

Top 5 steel producer

Optimized steel coil production

Overview

This company is one of the world's largest integrated steel makers. Steel bars, sheets and pipes, and specialty steel products account for about 60 percent of the company's fiscal revenues.

■ **Business need:**

The steel maker needed a production planning solution that could help reduce waste. They had to accurately match coil production to their customer's specifications.

■ **Solution:**

The steel company's IBM@ILOG optimization-based solution shortens production cycles by automating most of the planning phase to increase the efficiency of production planners.

■ **Benefits:**

- *Reduces stocks*
- *Saves inventory costs*
- *Better meets orders*
- *Cuts steel waste*



This steel maker is one of a leading producer of steel. Its success is based largely on its ability to make products exactly matching manufacturers' specifications, and delivering them on time.

Challenge

One of their customers in the auto industry applies modern production methods that feed parts directly into production upon delivery to reduce

inventory and associated costs. This requires the parts to fit perfectly when delivered. Meeting the automaker's orders has resulted in a considerable amount of waste metal in cutting steel coils. To reduce this loss, the company must use a supply-chain management (SCM) system that accurately matches coil production to the automaker's specifications.



Solution

The steel maker's IT arm, has developed an SCM solution to further automate and optimize the company's coil production for the automaker. The application was developed with IBM optimization engines: IBM ILOG Solver and IBM ILOG CPLEX. They work together to create production plans based on order specifications and available steel stocks. The plans cover the steel mills, the coil center and other facilities, and reduce inventories at every level of production. The solution also generates cutting plans that further minimize the amount of lost steel.

IBM Solver and IBM CPLEX run algorithms specifically written for the problem to compute a production plan for each order. They also determine the cutting patterns for the coils to exactly match the customer's dimensions. NS Solutions used the IBM products because it had had considerable success with the optimization engines in other projects. The engines' modeling capabilities and performance also met the specific requirements of the project, and they supported the necessary software platforms.

“Our ability to deliver high-performance, cutting-edge applications that give our customers a significant competitive advantage is the key to our success. These requirements mean that we must seek out the best technology partners. We have enjoyed a long association with IBM for the high quality of its products and because of the company’s acknowledged leadership in supply chain and manufacturing optimization solutions.”

-- Top Steel manufacturer

Products and services used

Software

- IBM® ILOG Solver
 - IBM® ILOG CPLEX
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Benefits

Optimizing the SCM system for the company's rolling mill reduced the amount of waste metal, and the steel maker's inventories and related costs.

It also helped:

- Further automate process.
- Reduce personnel needed to plan production.
- Lower the time needed to train new planners.

- Reduce stocks throughout production.
- Shorten lead time to delivery, further supporting the automaker's SCM system.



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