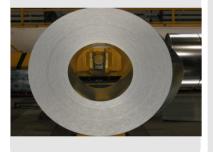
CASE STUDY

Furnace Control (SDI Columbus - USA)











During the second quarter of 2019. Ingeteam will awared by Fives Stein for the supply of the control and automation equipment for the horizontal furnace of a new hot-dip galvanizing line, from one of the greatest steel producers in the U.S., the company knows as Steel Dynamics, Inc (SDI), part of Steel Dynamic's Flat Roll Group, located in Columbus, Mississippi.

Columbus Division, part of Steel Dynamics' Flat Roll Group, located in Columbus, Mississippi.The Columbus facility produces a broad range of products for the manufacturing sector in the U.S. and Mexico, including ultra high-strength steel, advanced metallic coatings, and the widest painted products available today. These products find their way into the most demanding markets, including automobile, energy, appliance, construction, and much more.

This order, with the collaboration between Ingeteam and Fives STEIN Bilbao (a company dedicated to the design and supply of industrial furnaces and heating equipment), will allow the installation of a horizontal furnace in a hot dip galvanizing line that will produce 400,000 tons of steel per year, in the SDI plant in Columbus, in the state of Mississipi. SDI will invest \$ 140 million to create this third line in Columbus, becoming the company's ninth line. The facilities are expected to enter service in the second half of 2020.

This line will be dedicated to produce steel for unexposed automobile parts, as well as for specialized steels, the food processing industry, home appliances, building and construction, energy, air-conditioning, lighting and machinery.

This contract consolidates Ingeteam as a benchmark company in the US market while for SDI it means diversifying the market increasing profitability by investing in new projects and advanced technologies.

The scope of supply of Ingeteam will consist of the electrical engineering definition of the automation, software, design and manufacturing, documentation, electrical installation supervision and commissioning of the following equipment:

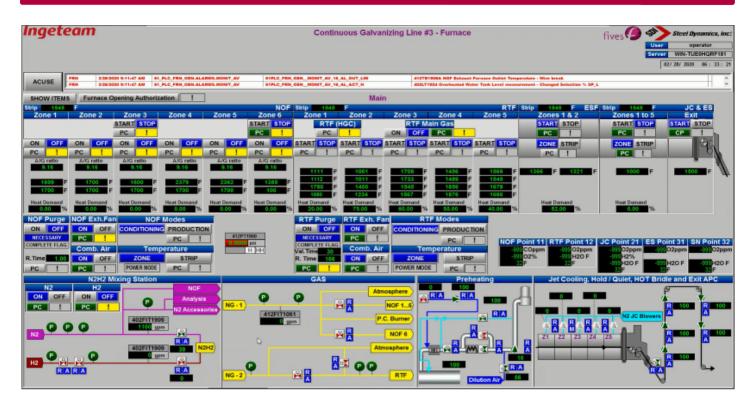
- 1x Rockwell PLC.
- 2x Operator panels (HMI).
- Engineering station including development software.
- Development software licenses for the PLCs and HMIs.
- Diagrams and documentation.
- Factory Acceptance Test (FAT).
- Electrical Installation Supervision and Commissioning.



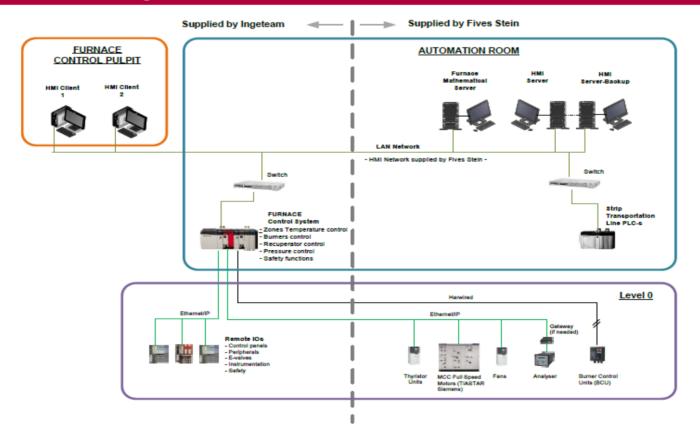


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Main Diagram



Automation Diagram



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