



PSImetals Newsletter



*** Production management for metals ***

02/2006

Dear Sir or Madam!

We are pleased to present you with this, the second edition of our *PSImetals* Newsletter. The thoroughly positive response to our first edition has convinced us that this is the right form of communication. We hope that we have once again chosen topics that interest you.

Topics of this newsletter:

Successful projects & implementations	Functional subjects
<u>Optimization of electric-quality sheet at ThyssenKrupp Steel in Bochum</u>	<u>Integration of mathematical optimization algorithms in <i>PSImetals</i></u>
<u>Material tracking system in rolling mill 2 of Dillinger Hütte</u>	<u>Planning reality – online scheduling in the steelworks</u>
<u>Complete material tracking in Salzgitter's finishing center</u>	
Latest orders	Events
<u>Material flow control at ThyssenKrupp Steel, Duisburg</u>	<u>Follow-up: PSI China as a successful partner at the SAP Steel Conference</u>
<u>Study on the use of an online scheduling system in the steelworks at TKS, Duisburg</u>	<u><i>PSImetals</i> UserGroup (for customers only)</u>
<u><i>PSImetals</i> for Jinan Iron & Steel, China</u>	
<u><i>PSImetals</i> for ServerCorr, USA</u>	

We would be very pleased to receive questions or helpful suggestions from you. Please don't hesitate to give me a call (+49-30-2801-1881) or send me an E-Mail (rrzepka@psi.de).

Yours sincerely Rainer Rzepka
Solution & Product Management

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



On top with *PSImetals*

Successful projects & implementations

Optimization of electric-quality sheet at ThyssenKrupp Steel in Bochum

In the production of cold-rolled, non-grain-oriented electric-quality sheet at its works in Bochum, ThyssenKrupp Steel AG relies on *PSImetals* as the shopfloor system for the pickling, rolling, annealing, coating and cutting up areas. Thanks to the high degree of integration with SAP and all the level-2 systems involved, it was possible to standardize the throughput of materials across all process levels. The area-spanning, IT-support information flow means much simpler and shorter communication compared to the previous paper-based communication. Moreover, the high degree of automation has minimized the error rate during data capture and hence subsequent correction work. The standardized capture of all process data with *PSImetals* also makes it possible to produce

precise and telling reports for the controlling and quality units. The high availability of the system (365 days, 24 hours) ensures that production can be carried out at all times. The goals achieved on the whole include shorter throughput times and better adherence to promised delivery dates.

Please ask us about the reference sheet on this subject!

Dillinger Hütte: Knowing where the sheet is

By using *PSImetals* as a material tracking system, Dillinger Hütte always has a complete overview of its stock of sheet metal in rolling mill 2. Using a radar and laser-controlled crane coordination approach, the system calculates and manages the precise positions of all sheet metal plates in the stack. Former working time needed to find sheets is now practically obsolete. With this knowledge and the transport jobs automatically generated by the system, crane operators are now able to perform many sub-processes faster and without the help of shopfloor staff. This means that crane utilization was improved and job throughput times were reduced.

Please ask us about the reference sheet on this subject!

Complete material tracking in Salzgitter's finishing center

In order to transport the coils between the five production lines of the cold strip surface treatment plant of Salzgitter Flachstahl GmbH, *PSImetals* controls the organization of the intra-plant transports. This includes both the supply of material to and from the production lines as well as optimizing transports with a view to the means of transport used. Thanks to complete material tracking across all levels of production, search work was reduced significantly. The reduction in the total number of transports thanks to optimization with *PSImetals* and the fewer number of re-storage operations ensures both coil quality and adherence to deadlines for the customer.

Please ask us about the reference sheet on this subject!

