EXAMINE . ENHANCE . EXECUTE

Balancing Demand vs. Supply

Creating an operational plan that optimally balances asset utilization and inventory levels, while providing the flexibility needed to fulfill customer requirements

Background

ChemCo* is a multi-billion dollar corporation producing intermediates for end-consumer products. In an industry where there is continuous pressure to reduce costs, one of the key drivers of profitability is the efficient utilization of plant and transportation assets.

Challenges

Given these pressures, ChemCo needed to create an operational plan that maximized run rates, efficiently used the different transport options available, and minimized inventory levels, while providing sufficient flexibility to meet demand and fulfill customer requirements.

Solution

SimFlex creates a 'best' plan to meet the long and short term business objectives by optimizing operations across all constraints, including production run rates and capacities, transportation assets and available storage capacity. 'What-if' simulations and the subsequent revised optimal plans also mitigate the risks and impacts of planned downtimes or unexpected events.

- *8% reduction in logistics costs*
- *15% reduction in capacity investments and inventory*
- *30% increase in transportation asset utilization*
- *10% increase in plant assets utilization*
- *Provided an objective-based methodology for operational planning*

Results

Using SimFlex, the optimal operating plan, incorporating real-world dynamics and constraints, is determined monthly. Given the material availability, processing capacity, transportation and storage constraints, SimFlex provides quantified data, indicating the correct amount of product to be built and shipped, as well as specifying the resulting inventory levels to minimize total costs. SimFlex also provides the optimal capacity levels and product run rates for each process which improve the asset utilization while meeting the downstream demand at the lowest possible costs. As a result, ChemCo were able to reduce logistics cost by 8% and achieve significant improvements in operational efficiency, increasing plant and transportation asset utilization by 10% and 30% respectively, and reducing capacity investments and inventory by 15%.