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AI Assisted Thermal Modelling for Advanced Furnace Control and Process Optimization

Tuesday 12 May 2026 17:50 (20 minutes)

John Cockerill is developing AI-assisted enhancements to its physics-based furnace control models to improve process efficiency and stability in steelmaking. Building on the Line Thermal Optimization Process (LTOP) experience, this work explores how artificial intelligence can refine transient anticipation, heat transfer estimation, and adaptive response under changing operating conditions. The hybrid approach combines physical modelling with data-driven learning to reduce temperature overshoots and improve overall energy efficiency. The presentation will discuss the concept, preliminary results, and perspectives for integrating AI into model-based control to support higher performance and sustainability in future steel production lines.

Speaker Country

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Session Classification: AI and Machine Learning in Process Optimization II

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