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Latest SMS EAF technologies for safety and green steel production

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Reduction of CO2 emissions in steel production and conversion to green energy sources demand a highly efficient, dynamic and flexible power supply for electric arc furnaces. Due to changes in the power supply grid by installing more renewable energy resources, grids become weaker and weaker. In addition to that, the grid code, especially regarding flicker values becomes more severe, not allowing the connection of demanding conventional EAFs. The new AURA family of IGBT based power modules provides the demanded efficiency, dynamic and power density to serve the needs of the green steel transformation and grid code requirements. Using this innovative modulation, technologies and proprietary control algorithms, which take full advantage of the power electronic capabilities, SMS ensures highest power transfer and lowest impact on the grid' s power quality.
In addition to X-Pact AURA SMS offers two technological innovations for energy savings, reduced CO2 and NOx emissions, increasing productivity and enhancing safety.
Condoor ®- automatic slag door, with over 50 global installations, showcases design improvements, reliability, and extended lifespan, validated by plant feedback. Its main benefits range from reduced power and electrode consumption to process time. Condoor, combined with SCAD, optimizes parameters like carbon injection and flux consumption, stabilizing cycle times and enhancing slag control, essential for using alternative virgin iron sources in EAF.
X-Pact Sampler, enhances safety by eliminating the need for operators near the furnace. Developed by SMS group, it automates measurements on liquid steel, improving consistency and reducing direct exposure risks. The latest version features heat-armored protections, advanced automation software, and an Automatic Cartridge Exchange system, ensuring reliability and lower maintenance costs. Adaptable to new or existing EAFs, ladle furnaces, vacuum degassers, ladles, or tundishes, it handles all measurement types typically performed by operators.

Primary author: Mr LUGNANI, Massimo (SMS group)

Presenter: Mr LUGNANI, Massimo (SMS group)

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