

GE
Power Conversion

Productivity Solutions for Metals Industry



imagination at work



With our unique expertise in metals processes and proven technologies, GE's Power Conversion business is tackling the challenges of this demanding industry.



The metals industry plays a vital role in the global economy. Its influence is felt in applications that span construction, machinery, transport, chemicals, agriculture, electronics, and beyond.

Metals producers face a host of challenges to stay competitive in a sector where raw materials and energy contribute so much to production costs. The drive is to cut costs, reduce lead times, increase operational efficiency and reliability and use the most cost-effective solutions and technologies to produce high-quality output—all whilst meeting the requirements of strict environmental regulations.

GE's Power Conversion business can help you meet these requirements, whether you are operating a standard processing line or the most complex steel mill.

Our cutting-edge technologies support you to increase product quality, in a shorter time and more cost-effectively.



GE is a total system solution supplier for the production and processing of steel, aluminum and other non-ferrous materials, all along the production chain.



From steelmaking, including energy quality management, through to finishing, we take on projects ranging from the smallest retrofit to the full facility design, build and commissioning.

Innovative systems for improved performance

Drawing on proven engineering skills and innovation in designing electric motors and generators, power converters, control and automation systems, GE offers reliable electrical and automation systems with dedicated technologies and functions that take into account the mechanical and site data, energy consumption and plant productivity.

Our complete integrated control systems, from sensors and actuators

to production coordination, include production and process information computers, operator interface, performing controllers, powerful drives and motors.

These enable precise control, high availability and easy maintenance, with important benefits for metals producers: helping to meet production targets with flexible scheduling, while ensuring excellent product quality and improved yield.

With our high-performance controller piloting the automation process and technological controls, and being used in most of our drives and conversion systems, we also reduce spares holding and operator training.



Iron & steelmaking

Steelmaking is a complex chain of interdependent processes, with a vast number of parameters that have to be closely controlled.

GE has the process knowledge to make this happen. In all types of steelmaking facilities, we guide you in the choice of the optimized solution so that you can benefit from:

- More profitable production units with shorter process time
- Improved quality
- Enhanced safety
- Increased flexibility
- Open system architecture, with the possibility to communicate easily with any third-party products or equipment



Power quality

Through the design and construction of Static Var Compensators, GE also offers a range of high-performance and cost-effective solutions addressing power quality challenges. Our extensive experience in power supply equipment analysis tools allow us to design the optimum component characteristics to offer reliable and high-quality power to consumers.

By ensuring stable and steady voltage supply, our systems enable:

- More active power to the process installation
- Optimized production times
- Extended life of the equipment
- Boosted productivity

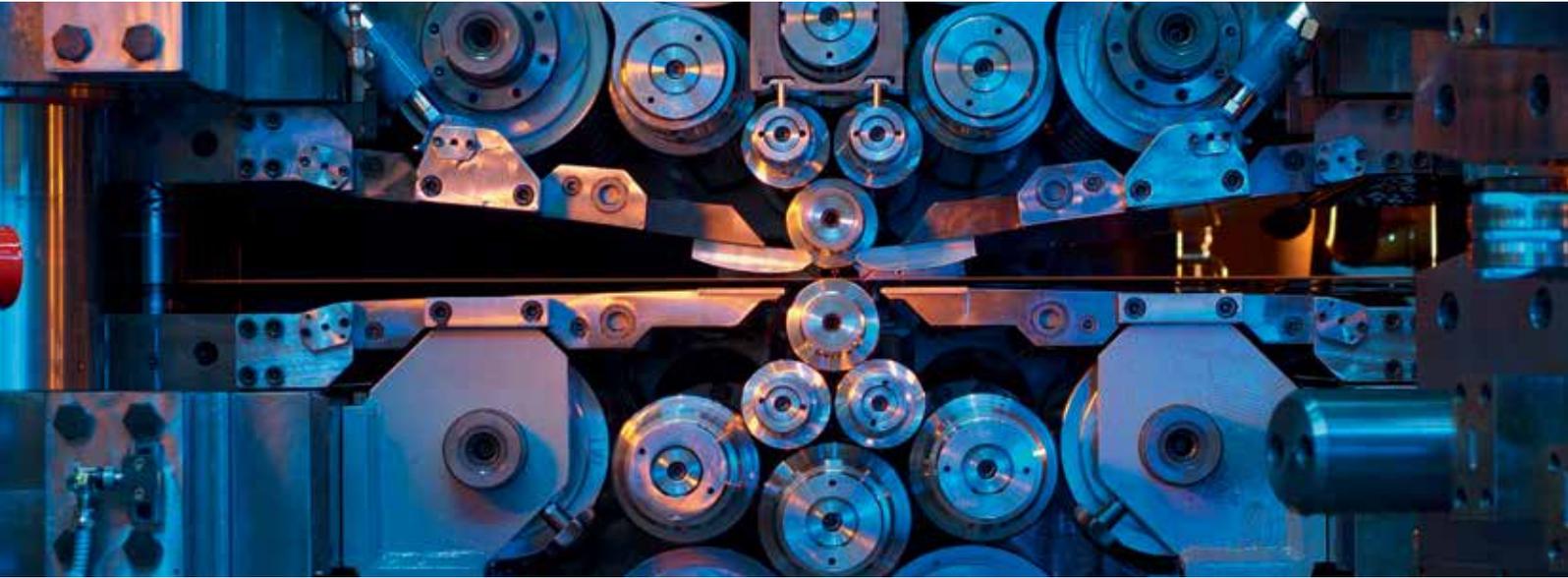
In all applications, our systems contribute to reducing operating costs, while coping with the most stringent international grid owners.



