



Shanghai Baosteel

Forging ahead of the competition with SAS® software

As China's largest manufacturer of iron and steel, Shanghai Baosteel has an annual production of more than 10 million tons and employs over 17,000 workers. With that scale of operation comes a huge amount of data — data on materials, output, sales, shipping, billing, suppliers, customers and more. With the help of SAS software, this vast amount of data is being put to good use in order to monitor and improve the company's performance in a whole host of areas, from quality control to shortening delivery cycles, from improved stock control to maximizing sales revenue.

As China enters the World Trade Organization and competes on a more global market, this intelligent use of data is helping Baosteel become the dominant player in the iron and steel industry. "We have experienced rapid growth in recent years both in domestic and international markets," says a representative for the Baosteel Group. "We felt that to continue this level of growth we had to find ways to reduce costs and increase our competitiveness in a number of areas. To do this we realized we needed easy access to past and present organizational data. This would enable the quick, effective decision making we need to stay ahead in this increasingly global market."

Over the past twelve months, SAS consulting staff have worked hand-in-hand with Baosteel's data warehousing team to assess the organization's needs and to map out and implement a full enterprise data warehouse in a series

of iterative, manageable phases. SAS Warehouse Administrator is used as one of the key components of this infrastructure, giving Baosteel the ability to centrally manage data across the organization and to capture and manage metadata — information on the data available in the warehouse.

The first stage of the project was to bring together a subset of Quality Management data, with the aim of providing key decision support information about product and process quality. Today, the Quality Management data warehouse comprises 24 data marts, providing information on the various processes employed in steel production, from hot rolling to hot-dip galvanization. Multidimensional capabilities allow analysis by different factors such as time, product and type of process.

The information is used primarily by technicians in Baosteel's quality department to maintain close control of the manufacturing process. Any potential problems can be quickly identified and resolved, while parameters within the process are constantly fine-tuned to ensure the highest quality output. Baosteel's R&D department uses SAS Enterprise Miner to further optimize production through advanced modeling techniques, while senior managers access and create reports via a Web browser using SAS/IntrNet software.

With 10 million tons of steel a year to distribute to customers all over the world, effective management of the shipping



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| Customer | Shanghai Baosteel |
| Industry | Manufacturing |
| Business Issue | Streamline Processes |
| Solution | SAS® Solutions, Including SAS/IntrNet and Enterprise Miner |
| Benefits | Make Use of Data to Provide a Competitive Advantage in the World Marketplace |

process is another essential part of Baosteel's business. "We believe that the management of steel products and their shipment should be viewed as an extension of steel production rather than a separate issue," explains the Baosteel representative. "So we need to look at issues such as how to reduce the cost of product stock management, how to shorten the delivery cycle and how to deliver products to customers on time and to their satisfaction."

To achieve this, Baosteel is developing a Shipping Optimisation System using data access, modeling and decision support software from SAS. "We extract the data we need using SAS data access tools and turn it into a usable format for analysis. We then carry out modeling to identify the optimum shipping process taking into account factors like the type of products being distributed, the type of transportation and route to be used, and most importantly, warehouse capacity and stock control. This helps us to maximize resources and to ensure that the entire shipping process is as efficient as possible.

"When we set out developing the system, the goal was to turn our vast quantities of data into a sharable asset across the organization. We now have the decision support capabilities in place to help us achieve our ambition to be the world's largest provider of iron and steel."

"We have now established a good IT infrastructure, and over recent years we have been able to build up huge amounts of data. The next stage for Baosteel is to make use of this data to provide us with a competitive advantage. We are very pleased that we can work with SAS to achieve this goal."

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