



## Case Study - Chemicals & Consumer Products

**Client:** Global Chemicals & Consumer Products

### Business Challenges:

- Recent declining sales and margins, but increasing working capital
- Long leads times for raw materials, but short lead times demanded by the market
- Management of international suppliers for key raw materials and associated lead times
- Management of multiple seasonalities across the globe as well as unplanned demand spikes
- Two stage manufacturing process each with differing supply chain needs
- Management of multiple regulatory requirements varying by country
- Insufficient demand planning and lack of S&OP resulting in the wrong mix of finished products in the distribution channel

**S&OP across four continents, underlying process and IT improvements, and a simplified distribution network in North America link a complex, two stage manufacturing, global supply chain.**

### Challenge

This \$600MM global chemicals and consumer products division of a larger corporation was seeing shrinking margins and increasing inventory as well as experiencing large swings throughout the supply chain caused in part by gaps in demand planning. The company's supply chain has a long lead time component for concentrated raw materials and a short-term component for finished product mixing and distribution. There are a network of concentrate and mixing plants that supply commercial and retail channels throughout the world. Integrating planning end-to-end, as well as executing to short customer lead time requirements was proving to be a challenge.

### Solution

The assessment showed that in addition to opportunities in planning, there were also opportunities in distribution and organization design. These improvements would improve accountability definition, reduce inventory, improve customer service, reduce forecast error, and stabilize operations.

The international multi-workstream project team worked on the front, middle, and backend parts of the supply chain. We created and/or modified roles to create a global supply chain organization for global demand and supply planning, and reorganized customer service and distribution in North America. We worked on demand planning across the globe and ex-

tensively on the forecasting process with sales teams in North America. Providing volume inputs to a statistical base forecast was new to some business units. We implemented a web-based forecast input/update tool which greatly simplified the process. The demand planning process culminated in several demand reviews around the world organized by business unit. On the supply side, we set global inventory targets for raw materials and finished good targets in the US and Mexico. We implemented supply reviews for the global supply of concentrate and individual reviews for the formulation plants. The distribution team used a network optimization tool to redesign the distribution system in the US and Mexico. We drastically reduced warehouses and stock points in the US and Mexico simplifying DRP and improving execution using pull systems. In addition to the demand and supply review components of S&OP, we implemented pre-S&OP and executive S&OP meetings. The IT team created the necessary reports and KPI scorecards in SAP Business Information Warehouse.

### Outcomes

People, process, and technology improvements had started to generate results. At the conclusion of our project, inventory turns had improved by 9%, forecast error had been cut in half in 3 of 5 regions, and OTIF in the US was starting to show a significant improvement (20% based on limited data). We also saved a recurring \$3MM in distribution costs.