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## Rizhao Steel to Benefit from Fully Automated Plant with Innovative Solutions from Primetals Technologies

- **Large order of state-of-the-art process automation systems and technological packages, to be implemented at Rizhao Steel's smart steel plant**
- **New solutions will enable a fully automated plant: "one-button steelmaking"**
- **Benefits for Rizhao Steel include improved product quality, productivity, and flexibility of production**

Recently, Rizhao Steel has placed an order with Primetals Technologies to implement advanced process automation systems and technological packages at its integrated steel plant in Rizhao, China. Powerful metallurgical models, dynamic process control systems, and detailed calculations of input materials will enable full plant automation, "one-button steelmaking", from a central control station.

Thanks to a high level of autonomous operation, the Chinese steel producer will benefit from improved product quality, higher productivity, as well as improved production flexibility. Moreover, operators at the Rizhao plant will get valuable insights from production data. This project underscores Rizhao Steel's intention to become one of the leading steel producers in China in terms of automation excellence.

### **Fully automated plant**

Primetals Technologies will install comprehensive process optimization solutions and technological packages across Rizhao Steel's production facilities, including three LD converters (BOF), four twin ladle furnaces, and two twin RH plants. The scope also includes a state-of-the-art system for the monitoring and analysis of process gas.

The Level 2 automation solutions for the meltshop feature tried-and-tested automation-related aspects such as data management of materials, steel grades, and production planning. This integration ensures a highly automated and standardized production process, enabling a fully automated plant controlled from a central control station, i.e. steelmaking at the push of a button, an innovative approach that minimizes the need for operators to interfere in the production process, while at the same time maximizing operational efficiency and consistency.

### **Autonomous operation**

The technological solutions provided by Primetals Technologies are designed to ensure that Rizhao will meet several key objectives with its smart plant. This will be realized, for example, by limiting the occurrence of manual processes such as oxygen lance height adjustment, by providing operator guidance based on meticulous calculations for all process steps, and by standardizing production processes across all work shifts. The implementation of a number of intelligent modules from Primetals

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Technologies, like the BOF Optimizer, LF Optimizer, and RH Optimizer, will competently support the production process, ensuring efficient decision-making and ongoing improvement of production processes. The result is a highly effective, quality-focused production environment that will put Rizhao Steel on track to become a leader in smart steel production in China.

Rizhao Steel, founded in 2003, is a company of the Rizhao Steel Holding Group, located about 30 kilometers outside Rizhao Port in the south of Shandong Province. The steel producer has an annual crude steel output of 15 million tons and employs some 16,000 people. Its product portfolio includes hot-rolled coils, wire, bars, and small I-beams, which are mainly sold to Chinese customers.

Rizhao Steel holds a leading position in the Chinese steel industry, not the least due to the implementation of the energy-efficient Arvedi Endless Strip Production (ESP) technology, supplied by Primetals Technologies.



Primetals Technologies' automation and digitalization solutions will enable "one-button steelmaking" for Rizhao Steel's fully integrated steel plant.



The extensive Level 2 automation solution from Primetals Technologies will result in improved product quality, higher productivity, and improved production flexibility.

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