Hot-rolling mills

Demands on the quality of hot-rolled products continue to increase. GE provides solutions tailored to every type of hot rolling mill, facilitating the production of modern steel grades. With our close technical partnerships with major international mill-builders, we work with you to understand the mechanical design you are adopting, and how to control it to best effect.

Our automation systems, together with our broad range of powerful drive systems, help us to achieve excellent results in terms of plant availability and process efficiency. In addition, our technological control systems and mathematical models allow optimization of the complete rolling process, thus supporting reduced production times and increased product quality and energy savings.



Cold-rolling mills

Sophisticated automation and control systems are the only way of meeting today's requirements for cold-rolled products quality, mill productivity, availability and reliability.

From reversing to tandem mills or temper mills, GE's advanced solutions for power distribution, drives, control and automation, help boost the overall performance of your mill, allowing strips to be produced at very tight tolerances, and high productivity and quality levels for carbon and special steel grades.

We are also focused on the design and implementation of solutions that make energy efficiency a top priority, providing you a faster return on investment.

Induction motors fed by our medium-voltage drives provide an ideal example. One of the latest solutions designed and manufactured by GE for all rolling mill applications, this solution helps bring you significant cost savings.



Processing lines

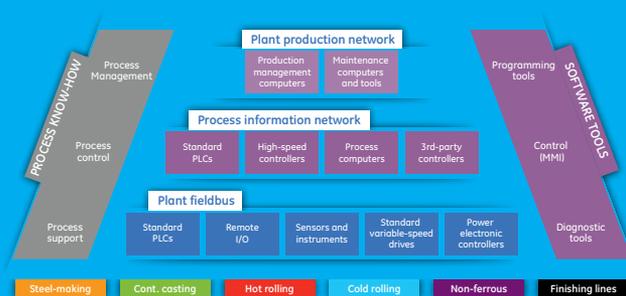
Processing line owners are faced with growing needs in terms of quantity and quality. They have to be able to expand capacity, speed up processing, and enhance overall plant productivity—whilst ensuring a perfect product.

GE has a complete set of electrical and automation solutions that help produce high-performance steel while keeping a constant focus on improving plant throughput and yield, reducing energy usage and lowering environmental footprint.

Years of research and development in new concepts give GE a specific capability to provide innovative solutions to metals producers around the globe. Here is just one example of this approach: GE was one of the pioneers in the application of AC drives to processing lines, and was one of the first suppliers to commission a complete AC-driven processing line with common DC bus system, a cost-effective solution enabling significant energy savings.

Complete system offering and successful integration

GE offers a complete range of products, solutions and services to OEMs and metals producers for new installations and plant modernization. We are experienced in interfacing with third-party equipment, delivering a successful solution with contained cost and complexity.



For each type of metals process, we have the capacity to offer complete turnkey project management for total system integration.

With an open scalable architecture, libraries of process expertise and advanced software tools, GE brings together all elements of a successful integrated system throughout the entire life cycle.

Global service reach and response

GE's highly skilled engineers offer broad-based experience and expertise in a vast array of strategic metals resources at a global level. Our comprehensive customer support spans the complete product life cycle, including spares and repairs, training, service contracts, breakdown support, comprehensive remote support and plant monitoring system, and upgrade and enhancement projects.

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