HBIS Tangshan Iron and Steel: Enabling Transformation and Growth with a World-Class IT System

After a decade of rapid development, HBIS Tangshan Iron and Steel Group Co. Ltd. changed its strategic focus from capacity expansion to core-competency building. To secure an industry-leading position both in China and abroad, the company implemented the SAP® ERP application. The result is that management and operations are integrated across subsidiaries and business models.
Executive overview

BUSINESS TRANSFORMATION

The company’s top objectives
• Accelerate response to market change and improve product quality
• Build an integrated IT system to allow the business to be run online

The resolution
• Implemented the SAP® ERP application to manage procurement, manufacturing, sales, quality control, pricing, and finance
• Implemented the SAP Enterprise Asset Management solution for equipment management and inspection
• Established an analytics model based on key performance indicators using the SAP NetWeaver® Business Warehouse application

The key benefits
• Achieved strong ROI on an industry-leading IT system
• Standardized and streamlined processes and improved data sharing and transparency
• Closed management loopholes, ensuring compliance and detailed cost management

“We can’t adapt to an advanced information system with outdated mechanisms and mind-sets. The world is changing, so we have to change with it.”
Yu Yong, General Manager, HBIS Tangshan Iron and Steel Group Co. Ltd.

TOP BENEFITS ACHIEVED

290 million
Reduction in spending for equipment purchasing (2009)

80%
Reduction in inventory with a 50% rise in production at one cold-rolled sheet plant

1.2 billion
Saved from improved management in finance and elsewhere (2009)
Developing IT strategy to compete in the global market

Founded in 1943, HBIS Tangshan Iron and Steel Group Co. Ltd., also known as Tangsteel, has become one of the largest steel producers in China. The company was the first to develop basic oxygen furnace (BOF) steel production domestically and, since the middle of the 1990s, has been a major industry innovator with its three-step technological transformation of iron, steel, and rolled-steel manufacturing processes. The company has grown in both local and international markets and has expanded its use of advanced production equipment and manufacturing techniques, generating 16.8 million tons of iron, 16.33 million tons of steel, and 15.42 tons of rolled steel in 2010.

After a decade of rapid development, Tangsteel transformed its industrial structure and started to turn its focus from capacity expansion to the improvement of internal processes. The new business strategy was aimed at penetrating global markets, enhancing the variety and quality of product offerings, and improving customer satisfaction. With these goals in mind, the company was on its way to joining the ranks of the world’s top steel companies.

In order to compete at a fundamental level, Tangsteel needed to accelerate response to market changes and increase the value it was providing to customers. The key to success was an investment in a world-class, industry-leading IT system that would enable total integration of management and operations using an online model.

“IT is an effective means of standardizing management processes and has played a key role in helping transform Tangsteel. We will continue to leverage these systems well into the future.”

Wang Lanyu, Deputy General Manager, HBIS Tangshan Iron and Steel Group Co. Ltd.
Building an industry-leading IT system over four years

On December 7, 2007, Tangsteel launched the first phase of the SAP® ERP application implementation, adopting a standard, five-level architecture. The SAP Manufacturing Execution application was deployed at various plants, as was the SAP ERP Human Capital Management solution. Less than a year later, on October 1, 2008, Tangsteel was running on a unified, company-wide IT platform.

The results were so positive that Tangsteel deployed the SAP Enterprise Asset Management solution for equipment inspection and management in 2009.

By 2010 Tangsteel was expanding its use of SAP ERP and began company-wide initiatives to manage production and product quality by monitoring and reporting on key performance indicators (KPIs). The KPI reporting system used the SAP NetWeaver® Business Warehouse application to capture enterprise performance information, enabled real-time monitoring, and allowed for early detection of quality issues through systematic data modeling and analysis. The system to track product quality factored compliance and manufacturing standards into the evaluation, forming a closed-loop process to manage product quality that could trace problems back to the source.

In 2011 Tangsteel extended SAP ERP and SAP Manufacturing Execution to its subsidiaries, providing a platform to centrally manage and control its four major business units. The result was complete visibility of subsidiary operations, including production planning, demand management, quality management, and logistics.

“Without an information system, it is impossible to manage effectively. In-depth integration of IT and industrial operations is critical.”

Yuan Zhiming, Manager of Measure and Control Management, HBIS Tangshan Iron and Steel Group Co. Ltd.
Taking off with integrated IT and industry operations

Since embarking on the journey to develop its IT landscape, Tangsteel has made unprecedented achievements. Business processes have been streamlined and reengineered, and the foundation has been laid for standardized, detail-oriented management practices.

Centralized data access allows sales and operations to work together to optimize production planning and delivery while making information easier to trace, improving governance and accountability, and reducing errors. Managerial loopholes have also been closed, eliminating processes that are not in line with operational standards.

Manufacturing and quality management are now integrated, enabling quality control throughout the production cycle. Manual documentation has also been simplified or eliminated, raising general productivity. And, with detailed and itemized product pricing and cost analysis capabilities, visibility and forecasting has improved.

**KEY BENEFITS**

- **290 million**
  Reduction in spending for equipment purchasing (2009)

- **80%**
  Reduction in inventory with a 50% rise in production at one cold-rolled sheet plant

- **600 million**
  Saved from improved equipment management

- **1.2 billion**
  Saved from improved management in finance and elsewhere (2009)

- **0.3%**
  Maximum error rate for annual measuring (2009)
Expanding the IT platform for sustainable development

Given the economic challenges faced by the steel industry, Tangsteel is considering a new strategy to strengthen its main steel business and expand to new horizons beyond steel manufacturing. Continuous improvement in the integration of IT and operations is a key element in this transformation. It is not enough just to have a world-class system. It must also be used effectively and efficiently, exploiting its full capacity.

In the future, Tangsteel plans to continue developing online monitoring of early-malfunction-warning systems for large equipment. Enhanced data-mining capacities will help expand KPI measuring to better support decision making. And new and existing IT systems will be deployed and developed to support upcoming, nonsteel business. As the IT infrastructure at Tangsteel grows, it will become an increasingly powerful driver for the company’s growth and success and help define it as a world-class player in the steel industry.
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