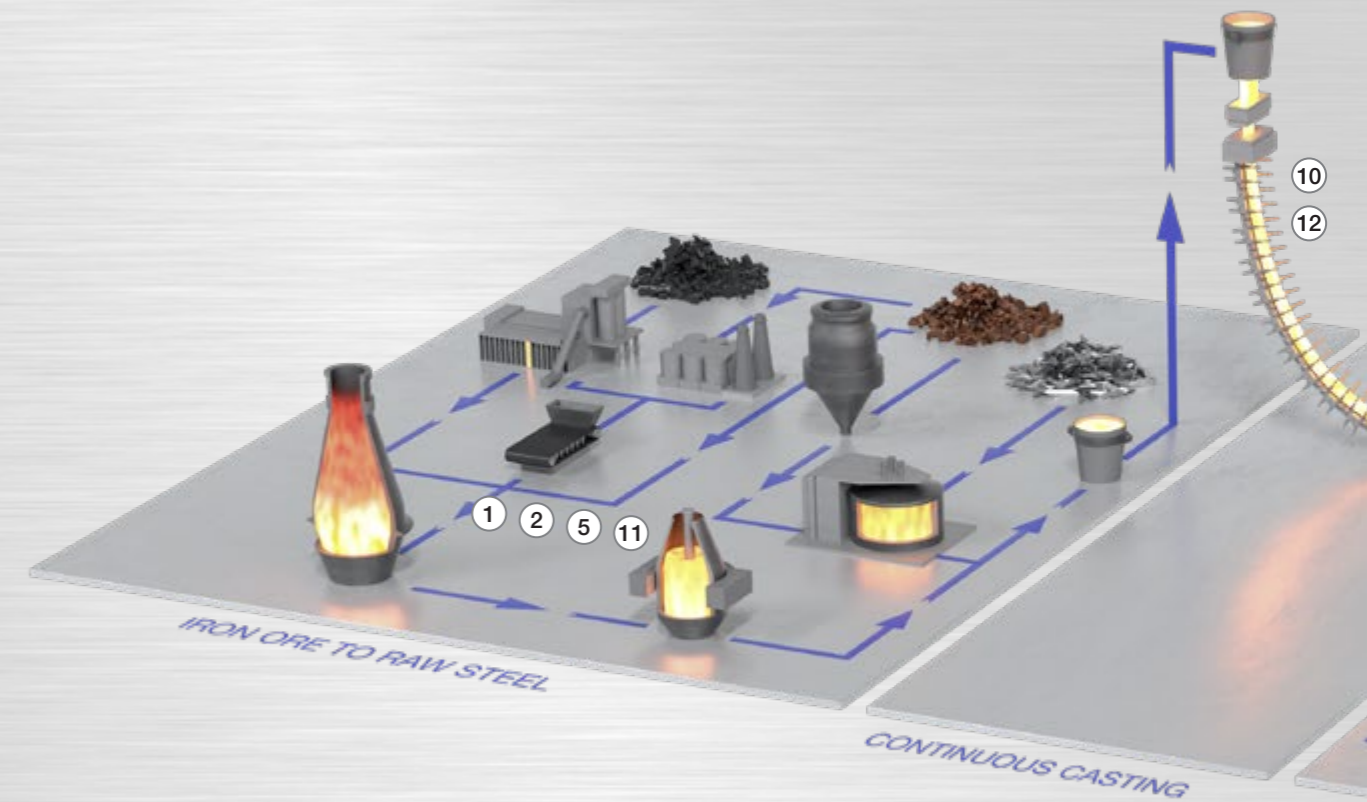
Enhance surface quality and reduce scale-related defects in hot rolling and forging processes, improving overall product consistency and reducing material waste.

