Contribution ID: **353** Type: **Oral Presentation**

Solid as Iron: Integrated Blast Furnace Control, Optimization, Condition Monitoring, and Simulation

Wednesday 8 October 2025 09:00 (20 minutes)

Efficient blast furnace operation is essential for competitive iron and steel production, impacting productivity, hot metal quality, and cost-effectiveness. This paper explores how a combination of integrated automation systems enabled the successful start-up and stable operation of a blast furnace following a relining that included the installation of a bell-less top charging system:
A flexible, state-of-the-art process control system acts as the plant's digital heart. It is supported by a comprehensive digital knowledge package, which includes operational knowledge from a rule-based expert system, maintenance knowledge from a predictive condition monitoring system, and a test and training system to enhance the operations team's expertise.

Primary authors: BETTINGER, Dieter (Primetals Technologies); SCHALER, Martin

Co-authors: VOGLMAYR, Bernhard (Primetals Technologies); FRITSCHEK, Harald; Mr AKKOL, Mustafa Alican; Mr COTTA, Pedro Sampaio; Mr BICHLER, Roland

Presenter: BETTINGER, Dieter (Primetals Technologies)

Session Classification: Blast Furnace Process Optimization & Control

Track Classification: Ironmaking - Blast furnace ironmaking