CASE STUDY

British American Tobacco Uses Supply Chain Modeling and Simulation to Smooth Production Planning and Order Variance

Challenge

British American Tobacco (BAT) is the world’s most international tobacco group, with business in more than 180 countries and more than 300 brands. The company has 50 cigarette factories in 44 countries.

BAT supply chains were effective at delivering product, but not as efficient as they could be. Instability in ordering patterns combined with ad-hoc scheduling led to inefficient use of machines in the plant and expensive spot orders. Segmentation by market instead of by product led to constant production change, overruns and waste, and planning systems were being over-extended with the constant changes. Managing the production and supply changes was a large and distracting effort.

Solution

BAT utilized LLamasoft Supply Chain Guru to model the existing network from end market to plant including key supply. Managers thought efficiency could be improved by instituting a new planning logic known as repetitive cycles. Segmenting finished products and initiating regular schedules for their manufacture could potentially cut supply lead time, reduce on-hand inventory requirements and bring stability into the planning process to enable leveled manufacturing production. They modeled changing from a make-to-order production policy to implementing this new “production wheel” which was segmented by product demand. BAT wanted to test out the improvements of this strategy before implementing them.

LLamasoft’s integrated simulation tool gave BAT management the confidence to pilot the new planning strategy, test impact on service when inventories where lowered and quantify additional initiatives required in manufacturing to enable this approach. Alternative production scenarios were also compared to analyze the effect of each on the entire supply chain. The key benefit to BAT was the ability to test the feasibility of the new, but theoretical planning strategy in a risk free simulation environment, rather than test in a live business and risk impact on revenues and service levels.

By playing out each transaction and resulting decision as it would happen in the actual supply chain, within given parameters, the Supply Chain Guru simulation suggested that
the new product segmentation and manufacturing strategies could result in a 40 percent improvement in stock levels together with dramatic improvements in workcenter changeovers and adherence to production plan.

**Results**

BAT has implemented this new strategy in Mexican and Asian production locations and has proved that the savings could actually be achieved. Modeling and simulating the supply chain provided a way to create and test alternate supply chain policy changes, and has made the change management process within BAT much smoother by demonstrating supply chain changes to senior management in a way that is easy to understand and trust.

The company is now implementing these changes in other manufacturing locations around the world.