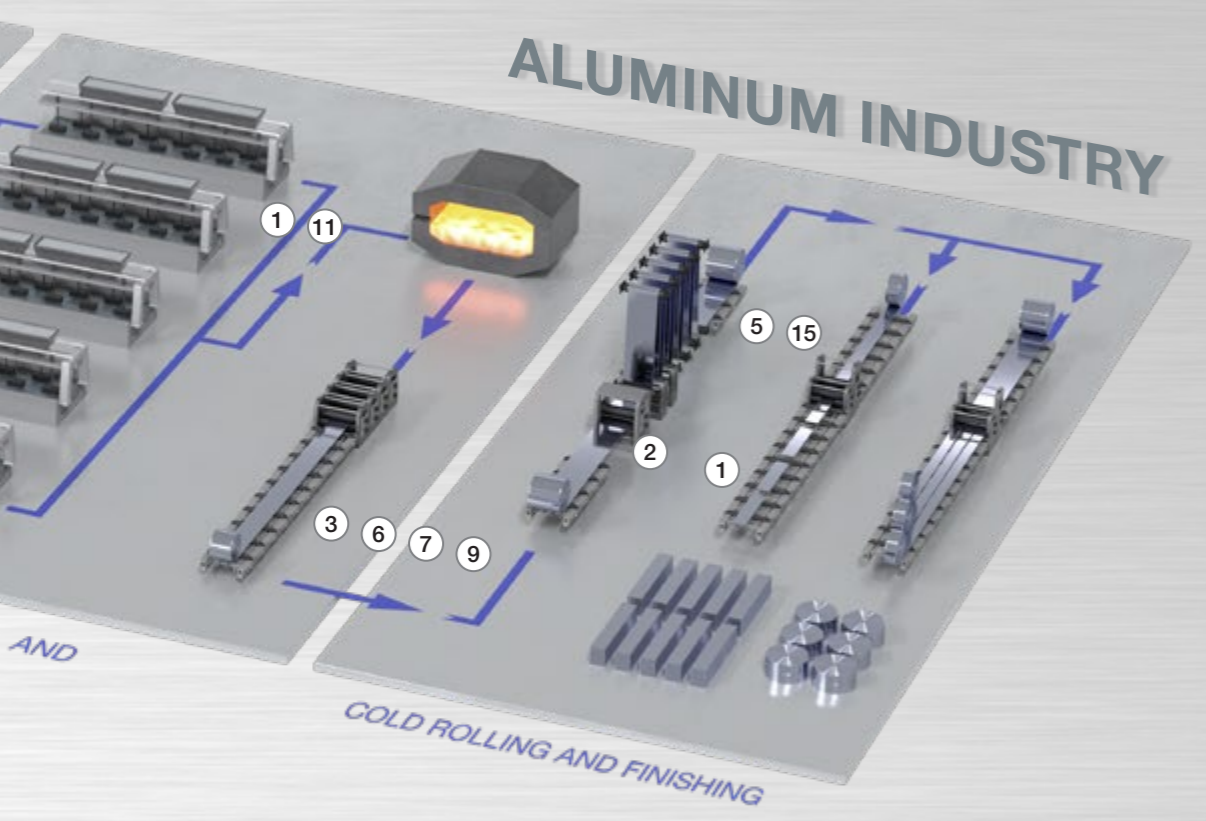
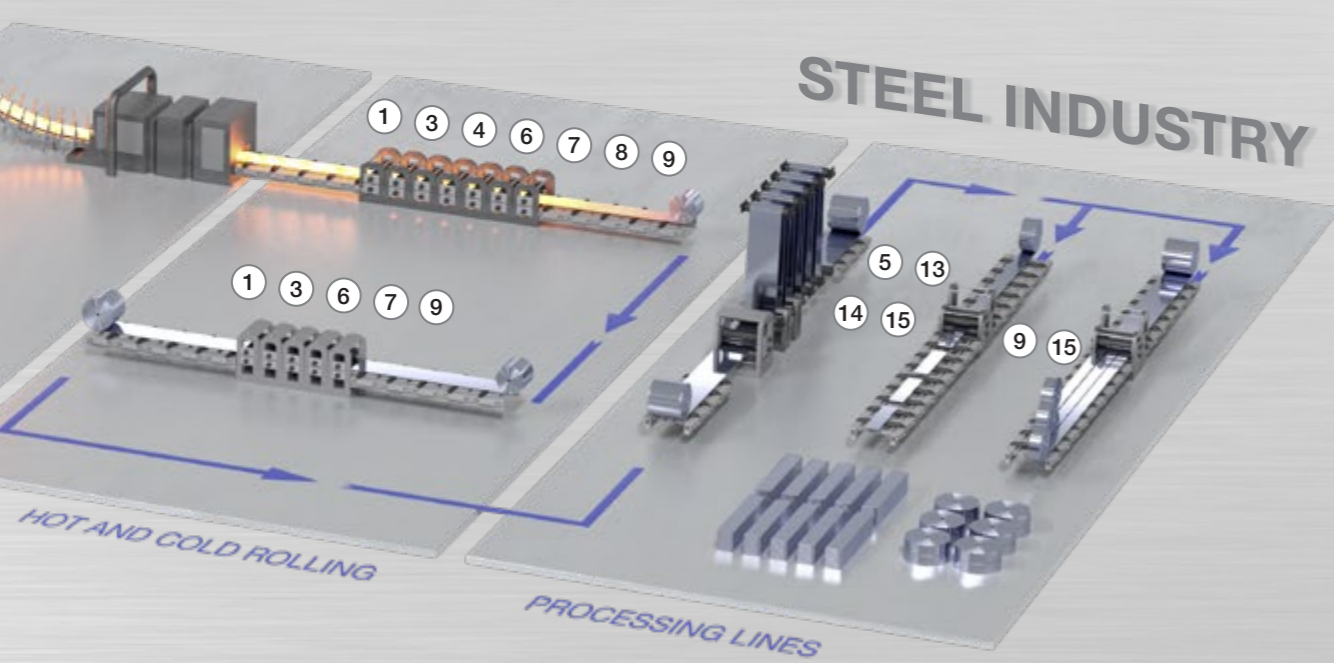
6 SELECTOSPRAY ROLL COOLING SYSTEMS