Functional subjects

Integration of mathematical optimization algorithms in *PSImetals*

Extremely complex logistic problems arise in different areas of steel production, such as in plant supply, re-storage and transport sequence scheduling. There are often multi-level dependencies and demand exists to include changes at short notice into optimization as quickly as possible. Problems of this type are frequently solved on a priority-controlled basis and this means that the potential for optimization is not fully exhausted either in terms of economics and/or time. PSI BT is cooperating with the COGA Group (Combinatorial Optimization & Graph Algorithms, Prof. Möhring) and Technische Universität Berlin in order to integrate their methods of combinatorial optimization into *PSImetals* in the medium term. First concrete algorithms are being developed for the topic of "Transport and warehouse optimization between steelworks and hot-rolling mill in warm and hot throughput" and "Re-storage strategies". The aim is to achieve demonstrably optimum solutions and/or approximation solutions with demonstrable quality. In the example referred to, this involves ensuring that everything that is possible is carried out in order to minimize transport work.

For further details please contact:

Prof. Dr. Hans Schiemangk, E-Mail: H.Schiemangk@PSI-BT.de

Planning reality – online scheduling in the steelworks

The most important production requirements are throughput optimization and the continuous, precisely timed supply of the continuous casting line with liquid steel and

hence the avoidance of casting discontinuity. For this purpose, the heats of a casting sequences must be made available at the right time and at the right temperature at the continuous casting line. Taking the target times and target temperatures into consideration, PSI*metals* online scheduling handles operative heat scheduling at the plants, from steelmaking to casting. Restrictions, such as the required treatment types and times, plant downtimes, plant properties and equipment availability, influence the optimum route to be calculated for each heat. This planning is permanently updated by feedback messages from the lower-level systems. The current and future production process is visualized across all the plants in a Gantt chart. PSI*metals* thus makes it possible for the operator to identify conflict situations at an early point in time so that he can counteract this if time delays can be expected or if there is a threat of interruptions in casting.

For further details please contact:

Heinz-Josef Ponten, E-Mail: HJ.Ponten@PSI-BT.de

News & Events

Latest orders

ThyssenKrupp Steel AG, Duisburg: Use of PSI*metals* to control material flow in the thick sheet/loading area in the Duisburg-Süd heavy-plate mill (after previously successful project completion in the finishing/loading area); application of storage functions typical of sheet warehouses without permanent storage sites; planning optimized cooling stocks and tracking sheet temperature.

ThyssenKrupp Steel AG, Duisburg: Feasibility study on the use of an online scheduling system in the Ox1 and Ox2 steelworks; calculating potential benefits; integration of higher-level planning system, sequence formation and online scheduling for all equipment, online capture of as-is data and decision support through the simulation of faults and their effects.

SMS Demag AG for Jinan Iron & Steel (China): Delivery of PSI*metals* as a level-3 system in the new cold rolling mill of Jinan Iron and Steel in China; system for planning capacity and deadlines as well as sequence planning for all lines.

SMS Demag AG for SeverCorr (USA): Delivery of PSI*metals* as a global production management system for the new works to be built by SMS Demag. The new works will include steelmaking, hot-strip as well as a cold-rolling mill with strip galvanizing for the production of automobile sheet; a system for scheduling capacity and deadlines as well as sequence planning and for the implementation and control of production orders with precise material flow tracking.

Follow-up: PSI China as a successful partner at the SAP Steel Conference

More than 100 representatives from the Chinese steel industry came together between 10 and 12 April in Guilin, China, at the SAP Steel Conference under the motto "Low risk, low investment and fast introduction of company-spanning IT systems". After investing in new plants, China's steelmakers are now focusing more on the topic of increasing throughput and securing quality with the help of state-of-the-art IT solutions. As the SAP partner of choice for production management on the Chinese market, our subsidiary PSI

China presented itself with PSImetals for the topics of mixed charging and quality assurance in steelworks. The integrated planning cycle between SAP APO and PSImetals was also shown in a live demonstration.

For further details please contact:

Franz Nawrath, E-Mail: F.Nawrath@PSI-BT.de

Upcoming events:

PSImetals UserGroup (for customers only – please notice the new date!)

20th-21th of June 2006

located at our customer-site of AG der Dillinger Hüttenwerke

Imprint:

Responsibility for contents:

PSI Business Technology for Industries GmbH

Heinrichstrasse 83-85

40239 Düsseldorf

Germany

We've got your E-Mail-Address by a business contact with our company.

If you don't want to receive this Newsletter, please send us an E-Mail by clicking [here](#).

2006, PSI Business Technology for Industries GmbH, all rights reserved.
