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Marcegaglia's Partnership with Primetals Technologies to Result in Significant Productivity Improvements

- **Extensive upgrade of process optimization systems (Level 2) enables production increase from 250,000 to 500,000 tons annually**
- **Primetals Technologies to execute a carefully crafted three-phase plan for immediate, medium-term, and long-term modernization of Marcegaglia's minimill in Sheffield, the UK**
- **Through-Process Optimization study laid foundation for improvement measures**

Marcegaglia Stainless Sheffield, based in the UK, has partnered with Primetals Technologies to optimize production processes across its Sheffield minimill. The modernization project aims to double the plant's annual production capacity from 250,000 to 500,000 tons. Several intralogistics systems, process optimization solutions, technology packages, and intelligent sensor systems will be installed at all production units of the meltshop, scrap yard, and the ladle tracking system.

Tailored to Marcegaglia's Needs

The project is tailored to Marcegaglia's specific requirements, based on a recent Through-Process Optimization (TPO) study conducted by Primetals Technologies. The TPO assessment provided Marcegaglia a comprehensive analysis of the steelmaking plant, identifying bottlenecks and outlining potential improvement measures. A key result of the assessment, the improvement roadmap, highlights recommended actions to achieve a streamlined implementation process.

The TPO study was a key factor in Marcegaglia's decision to choose Primetals Technologies for this extensive automation upgrade and for the recently awarded electric arc furnace revamping project.

As a first step, Primetals Technologies will install Melt Expert, a fully automated electrode control system for electric arc and ladle furnaces. Mid-term plans include the implementation of process optimization software (Level 2) for the electric arc furnace (EAF), argon-oxygen decarburization (AOD), and ladle furnace (LF) plants, all of which are currently missing from the automation landscape. Long-term plans include the replacement of the electric arc furnace to accommodate the future productivity increase.

A Relationship Beyond System installation

"Marcegaglia chose Primetals Technologies not only for its technical expertise, but also for its commitment to fostering a long-term partnership. This relationship goes beyond system installation to ongoing system updates and development," said Tom Eades, Engineering Manager at Marcegaglia. The ultimate goal is to increase productivity, which will require introducing an additional production shift. New personnel will be able to gain the necessary knowledge to efficiently run a production unit through Primetals Technologies' new process optimization systems, which provide digitalized knowledge, recommended actions, and training sessions for operators. Marcegaglia intends to start using the

standard know-how rules included with all systems, with modifications aligned to operators' best practices as a part of the planned service contract.

Comprehensive Set of Solutions

The scope of supply includes the Scrap Yard Supervisor, which calculates cost-optimized scrap recipes, visualizes process information, and tracks loading processes. Intelligent sensors, such as the Scrap Basket Profile Monitor, monitor specific process steps, identify deviations from standard operating conditions, and notify the operator. The process optimization solutions EAF Optimizer, AOD Optimizer, and LF Optimizer provide dynamic process control for improved product quality, advanced metallurgical models to meet production-related quality criteria, and detailed calculations of input materials to reduce costs. The Ladle Tracker suggests the most suitable ladle for the upcoming batch, avoiding quality loss caused by residues from previous batches.

Long Stainless Steel of High Quality

Marcegaglia Stainless Sheffield is a global manufacturer of long stainless steel products. The company is known for its ability to provide reliable products of high quality in a wide range of grades, shapes, and sizes. Its stainless steel is a sustainable material with over 90 percent recycled content. Products are melted in Europe using energy sources and raw materials that provide Marcegaglia Stainless' customers with a carbon footprint lower than industry average.



Marcegaglia will equip all the production units of the minimill meltshop in Sheffield with automation systems from Primetals Technologies.

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