



PSImetals Newsletter



*** Production Management for Metals ***

04/2006

Dear Sir or Madam,

in this edition of our newsletter, we have compiled articles on interesting, new production management solutions for our national and international customers. Your feedback is welcomed at all times. Please feel free to call me (+49 30/28 01-18 81) or send me an e-mail (rrzepka@psi.de). PSI would like to thank you for your interest and we wish you a Happy New Year.

Yours sincerely
Rainer Rzepka

Solution & Product Management
PSI Business Technology
for Industries GmbH

P.S.: Please have a look at our homepage www.psi-bt.com as well!

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On top with PSImetals



Successful Projects and Implementations

Swiss-Based von Moos Stahl AG Puts its Trust in PSI Industry Solution

In future, von Moos Stahl AG, a wholly owned subsidiary of SCHMOLZ+BICKENBACH AG, formerly Swiss Steel AG, will use the industry solution PSImetals for precisely timed planning and production control at the steelworks. The new production control system plans and visualizes the process flows, creates energy demand prognoses and, above and beyond this, also facilitates trouble management and ladle management.

Procurement of a production control system was triggered by increased demands with regard to precise timing of energy procurement for the Swiss steel company. Moreover, commissioning of a new vacuum system made the process flows in the steelworks more complex and demanded optimization of crane transports in order to ensure high throughput at the casting plant.

For production sequence planning and energy consumption prognoses, *PSImetals* uses an online scheduling concept that is based on linear optimization processes. The results of scheduling are visualized in a Gantt component, taking the stipulated process regulations into account. A precisely determined energy demand prognosis now makes it possible to place the order with the energy supplier a day ahead. In the next phase, *PSImetals* will schedule the sequences and production steps so that more constant energy consumption is attained within a stipulated range of tolerance.

Chinese Steel Producer TISCO Puts PSI Solution into Operation

The Chinese Taiyuan Iron and Steel Group (TISCO) officially put production and logistics control systems based on the modular *PSImetals* solution into operation in July 2006. PSI was charged by TISCO with the delivery of solutions for three plants in May 2005. Along with the implementation of the functional areas, plant planning, production control and materials flow monitoring, the business processes between *PSImetals* and the SAP system were integrated by means of certified interfaces.

In the initial phase, *PSImetals* is supporting the production of the stainless steel cold rolling mill and the newly erected hot broadband/cold rolling mill line. SAP is the leading system for corporate-wide production logistics and all the commercial applications. *PSImetals* is responsible for the production management of the individual plants. A middleware layer, which is based on the EAI framework of PSI, assures that the entire MES is connected to SAP. By means of this link, all the important processes and quality data are communicated to both each other and to subordinate and superior systems.

The goal is the seamless connection of level 4 and level 2 functionalities in an integrated IT system as well as the increase of productivity and quality by means of transparent production. The implementation of the initial production-oriented system in China represents an important milestone for TISCO and PSI.

PSI Supports Uhdes Cokemaster® Software at POSCO

PSI's *PSImetals* software supports Uhde in the integration of its Cokemaster® process optimization model for South Korea's largest steelmaker, Pohang Iron & Steel Company (POSCO) at its Pohang facility. Process optimization means energy savings in the production of coke; through the emission reductions achieved in this way, POSCO contributes significantly towards reducing environmental burdens. Furthermore, coke quality is enhanced and maintenance intervals for plant components are extended.

The project implementation focuses on independence from a particular database manufacturer as well as on configurable software components. The final customer can choose between an Oracle and an MS SQL server database, select his national language for the dialog interface, and set plant-specific configurations without modifying the Cokemaster® software. This also holds true for the interfaces with lower-level systems which PSI's solution supports through the optional use of TCP/IP socket or OPC interfaces, respectively.

With the current POSCO project, PSI and Uhde are continuing their twenty-year cooperation in the field of coking plant automation. PSI software is successfully used in this area by customers all over the world, including China, South Africa, Italy, Germany and other countries.

