

EVRAZ ZSMK awards contract for integrated quality control system for rail production to Primetals Technologies

- **Contract awarded for integrated quality control system "TPO"**
- **Goal: improve quality of rail production**
- **Advantages: systematic data collection from which improvement measures are derived**
- **Primetals Technologies also conducts data-driven correlation analyses**

In October 2021, EVRAZ Consolidated West Siberian Metallurgical Plant (EVRAZ ZSMK) awarded a contract to Primetals Technologies for an integrated quality control system for its steel mill and rolling mill in Novokuznetsk, Russia. The solution "Through-Process Optimization (TPO)" will improve the quality of rail manufacturing at Russia's largest steel company. Production data are stored centrally, continuously and in a structured way. Immediately after installation of the solution, experts from Primetals Technologies will perform data-driven correlation analyses. The project will take 16 months to implement and will be monitored by a steering committee comprising the management of EVRAZ ZSMK and Primetals Technologies in Austria. The contract also includes a multi-year service contract.

Quality improvement in rail production

At its steel mill in Novokuznetsk, Russia, EVRAZ ZSMK operates a production line for rails in lengths of up to 100 meters. Because the quality requirements for rail manufacturing are particularly high, multiple inspections of the – semifinished – long steel products have to be performed along the entire production line. For example, the quality is inspected using non-destructive methods such as ultrasonic measurements. To further improve the quality of rail production, EVRAZ ZSMK awarded Primetals Technologies the contract for an integrated quality control system in October 2021.

Integrated quality control system

All quality-relevant data across the entire production line in the steel mill and rolling mill are collected and stored in a structured way in the system "Through-Process Quality Control (TPQC)", which is part of TPO. The result is detailed product genealogy containing comprehensive information about every stage of production. The "TPO" solution provides support with systematic data analysis from which improvement measures are derived for continuously increasing the quality of the production processes and end products. Among other functions, the implemented TPO system will encompass statistical process control (SPC) and digital assistance functions for defining improvement measures. Semifinished products will be inspected after each production step according to defined quality criteria and will only be released for the next stage if these criteria are met.

After the new solution has been installed, Primetals Technologies will perform a data-driven correlation analysis. Experts from Primetals Technologies will then analyze the collected data using the latest methods to identify the root causes of product nonconformities.

Long-term partnership

The contract that has now been awarded to Primetals Technologies is the culmination of a long partnership with EVRAZ ZSMK. More than 15 years ago, a continuous casting plant and a ladle furnace were supplied to the steel mill in Novokuznetsk. Additionally, the process automation solution of the blast furnace was updated in this period. Several projects have been jointly implemented at other EVRAZ ZSMK locations, too. The management of Primetals Technologies Austria and EVRAZ ZSMK are working closely together in a steering committee set up especially for the installation and commissioning of the new integrated quality control system "TPO". A "Collaboration Platform" is planned to track open issues and maintain a joint document system. Over the next 16 months, the new solution is to be installed in the steel plant and rail rolling mill.

EVRAZ ZSMK is Russia's largest steel plant with two production sites for long products and rails in Novokuznetsk in Kemerovo Oblast. Rails of lengths up to 100 meters are manufactured to international standards, both for the Russian market and for export.



With the solution "Through-Process Optimization (TPO)", EVRAZ ZSMK intends to improve the quality of rail manufacturing at Russia's largest steel plant. Copyright: © 2021 EVRAZ plc

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