

•Situation

- Client was struggling with how to determine inventory levels at all locations in their global distribution network and desired an electronic model to solve this problem from end-to-end in their supply chain

•Goal

- Create a multi-echelon, statistically sound inventory management model that:
 - Meets client's customer service business rules
 - Accounts for any constraints within manufacturing and/or logistics
 - Maintains flexibility to account for environmental changes
 - Well documented and easy to replicate for other product lines

• Approach

- Built value stream map of manufacturing & distribution network of current state so as to ensure model mirrors reality
- Mapped out data sources and identified relevant databases and respective fields for model calculations
- Data cleansing was essential to ensure data integrity and that assumptions were correctly identified, discussed, and documented
- Finally built model from scratch for the specific network based on following guidelines:

Data

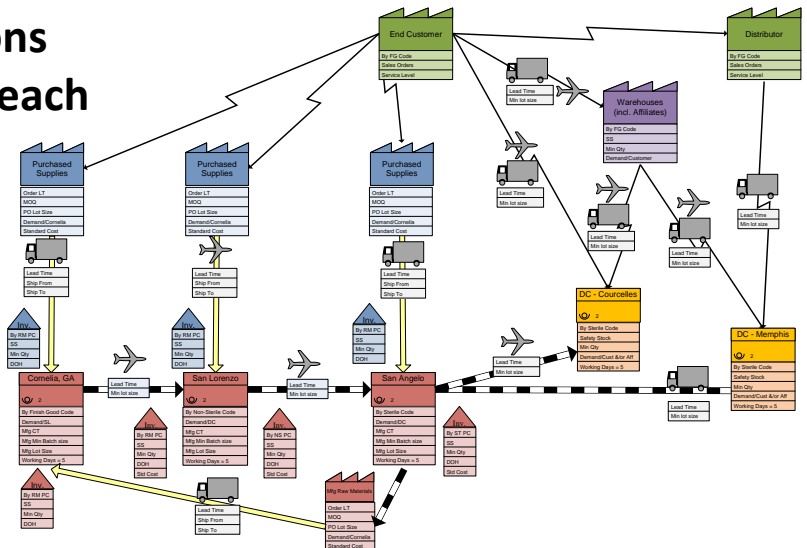
- Account for all lead-times and lead-time variations
- Avoid multiple independent forecast updates in each
- Design differentiated service levels

Systems

- Synchronise order strategies
- Ensure visibility up and down the demand chain

Process

- Monitor and manage the bullwhip effect
- Correctly model the interactive effects



•Results

- Modelled results estimated a total savings of approximately \$715k for pilot study which only included one product line, 200+ SKUs
- Model is a power tool to measure results and monitor results, available to supply chain to make educated decisions
- Greater accuracy in inventory level calculations, optimize stocking levels, and coordination between locations
- Delivered scenario modelling opportunities, results, and estimated savings

<u>Scenario</u>	<u>Question It Addresses</u>	<u>Anticipated Result</u>
Internal Order Replenishment	What if the affiliates ordered similar to their customers (a true pull environment)?	Decrease inventory at DC by minimizing the variation between orders
Cross Docking	Assuming a unique product was only for one affiliate location, can it be cross-docked?	Eliminates a holding point/duplicate inventory, potential to decrease logistics/handling/processing costs
Manufacturing Product Quantity	What could be optimized if the MPQ could be modified?	Optimize inventory based on demand, rather than manufacturing constraints
Minimum Order Quantity	What if the MOQ for raw materials were not applicable?	Decrease in raw material holding costs
Safety Stock – Velocity	What if the service confidence level was based on the velocity of the products?	Ability to optimize across SKUs and enhance the flexibility of the supply chain based on demand
Safety Stock - Supplier	What if the service confidence level was based on the reliability of the supplier?	Decrease in safety stock due to supplier reliability and predictability