



THYSSENKRUPP ELECTRICAL STEEL INTEGRATED SYSTEM UNITES PRODUCTION PLANNING AT TWO LOCATIONS

“Thanks to SAP SCM and SAP NetWeaver PI, we are seeing significant improvements in our delivery reliability – a key competitive factor.”

Karlheinz Boländer, Head of SAP Projects and Organization, ThyssenKrupp Electrical Steel GmbH

QUICK FACTS

Company

- Name: ThyssenKrupp Electrical Steel GmbH
- Headquarters: Gelsenkirchen, Germany
- Industry: Mill products
- Products and services: Electrical steel strip
- Revenue: Over €600 million
- Employees: 1,218
- Web site: www.tkes.com
- Implementation partner: SAP® Consulting

Challenges and Opportunities

- Ensure optimum material flow and optimum capacity utilization
- Improve ability to respond to order changes and determine delivery deadlines

Objectives

- Standardize production planning on an integrated IT base
- Increase delivery reliability

SAP Solutions and Services

- SAP Supply Chain Management (SAP SCM) application with the SAP Advanced Planning & Optimization component
- SAP NetWeaver® Process Integration (SAP NetWeaver PI) offering
- Service-oriented architecture (SOA) supported by SAP software

Implementation Highlights

- Integration of SAP SCM with the SAP ERP application, with connection to the shop floor
- Integration of scrap reduction tool via SOA and SAP NetWeaver PI

Why SAP

Extension of existing SAP software landscape without the need for additional interfaces

Benefits

- More reliable determination of delivery deadlines based on the latest capacity data
- Earlier identification of potential bottlenecks in machine capacity
- Enhanced ability to compare planned production volume and available capacity

Existing Environment

- SAP ERP
- PSImetals
- Coiltrim

Third-Party Integration

- Database: Oracle 10.2
- Hardware: IBM System p5 570
- Operating system: IBM AIX 5.3

ThyssenKrupp Electrical Steel



ThyssenKrupp

SAP Customer Success Story
Mill Products



THYSSENKRUPP ELECTRICAL STEEL

INTEGRATED SYSTEM UNITES PRODUCTION PLANNING AT TWO LOCATIONS

Electrical steel strip is used to transport electrical energy over long distances. It is the core material for the laminated, coiled, or stamped sheet steel that is used in electrical distribution and output, as well as in small-scale transformers. ThyssenKrupp Electrical Steel GmbH (TKES) makes some 240,000 tons of electrical steel strip every year and employs about 1,200 people at its production facilities in Gelsenkirchen, Germany, and Isbergues, France.

The raw materials used for making steel carry a high price, thanks in part to growing worldwide demand and heavy competition in the buying markets. "We and all our competitors are working on a level playing field when it comes to buying raw materials," explains Karlheinz Boländer, head of SAP projects and organization at TKES, describing one of the challenges his company faces. "We need to attract and retain customers by supplying high-quality products and delivering on time." To ensure that it could deliver on time, even when deadlines change at short notice, TKES needed an optimum material flow and optimum capacity utilization for the materials available. To meet this need, it turned to SAP and the SAP® Supply Chain Management (SAP SCM) application.

Central Planning for Two Production Sites

"We handle sales activities and order management centrally at our headquarters in Gelsenkirchen," says Boländer, describing the situation at TKES. From Gelsenkirchen, incoming orders are then forwarded to whichever factory has the required capacity for production at that time.

To manage this effectively, the company needs to be able to map production planning for both of its production plants along with their corresponding capacity in a single, cross-location software system. It can then directly assign electrical steel strip for individual product variants to the corresponding plants at the two locations, based on the available production capacity.

TKES chose the SAP Advanced Planning & Optimization component, part of SAP SCM, to manage and monitor its complex processes on a standardized IT base.

Production Planning Without Additional Interfaces

The process of selecting a software solution did not take long. TKES has been using the SAP ERP application since 2000. Back then, it was a major challenge to link up the planning and management of the various production levels with the enterprise software. The decision to use SAP SCM meant that the company would not have to introduce a third-party system that might impair the smooth running of processes between the business and production areas.

"By choosing SAP SCM, we saved ourselves the task of having to set up additional interfaces to connect up to the existing SAP ERP application. We added the new functions we needed and integrated SAP SCM into the existing SAP software landscape," explains Boländer. Because ThyssenKrupp Electrical Steel had been using SAP ERP for a number of years, employees at the company were very familiar with the structure and operation of SAP software – another advantage that swayed the decision in favor of SAP SCM.

TKES chose SAP Consulting as its implementation partner. "The change management aspect was a top priority for us because the implementation affected many areas of the company, and there were certain well-established processes that we had to change completely," says Boländer.

Production Precision

Thanks to SAP SCM, TKES can now manage its production capacities in Gelsenkirchen and Isbergues with absolute precision. "We produce neutrally for as long as possible. That means we use demand planning, rather than actual orders, as the basis for production," explains Boländer. In a subsequent step, the neutrally produced electrical steel strip is cut to meet the customer's specific requirements. Specially designed trim tools cut the electrical steel strip to the required length and width.

These processes require third-party software solutions that are connected to SAP SCM via the SAP NetWeaver® Process Integration (SAP NetWeaver PI) offering. At the point of intersection



with the trim tools, centrally defined services in the service-oriented architecture (SOA) help ensure that the tools, no matter where they are located, can interact with SAP SCM to provide an integrated production process.

“As far as the tools and processes are concerned, the specialists from SAP Consulting used their IT and industry expertise to do a great job for us,” says Boländer. The solution allows certain features of the electrical steel strip – such as the material used, weight, and measurements – to be compared with the data in the planned orders. The challenge is to plan the process of cut-

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ting the strip to the desired length and width with the least possible amount of scrap. The planning result is then forwarded directly to SAP SCM.

Delivery Dates in Seconds

If the status of an order changes, TKES needs to demonstrate flexibility and respond quickly. Before it implemented SAP SCM, the company could plan only very rough deadlines. Today, it can run simulations and determine delivery deadlines using the very latest capacity data. For example, it can run a simulation to find out whether sufficient materials are available and whether it can meet a required delivery date. At the

same time, the company can use the software to calculate possible alternative dates.

“From our point of view, that is one of the core functions of SAP SCM. When we receive an order by telephone, we can confirm the order and establish a fixed delivery date almost immediately,” reports Boländer.

Speedy Adjustments

If, during the processing of an order, unforeseen changes in the planned production target arise, the system automatically issues a warning. For order

confirmation and planning, it is now possible to determine material availability precisely and to assign orders to the production lines in accordance with the available production capacity. The production status of individual orders is reported from the shop floor to the SAP software. Based on this up-to-the-minute data, TKES can then determine how to implement unforeseen changes in the priority of orders at the individual production facilities without negatively impacting the manufacturing processes that are already taking place.

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Optimum Capacity Utilization

TKES also uses its SAP software to anticipate and prevent production problems. Using data about orders, capacity utilization, and the production capacity available at its facilities, the company might see in mid-March, for example, that it will be unable to meet a delivery deadline set for July. It can do this thanks to a function in SAP SCM that compares a planned production volume with the production capacity available in order to identify potential bottlenecks on the production lines.

Based on this information, TKES has the opportunity to take action at an early stage, perhaps even to extend the capacity of its production lines. “But before we take specific measures to extend our capacity, we can simulate what the effect of those measures would be – working online with the latest data from our production operations,” explains Boländer. In this way – and even when the market situation is tense – TKES can maintain the most vital edge it has over its competitors: the trust its customers have in its ability to meet delivery deadlines.

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