

Innovation and Agility Boost World's Third-Largest Steelmaker

In 2003, Kawasaki Steel merged with NKK Corporation. The new entity, called JFE Group (Japan Future Enterprise), then began the complex task of reorganizing the combined companies. The merger came as part of the transformation taking place for steelmakers around the world, as they increasingly embrace business-process integration and capital-alliance opportunities to boost competitiveness in the shrinking global market.

The new entity needed to reorganize individual business segments into independent companies. Charged with building a lean organization and a speedy management structure, the reorganization team needed to drastically reduce departments.

According to Hiroyuki Kikugawa, a fellow in Information Technology at JFE Steel, "Steel is a kind of bipolar market, with general-purpose products on the one hand and high-grade steel on the other. One of our key objectives [with the merger] was to improve profitability by increasing our ratio of high-grade products. Besides the right product mix, we needed an action plan for adjusting sales that could be evaluated and shared throughout the entire company." At the same time, Kikugawa says, JFE wanted to determine the profitability of individual orders and push forward profit-improvement activities. System integration and visibility were key to solving these challenges.

Both companies had their own enterprise system. Although bridges were created to connect the necessary functions between the parallel enterprises, JFE realized this could only be a temporary solution. "One of our main objectives was complete integration," Kikugawa recalls. "A second objective was to respond to extremely rapid changes in the environment in the future. This required an innovation capability."

To meet these challenges and be able to innovate rapidly, JFE developed a new backbone system, called J-SMILE (JFE Strategic Modernization and Innovation Leading System) with five core requirements: simplicity in integrating the two enterprise systems; flexibility to respond rapidly to changes; speed to quickly implement all key business functions; visibility to enhance transparency throughout all the departments; and value to facilitate setting priorities for business decisions.

After creating this single corporate database, the re-organization team brought in i2 to help reconstruct a sales-planning system. It was vital that this system have the ability to simulate adjustments in sales production that

could lead to greater profitability. The system needed to enable JFE to both create flexibility for milling operations and analyze what would be the optimal product mix for greatest profitability. "We were using an order-processing system that was more than 20 years old," says Kikugawa. "We wanted something that would give us a clearer understanding of the customer."

Using i2 Demand Manager, i2 Supply Chain Planner and i2 Demand Fulfillment, the new system made it possible to respond to diverse sales processes, such as unique orders and repeat orders. Ease of use was a priority and is provided by a Web interface. The new system also created a base for responding to customer requirements by assigning priority to customer orders.

While JFE Group was still using the two legacy systems in place at the time of the merger, orders were processed using different order items and product specifications based on the system in which they originated. As a result, it was impossible to operate the mills with the flexibility required to respond easily to changes. The new system updates production plans on a daily basis. This gives JFE the agility it needs to adapt quickly to changes in supply and demand and to see the profitability of any of its business units at any time.

At the end of three years, J-SMILE, including the i2 solutions, has enabled integration and innovation in all business areas, says Kikugawa. "We have created an environment for innovation by constructing a system that is flexible, allows visualization and data sharing in the corporate database, gives quick feedback to management and makes it possible to optimize the operation at all of the company's mills," he adds.

Operating its mills flexibly and at optimum efficiency is key to the company's success. The typical weekly production planning at the steel works now occurs daily. This has reduced lead times and improved accuracy in production planning. The steelmaker is meeting its goals to expand sales of high-grade steel, shorten lead times, consistently deliver on time and respond quickly to customer needs. Meeting these goals has led to improved customer satisfaction and increased profitability. Return on sales nearly doubled from 2004 to 2005. In addition, JFE received the Award of the Minister, Ministry of Economy, Trade and Industry for the best project of year 2006.

— John Kadlecik