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## **PRESS RELEASE**

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### Greenfield project for production of automotive grades in China **SMS group to supply complete flat steel complex including high-performance quality assurance system and operation know-how to Shandong**

Shandong Iron and Steel Rizhao, China, has contracted the SMS group ([www.sms-group.com](http://www.sms-group.com)) to supply a complete flat steel complex including a newly developed quality assurance system and operation know-how in the Shandong province on the Chinese east coast. A special feature of this project will be the supply of cross-process know-how while simultaneously monitoring, documenting and securing the product characteristics. The flat steel complex will comprise a hot strip mill, a pickling tandem mill, a hot-dip galvanizing line and two annealing lines. The SMS group will supply the electrical and automation systems for the entire equipment. Thanks to this investment in high-quality equipment technology combined with extensive know-how and innovative quality assurance, Shandong will have one of the most up-to-date plants worldwide. In addition to the production of tube grades and cold strip for the construction and household appliances industries, the focus will lie on sophisticated steel grades for the automotive industry. The equipment is scheduled to commence operation in 2017. With the new equipment, Shandong Iron and Steel Rizhao will be able to produce almost five million tons of hot strip and two million tons of surface-finished cold strip per year.

A central part of this project will be the implementation of a PQA system (Product Quality Analyzer) which has the task to monitor, document and secure the process and the products right up to the surface-finished cold strip. For this purpose, all relevant production data will be recorded and analyzed in a continuous manner. Based

on pre-defined rules, the system will issue instructions for action, so that possible irregularities in the production process can be responded to in due time so as to ensure high yield at optimal quality. Furthermore, the manufactured products will be assessed with regard to their suitability for various applications. The main benefits for Shandong are the immediate identification and elimination of quality issues, high process stability combined with increased yield and a higher acceptance on the part of the end customer thanks to complete documentation of the entire production process.

The scope of supply will also comprise a comprehensive know-how package which makes it possible to produce different material grades at high quality in a short period of time. For all hot and cold strip grades, material, process and operating parameters will be pre-defined for the entire production route in order to obtain the required mechanical properties. Furthermore, the production will be supervised and the process optimized continuously.

The hot wide strip mill is designed for an annual capacity of 4.8 million tons and produces strips in widths of up to 1,900 millimeters. The slab sizing press allows width reductions of up to 350 millimeters and therefore ensures great flexibility as regards casting and strip widths. With two high-performance roughing stands, hydraulic adjustment systems on all millstands, the CVC<sup>®</sup> plus (Continuous Variable Crown) system and PCFC<sup>®</sup> automation (Profile Control and Flatness Control), the plant is optimally equipped for the flexible production of hot strip in narrow geometrical tolerances.

A major part of the hot strip produced will be processed in the pickling tandem mill with an annual capacity of two million tons to obtain high-quality cold strip. Highlights of the plant are the environmentally friendly design of the pickling plant including an efficient turbulence tank pickling system and the five-stand tandem mill with the new combined CVC<sup>®</sup> plus/ESS technology (Enhanced Shifting System) for flexible optimization of the roll gap.

Two annealing lines and a hot-dip galvanizing line provide a finish to the cold strip to obtain a high-quality product. All lines feature high-performance Drever radiant tube furnaces equipped with ultra-fast

cooling systems to ensure high cooling rates. These furnaces allow the production of high-strength grades for the automotive industry. The hot-dip galvanizing line comprises FOEN wipe-off nozzles which ensure that the extremely high demands placed on surface quality by the automotive industry can be achieved. The two annealing lines have an annual production capacity of 950,000 and 650,000 tons, while the hot-dip galvanizing line has a production capacity of 400,000 tons.

The total of two million tons of surface-finished cold strip comes in widths between 900 and 1,850 millimeters and final gauges of 0.3 to 2.5 millimeters. Production comprises the material grades CQ, DQ, DDQ, EDDQ, SEDDQ, BH, HSLA, HSS, DP, TRIP, achieving tensile strength values of up to 1,000 MPa.

The scope of supply for the electrical and automation systems comprises a plug & work test before commissioning to ensure the functionality of all systems and provide for intensive training and familiarization of the customer staff on the equipment.

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With the new equipment supplied by SMS, Shandong will produce a total of two million tons of surface-finished cold strip per year, mainly supplying end customers in the automotive industry.



Signing the contract: Dieter Rosenthal (Managing Director of SMS group), Wang Jichao (Vice President of Shandong Iron and Steel Rizhao) and Olaf Stalfort (Head of Commercial Sales at SMS group) (from left to right).

New:

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