

PRESS RELEASE

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Jacobs University of Bremen and SMS group kick off joint research and development project

Development of innovative dynamic planning and optimization processes as part of a digitalization offensive



Visit to the production facilities of Big River Steel in the U.S.A. From left to right: Gregor Schneider, Head of E & A Technology for Flat Rolling Mills, SMS group GmbH; Edwin Eichler, Chairman of the Supervisory Board of SMS group GmbH; Harald Rackel, Member of the Managing Board of SMS group GmbH (until 31.03.2018) and Dr.-Ing. Katja

Windt, Member of the Managing Board of SMS group GmbH (as of 01.04.2018); and Roland Franz, SMS group GmbH, Commissioning Manager at Big River Steel, U.S.A.

As part of its digitalization offensive, SMS group has kicked off a research and development project on intelligent production planning in cooperation with Jacobs University of Bremen, Germany. The project will cover aspects such as dynamic reacting to specific production situations, use of artificial intelligence and autonomous learning of automation systems.

The dynamic planning and optimization processes to be developed during the project will be integrated into the automation environment in place at the SMS group customer Big River Steel in the U.S.A, which includes, for example, the X-Pact[®] MES 4.0 production planning system. Specifically, the project is to provide solutions and optimization models for “production planning with real product cycle times”, “yield optimization through smart campaign planning” and “re-scheduling of sequences in CSP[®] plants (Compact Strip Production)” after interruption of casting”.

Improved adherence to production schedules and increased yield by reducing downgrading and scrap will have positive effects on the economic efficiency of the customer’s production facilities. For example, it is planned to introduce machine learning and pattern recognition techniques to predict the timeliness of orders. A further objective of the project is the development of a planning module based on artificial intelligence - X-Pact[®] MES 4.0 Performance Enrichment Analysis. This module is to detect relationships between production parameters and performance indicators on the basis of historic production data. These capabilities are intended to be

used, for example, to perform scalable, self-learning order analyses and generate plans that take into account order schedules.

The joint project was officially kicked-off at the end of 2017. During a presentation of the project at Big River Steel in the U.S.A., representatives of the Jacobs University explained their views of what steps should be taken to implement a “Learning Factory”. They presented previous reference projects to illustrate the University’s capabilities and suitability as a partner for this project. The responsible research group is internationally renowned for the high quality of its network-based analyses of complex systems, its strong international orientation, the highly professional project management and the excellent know-how in modern data analysis methods.

SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. It has some 13,500 employees who generate worldwide sales of more than EUR 3 billion. The sole owner of the holding company SMS GmbH is the Familie Weiss Foundation.