

# Industrial Parts Manufacturer Global Sourcing Solution

---

## Overview

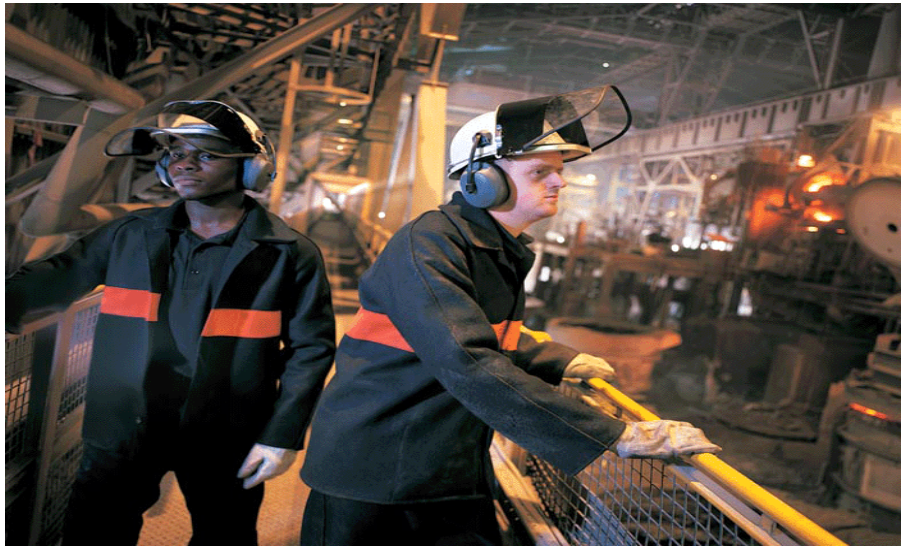
---

### ■ Objective:

*A global manufacturer of components for industrial machines and heavy equipment, lubricants and specially engineered products wanted to develop a consistent, fact-based and structured methodology for making product sourcing decisions. Although prior attempts had been made at rationalizing sourcing decisions, they had not been systematic nor had their results properly validated. Inputs such as freight, duties, manufacturing costs, capacities and setup times varied greatly between products and locations, making the decision process for product sourcing extremely complex. The objective was to determine which components should be made on each production line while minimizing costs and maximizing capacity utilization.*

### ■ Solution:

*The customer selected IBM® ILOG LogicNet Plus XE, the network design and planning solution from LogicTools (now IBM ILOG), to determine the optimal product sourcing strategy. The company worked with LogicTools to build*



*global and plant and line level models to ensure that lines were efficiently loaded, and that components were made with the greatest efficiency on any given line. Using IBM ILOG LogicNet Plus XE, the customer was able to realize a net cost reduction of U.S.\$3.2 million, and based on this success, decided to implement the initiative throughout the company.*

### ■ Benefits:

- *Developed consistent sourcing methodology*
- *Improved production planning*
- *Reduced transport and inventory costs*

### Production line assignment

The customer makes and ships machine components out of five plants worldwide. Each plant has several production lines with two primary manufacturing processes. The output of the manufacturing network is constrained by available hours and the number of lines at each facility.

One of the key objectives for the customer was to determine which production line should make a given stock keeping unit (SKU) and which manufacturing process should be used. The production speed and flexibility of SKUs made in a given week depended upon the type of manufacturing process. Production costs and setup



times and costs also varied with the different manufacturing processes. The customer also wanted to establish a centralized global sourcing process for ongoing decision making. Finally, the company wanted to analyze the above objectives under a variety of production and transportation assumptions.

The manufacturer utilized IBM ILOG LogicNet Plus XE to first capture the current configuration of the manufacturing network and then determine the optimal SKU assignment to production lines in order to minimize overall costs. The company worked closely with the LogicTools team in building a global sourcing model to support decisions on where and which parts could most efficiently be made. Production costs and capacities, lane-by-lane transportation costs, manufacturing run rates, tooling capabilities, warehousing capacities, impact of type of production, and duties for international shipments formed some of the key inputs to the analysis. The

model was built using forecasts for each SKU for the next 12 months.

The results of the first model were used to build a more specific model, which analyzed only one plant and one product group to determine the effects of the new product assignments on the plant, as well as the load level on a line. For those SKUs that were produced at multiple locations, IBM ILOG LogicNet Plus XE helped the customer determine the optimal quantities to produce each month on each production line.

### **Benefits**

Based on the results from IBM ILOG LogicNet Plus XE, the company was able to realize considerable cost reductions while maintaining desirable plant utilization levels with minimal investment. The customer was able to realize a net impact on its bottom line of U.S. \$3.2 million. Additionally, the company was able to create a consistent, fact based and structured methodology for product sourcing decision making. As a direct result of this project, the customer identified opportunities for transportation and logistics improvements, and analyzing the impact on inventory due to sourcing changes.

---

### **Products and services used**

---

#### *Software*

IBM® ILOG LogicNet Plus XE

---



© Copyright IBM Corporation 2009

IBM Corporation  
Software Group  
Route 100  
Somers, New York 10589  
U.S.A.

Produced in the United States of America  
December 2009

All Rights Reserved

IBM, the IBM logo, and [ibm.com](http://ibm.com) are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at [ibm.com/legal/copytrade.shtml](http://ibm.com/legal/copytrade.shtml)

Other product, company or service names may be trademarks or service marks of others.

This case study is an example of how one customer uses IBM products. There is no guarantee of comparable results.

References in this publication to IBM products and services do not imply that IBM intends to make them available in all countries in which IBM operates.



Recyclable, please recycle.

WSC14119-USEN-01