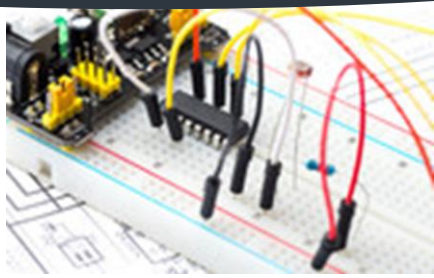
XSEED Analytics

Production Planning and Delivery Quotation System in a Large Electronics Company



Background

A large electronics and electronics systems company based in US operates in several “sectors” of different lines of electronics business. The company’s semiconductor sector has annual sales of $690 million, with a substantial portion of these sales in components supplied to defense contractors or aerospace companies who were prime government contractors for weapons or space exploration programs.

The company is marketing more than 9,000 finished product lines, produced by more than 25 manufacturing plants in the United States and Europe. The production databases, control systems, and planning systems in use were widely different and had showed difficult to integrate. As a result, the company’s management was struggling to cope with data provided in multiple formats on multiple systems and, in some cases, containing serious gaps. Production planning and delivery quotations were decentralized and conducted using a myriad of systems, policies and people.

Challenge

On-time delivery emerged as a crisis issue. The sector had many delinquent orders and customers judged delivery performance inferior compared to other semiconductor vendors.

The fraction of ordered line items delivered within one day of the promised delivery date was about 76%. A survey conducted by the company indicated that 63% of the company’s customers wished to replace it as a vendor. Potential sales of several million dollars had been lost and sales continued to decline. What was once a profitable division of the company reported a heavy loss. Getting its products delivered on time had become a critical issue for the company. The division president said, “The division will not survive unless we solve our delivery problem.”

Solution

To solve the delivery problem, we developed and implemented an automated sector wide production planning and delivery quotation system with an optimization-based engine. This system was surrounded by a worldwide database of plant status and capabilities, order status, and customer demands. After implementation of our optimization solution, the company maintained a 94 to 95 percent on-time delivery performance, one of the best levels in the industry for a high-volume and wide product-mix manufacturer. This was a dramatic turnaround from pre-implementation days. The number of delinquent order line items fell from 4,500 to less than 90. The company achieved these improvements without increasing the inventory levels as a percentage of sales.