



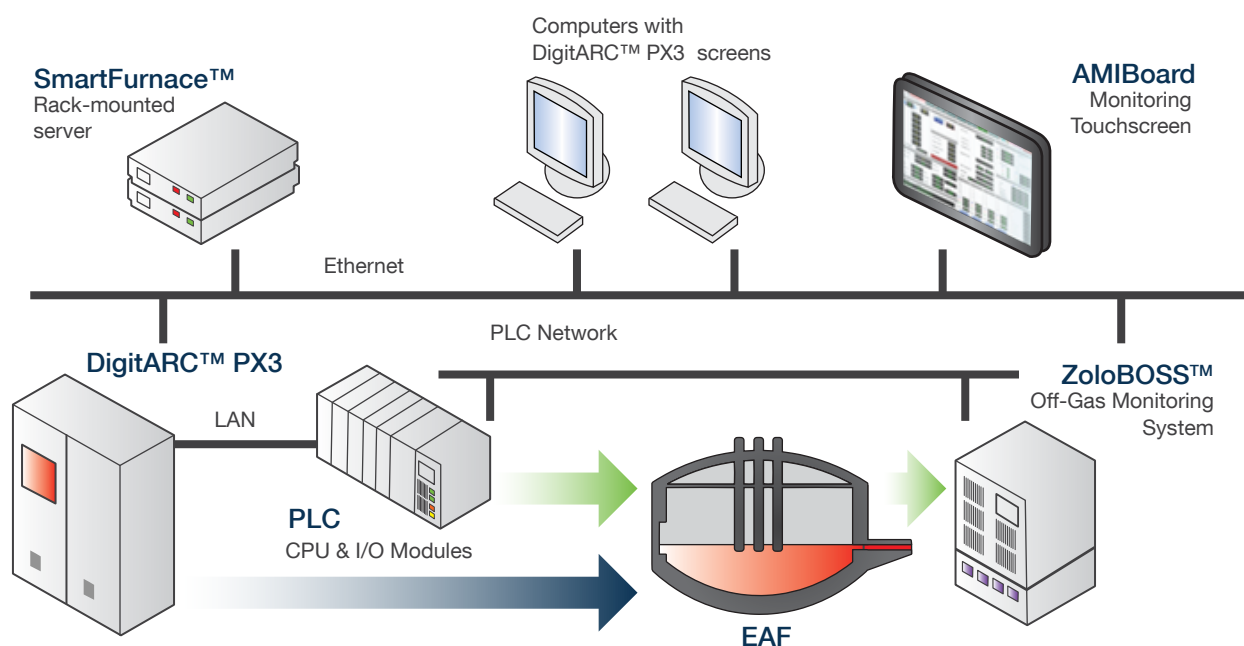
SmartFurnace™

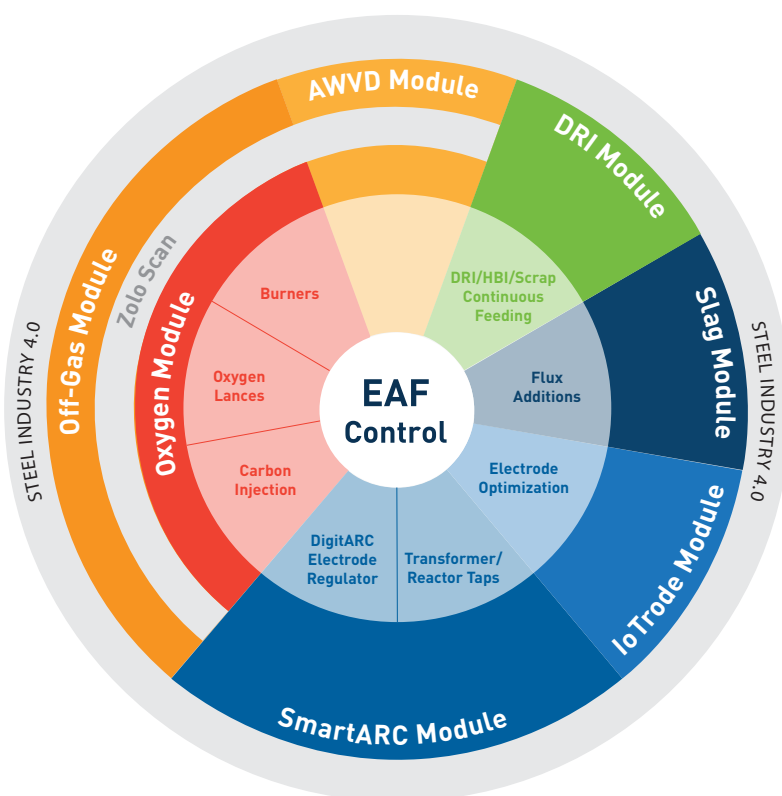
An integrated solution for total EAF Optimization

SmartFurnace™

The AMI SmartFurnace™ System improves productivity and reduces energy used per ton of steel. As an Artificial Intelligence Expert system, it dynamically selects the best operating points for electrical and chemical energy input based on the actual heat conditions. Every EAF has a personality and AMI has the tools and the experienced technical people to help you tune your EAF operation.

The SmartFurnace™ System utilizes several individual modules to adapt and optimize every aspect of the furnace operation. The open architecture allows the user to customize the operation and enhance the EAF performance.





SmartFurnace™ MODULES

► SmartARC™

Decides the best operating points based on the heat stage, slag level, arc stability and scrap mix for transformer and reactor tap reference.

► IoTrode™

Measures, Controls, and Optimizes the consumption of graphite electrodes using advanced digital technologies and the tools of Industry 4.0.

► Slag

Implements an online mass balance to model the slag composition and recommend fluxes to achieve the target basicity and MgO saturation.

► DRI/HBI/Scrap

Controls the rate of DRI, HBI or Scrap in continuous feeding systems to maintain an optimum temperature profile, based on the actual heat conditions.

► Abnormal Water Vapor Detection (AWVD)

Proven abnormal water vapor detection provides valuable information for process safety. Non extractive measurement of CO, CO₂, H₂O and temperature. With automatic path alignment and measurement response in less than 2 seconds.

► Off-Gas

Using a new laser technique developed by ZOLO Technologies, the EAF control system is capable of analyzing on real time the EAF off gas using the TDLAS technology with a laser beam. This information is the feedback the system needs to close the chemical energy control loop, helping to control and optimize the addition of Carbon, Gas, and Oxygen, and to identify potential risks.

► Oxygen

Controls the rates of Gas, Oxygen and Carbon considering the conditions of the heat and the composition of the bath.