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Case study on product quality management on a continuous galvanizing line thanks to digital solution

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Fives'Eyeron® is a digital solution aiming at managing the quality of steel products in real time. This solution can be deployed either on a single asset or in a fully integrated plant. Thanks to its effective data injection and powerful rules engine system, it can automatically provide precise quality grading and reports, and issue recommendations for order reallocation or repair of any type of steel product.

Installation of this digital solution was successfully completed on the Continuous Galvanizing Line n°4 of Marcegaglia Ravenna SpA plant based on a strong partnership between steelmaker quality department and Fives.

This paper will present the following results observed after a test period of few months:

• Enhanced Reliability in Quality Control: Ensures a significant increase in the reliability of quality control across all product characteristics, including dimensions, surface appearance, mechanical and chemical properties.

• Comprehensive Process Monitoring: Improves process reliability by continuously evaluating key parameters to maintain optimal performance and compliance.

• Proactive Approach with Smart Alerts: Implements a proactive strategy through an advanced alert system that notifies process operators of minor deviations before they escalate into non-conformities.

• Corrective Action Guidance: The system not only identifies potential quality issues but also suggests corrective actions to quickly resolve them, minimizing disruptions.

• Reduction in Non-Conformities and Disputes: Significantly decreases internal non-conformities and customer claim by ensuring consistent product quality and early detection of deviations.

• Advanced Deep Failure Analysis: This system will enable the implementation of deep failure analysis using advanced machine learning algorithms to further enhance quality assurance and predictive maintenance.

This innovative software optimizes quality control efficiency, reduces operational risks, and enhances overall product reliability.

Based on presented successful results, Marcegaglia Ravenna SpA intends to upscale Eyeron® on full Ravenna cold rolling plant.

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