Contribution ID: **286** Type: **Oral Presentation**

Exploring the Potential of Machine Vision (MV) and Artificial Intelligence (AI) in Steel Production

Thursday 9 October 2025 11:20 (20 minutes)

Machine Vision (MV) and Artificial Intelligence (AI) are rapidly evolving technologies poised to transform industries, including steel production. While these technologies are already applied in metallurgical plants—primarily to optimize process models—their potential extends far beyond conventional applications. This presentation aims to challenge traditional thinking and spark discussions of new, creative use cases that enhance production processes, plant logistics, safety, and quality control.

The presentation will begin with a brief overview of key input sensors, such as depth cameras, thermal imaging, and LiDAR, alongside data processing options that leverage edge computing and real-time analytics. Attendees will gain insight into how these components interact to extract meaningful, actionable information.

Building on this foundation, the presentation will showcase novel applications of MV and AI that extend beyond process control. Examples will include enhanced safety monitoring, material logistics, and inspection assistants using AI-driven recognition.

As steel manufacturers seek to increase efficiency, reduce waste, and enhance workplace safety, MV and AI present exciting new opportunities. By understanding how these tools are applied attendees can begin to imagine a myriad of use-cases. This session encourages attendees to think beyond conventional automation and explore innovative solutions that could redefine the future of metallurgical manufacturing.

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Session Classification: Digital transformation - Steel materials and their application

Track Classification: Digital tranformation