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PRESS RELEASE

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All set for new performance levels – Mill revamp in record time

Comprehensive revamp of PAO Severstal's tandem mill by SMS group increases quality and capacity

On May 11, 2016, SMS group (www.sms-group.com) successfully commissioned rolling mill “2100” of Russian steel producer PAO Severstal after a comprehensive mill modernization.

PAO Severstal had awarded SMS group the order to revamp the four-stand tandem cold mill “1700” at the Cherepovets works in Northwest Russia. The objective of the project was to increase the capacity of the mill, expand the product range and improve the product quality. The tandem mill was also to be prepared for being coupled with a newly built pickling line at a later stage.

SMS group completely renewed the entry section and the four rolling stands of the tandem mill. This involved equipping the stands with the latest of CVC[®] plus 4-high technology (Continuously Variable Crown). Effective work-roll bending systems, CVC[®] work-roll shifting also under rolling load, highly dynamic adjustment systems, multi-zone cooling in the last stand, an exit-side dry strip system of the latest generation as well as other proven plant components ensure that the strip will meet the customer's exacting quality requirements. High reductions per pass are made possible by effective roll and interstand

cooling. Automatic work roll changing and the new, optimized coil preparation station reduce non-productive times.

In order to be able to roll a wider range of products, the first rolling stand received a completely new drive train. The performance of the other stands was enhanced by integrating new control systems into the existing drive units.

SMS group also supplied the X-Pact[®] automation system, complete with level 1, level 2 and the measuring equipment, which includes the X-Shape flatness measuring and control system. Extremely robust and highly precisely operating X-Shape flatness measurement rolls have been installed behind the first and the last rolling stand. An assistance system, specifically developed for tandem mills, optimizes threading and tailing out of the rolling stock at each stand. This reduces off-size lengths at the strip head and tail ends and increases the yield. The fact that all those components are harmonized and perfectly coordinated ensures that the highly exacting demands on the strip quality in terms of thickness, flatness and surface quality are met and the plant operates in an economically efficient way.

The auxiliary facilities, which have also been brought to the latest state of the art, and the powerful filter systems reduce the consumption of emulsion, boosting the economic efficiency and environmental compatibility of the plant, last but not least by the enhancement of fume extraction between the rolling stands.

Thanks to diligent project planning and the extremely efficient cooperation of all those involved in the project, the main construction activities, which included the dismantling of existing equipment, installation of the new equipment and the commissioning phase until successful rolling of the first strip, were performed during a mill downtime of only 88 days. The first strip was rolled just ten days after

the first mechanical equipment had been commissioned. Hence, PAO Severstal's comprehensively modernized rolling mill "2100" is all set for new tasks. It is well prepared to meet the customers' growing requirements regarding the properties of quality carbon steels as well as high-strength and micro-alloyed silicon steels. Including the capacity added by this modernization project, PAO Severstal now boasts a total capacity of 1.3 million tons.

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After the modernization project successfully completed by SMS group, PAO Severstal now operates a most advanced and extremely efficient rolling mill "2100".

The SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. Its 14,000 employees generate sales of over EUR 3.3 bn.