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Seamless Quality Management in the Transition to Energy-Efficient Steel Production

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This presentation explores how a quality execution system effectively addresses the key challenges of the "twin transition" –the shift toward both ecological and digital sustainability –making these transformations more manageable.

As steel manufacturers transition to more energy-efficient production processes and replace existing plants, maintaining consistent quality control becomes increasingly complex. In this rapid transformation, driven not only by ecological demands but also by the imperatives of digitalization, a quality execution system plays a pivotal role. Designed for flexibility, this system seamlessly adapts to changing processing routes while ensuring reliable quality management.

When processing routes and conditions change, the impact extends beyond changes of the data landscape. Rather, product flow and genealogy must be remodeled, product quality reassessed, and quality processes realigned. New causes of quality deviations must be analyzed and documented, while surface defects require evaluation and processing that exceed previous standards. A quality execution system is uniquely equipped to meet these challenges.

By integrating advanced production data warehousing, data monitoring, sophisticated surface defect analysis, automated grading mechanisms, and root cause analysis, a quality execution system enhances production accuracy, reduces rework rates, and improves overall plant efficiency. These capabilities provide manufacturers with deep quality insights, enabling them to adapt to changes in supply chains while maintaining consistent product quality –even as raw materials and energy sources shift toward more sustainable alternatives.

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