Achieve superior shape control and flatness in both hot and cold rolling of steel and aluminum, enhancing product quality and reducing rejection rates.

7 ROLL COOLING NOZZLES AND HEADERS

Optimize temperature management in hot and cold rolling processes for steel and aluminum, ensuring consistent product quality and extending roll life.





8 LAMINAR COOLING HEADERS

Achieve precise temperature control and uniform cooling in hot steel rolling, enhancing mechanical properties and surface quality of the final product.

9 AIR BLOW-OFF NOZZLES

Improve surface cleanliness and drying efficiency in hot and cold rolling of steel and aluminum, reducing defects and enhancing downstream processing.

10 SECONDARY COOLING NOZZLES AND HEADERS

Optimize solidification and microstructure in continuous steel casting, improving product quality and reducing defects while enhancing casting speed and productivity.

11 GAS SCRUBBING AND CLEANING SYSTEMS

Improve environmental compliance and operational efficiency in sinter/pellet plants, blast furnaces and direct reduction plants by removing pollutants, reducing emissions, and enabling heat recovery.

12 SOLIDIFICATION STUDIES

Enhance product quality and increase casting speeds in continuous steel casting by optimizing solidification parameters, resulting in improved yield and reduced defects.

13 NOZZLES FOR ACID REGENERATION

Optimize acid regeneration processes in steel pickling lines, reducing operational costs and environmental impact while maintaining consistent pickling quality.

14 PICKLING LINE HEADERS AND NOZZLES

Enhance pickling efficiency and uniformity in steel processing lines, improving surface quality and reducing acid consumption while increasing line speeds.

15 AIR-MIST HEADERS FOR PROCESSING LINES

Achieve precise temperature control and uniform cooling in steel and aluminum processing lines, improving product quality and increasing line speeds.

Your path to metallurgical excellence

Is there something you feel is lacking? If so, it's likely due to space constraints. Let's focus on your needs, requirements, and goals. Together, we will find a solution that achieves them more quickly, efficiently, and effectively than you might expect.



AT YOUR SERVICE ALL AROUND THE WORLD



India, Mumbai and Dahej

Optimizing metallurgical processes is a complex undertaking that requires an in-depth understanding of the various processes involved. Each phase has dependencies that cannot be considered in isolation. For this reason, our experts work closely with your team to achieve comprehensive optimization of your iron, steel and aluminum production lines.

By combining Lechler's global expertise with your operational insights, we can fully grasp interrelated challenges and develop tailored solutions to your unique requirements. This collaborative approach ensures no aspect is overlooked, and improvements harmoniously integrate, driving unrivaled optimization.

Theory to practice: crafting tailored solutions for your needs

When off-the-shelf components fall short, our design team engineers custom nozzles and droplet separators using advanced Computational Fluid Dynamics (CFD) simulations. Prototypes undergo rigorous testing, ensuring flawless real-world performance before implementation.



USA
Production and services
of nozzles and
engineered systems



GERMANY
Global HQ, R&D and
production facilities



China, Changzhou

USA, St. Charles

Global presence, local support

This collaborative approach extends to our global service and support network, providing swift maintenance, repairs, and spare part delivery to minimize downtime. With 11 subsidiaries including 4 production sites and various local partners worldwide, we offer specialized regional expertise:

China

Our state-of-the-art facility in Changzhou is renowned for producing nozzles and engineered systems including STAMM showers. With a team of expert engineers and world-class production facilities, we ensure consistent quality and timely delivery.

India

Lechler's certified welding workshop is a global hub for crafting bespoke spray headers tailored to your exacting requirements. Our skilled specialists leverage advanced techniques and rigorous quality control processes to deliver products that meet the highest standards.

USA

Located near Chicago, our North American headquarters is home of a dedicated engineering team, continually pushing the boundaries of spray technology. Production facilities for nozzles and engineered systems including STAMM showers enable us to stay ahead of industry trends and provide cutting-edge solutions.