Functional Subjects

Heat Scheduling at Georgsmarienhütte GmbH

With the release change to *PSImetals* APS/ALS, Georgsmarienhütte can now avail itself of a powerful set of planning tools which support all the business processes related to production planning and management. Furthermore, an integrated solution is created that enables closer links between the planning areas of the steelworks on the one hand and the rolling mill on the other. The new system also replaces the functionality of casting program scheduling. In order to enable the supply and disposal of casting program scheduling data, the existing interfaces between SAP and the planning application were extended.

The new casting program scheduling functionality includes heat compilation and sequencing functions. *PSImetals* compiles heats and thereby combines casting sub-jobs to casting orders. Rules are defined for combining several casting sub-jobs in a heat. The sequencing function enables compiling of a sequence of casting orders which are performed in one string without interruption with one distributor.

Heat analyses, mix analyses, hardening strips and side conditions constitute tolerance bands where adherence has a significant role to play in the quality of heat formation. *PSImetals* permits the combination of tolerance bands which results in a new tolerance band. The heat analysis presents the composition of the chemical elements of the heat. Besides fixed elements, variable elements are also possible. The mix analysis is a result of combining heat analyses. *PSImetals* enables – just like the case of the mix analysis – the combination of casting part-jobs for hardening strips too which results in new hardening strips.

Shopfloor System for Optimizing Planning and Scheduling Operations at ThyssenKrupp Steel AG

At its works in Bochum, ThyssenKrupp Steel uses a shopfloor system developed by PSI on the basis of *PSImetals* for planning, management and production monitoring. The implementation of integrated business processes in the SAP and shopfloor system is the central aspect of this drive. Following the successful implementation of the first two project stages in 2003 and 2005, planning operations will be optimized especially at the slitting lines during the course of the third stage which is now about to be implemented.

Information supplied by measuring equipment is used to identify sections with defects which are then taken into consideration in the slitting schedule. ThyssenKrupp Steel is implementing an independent measured-value server in order to store the measuring records of all plant computers and process management system. This server will be integrated into the existing computer world by means of *PSIintegration*. On this basis, the desired measuring series for a strip can be displayed at each interactive terminal. In order to identify defective sections of a strip, defective sections can also be entered interactively, in addition to automatic generation on the basis of length related measuring series and a set of freely configurable rules. A graphic display provides a quick overview with regard to the position and extent of defective sections of a strip.

When planning slitting operations, slitting schedules are generated today which ensure minimum waste by taking information from the cold strip into consideration. In future, defective sections will be communicated to the slitting optimization tool. This tool is also integrated via *PSIintegration* and thereby enables standardization of communication paths. Automatic consideration of defective sections eliminates the need for time-consuming manual entries of defective areas. Further optimization modules are a multi-coil generation function for the feeding end in order to ensure optimum compliance with customer specifications as well as utilization optimization for all slitting lines on the basis of slitting schedules and configurable algorithms.

News & Events

Latest Orders

The **Saarstahl AG** has charged PSI with the delivery of a new automation system for the converter steel mill in Völklingen, Germany. PSI will provide Saarstahl AG with a new automation system based on *PSImetals PES* with the essential functions of materials and smelting tracking of pig iron up to the strand casting systems, scrap logistics, converter automation, metallurgic-thermic process models, alloy models and process regulations. Essential goals of the project are to increase quality by means of improved transparency and error reduction as a result of automated processes and cost reduction through the use of intelligent models.

PSI has been charged by the **Ilsenburger Grobblech GmbH**, a Salzgitter Group company, with the delivery of a new logistics system for the Ilsenburg and Salzgitter plants. At Ilsenburger Grobblech GmbH a number of other products from the *PSImetals* product family are already in use for production planning and the control of production plants. The new logistics system is based on the product *PSImetals WTM*, which is used by all thick plate producers in Germany.

Both orders reconfirm PSI's leading position as a provider of special software for the steel industry in the German and international markets.

Upcoming Events

METEC - 7th International Metallurgical Technology Trade Fair
with InSteelCon & EMC 2007
12 - 16 June 2007, Düsseldorf, Germany

Imprint:

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