

PLENARY LECTURE

## THE AI SYNERGY REVOLUTION: REDEFINING RAILWAY RELIABILITY FOR TOMORROW

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**Summary:** This presentation will explore how the integration of Generative, Analytical, Causal, and Autonomous AI can revolutionize reliability engineering. By harnessing the unique strengths of each AI type—ranging from predictive maintenance and system optimization to real-time failure prevention and root cause analysis—this synergy enables a transformative shift from reactive to proactive and autonomous operations. The presentation will discuss current challenges in railway systems, showcase innovative applications of AI synergy, and envision a future where railways are smarter, safer, and more resilient. Attendees will gain insights into how these advancements can help build the railways of tomorrow, setting the foundation for sustainable and efficient transportation systems worldwide.