

SIMULATION TOOLS FOR SUPPLY CHAIN: **Forecasting Warehouse Space and Optimizing Freight Spend**

The client is a leading global medical device manufacturer with a mission to deliver high quality solutions and innovation for advancing eye surgery and improving the vision of patients in more than 115 countries.

Clarkston advanced the maturity of the client's forecasting capabilities through the development of warehouse and freight modeling tools. These tools replaced a manual, qualitative process for strategic planning, annual budgeting and 3PL negotiations and monitoring. The effort involved defining and aligning on business impact and requirements, success criteria, and data pipelines for advanced analytics and reporting.

The team developed two tools. The first was a simulator tool that forecasts required warehouse space based on the inventory plan against current company-owned and contracted capacity. This simulator enabled analysts to update storage location configurations and add new facilities as the company grows. The second was a freight spend optimization model, which allowed the supply chain team to choose the optimal mix of transportation modes and supply cadence based on total cost and demand signals for shipments across their worldwide network.

Life Sciences Case Study

PROJECT OVERVIEW

INDUSTRY:



Health Care (Medical
Equipment & Devices)

PRIMARY OBJECTIVES:

- Supply Chain organization required robust warehousing planning and freight spend optimization modeling capabilities
- Derive insights to recommend process improvements to generate significant savings

RESOLUTION:

- Build two analytical models to forecast warehousing space & optimize freight spend
- Designed a flexible architecture to add new locations and products to grow with new acquisitions and portfolio expansion
- Provided user-managed model parameters to control demand, warehouse configuration, shipping lanes, sourcing relationships, and inventory levels
- Built custom dashboards in Power BI and Excel that can be integrated within existing business processes or used as stand-alone tools

KEY BENEFITS:

- Greater budgeting accuracy & efficiency for the supply chain logistics function
- Minimize freight spending through balancing shipment frequency and the optimal mode of transportation
- Precision in negotiation with 3PL providers for warehousing space resulting in lower cost
- Ability to quantitatively evaluate opportunities to optimize sourcing relationships for the current and future network

CLARKSTON
CONSULTING

**Warehousing space
forecasting with promising
savings**

**Freight spend optimization
with significant freight
saving opportunities**

**Ability to make data-driven
decisions about the impact of
demand fluctuation from
existing and new products on:**

- Transportation mode, cadence, and sourcing strategy
 - Warehouse utilization and configuration
- Strategic selection and ongoing management of 3PLs