Beyond superior products and services, we're committed to sustainable practices, reducing energy consumption and emissions throughout your production line. Our process expertise, combined with your operational knowledge, unlocks opportunities for increased efficiency and environmental responsibility.

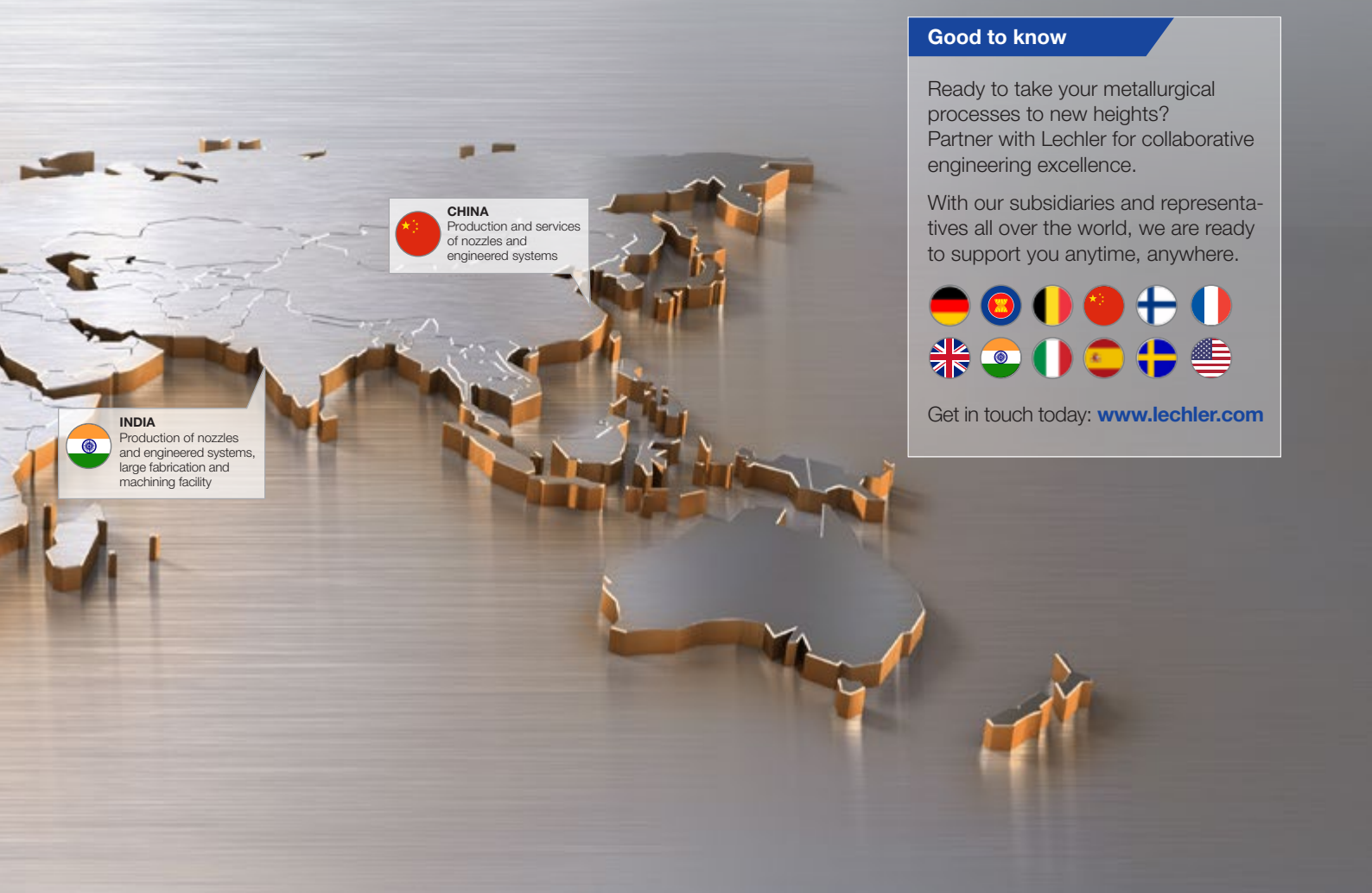
Good to know

Ready to take your metallurgical processes to new heights? Partner with Lechler for collaborative engineering excellence.

With our subsidiaries and representatives all over the world, we are ready to support you anytime, anywhere.



Get in touch today: www.lechler.com



CHINA
Production and services of nozzles and engineered systems

INDIA
Production of nozzles and engineered systems, large fabrication and machining facility

**ENGINEERING
YOUR SPRAY SOLUTION**



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