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LENNOX

Lennox

How to face company expansion and growing complexity head on.

Challenges

Lennox Residential Heating and Cooling faced the challenge of managing an ambitious North American distribution network enlargement while simultaneously transitioning to a hub-and-spoke model with 55 shipping and 161 selling locations.

Industry

- Manufacturing – Industrials

Solution

- Demand Planning
- Inventory Optimization

Results

- Improved service levels by 16%
- Increased inventory turns by 25%
- Supported significant increases in sales and market share growth

Company Overview

Lennox International is a leading provider of climate control solutions for heating, air conditioning (HVAC) and refrigeration markets around the world. The Residential Heating and Cooling business unit represents about 42% of 5 billion USD total company sales.

Project

Rebecca Roberts, Director of Supply Chain Planning, realized that the business scenario called for a flexible, self-adjusting system with comprehensive statistical forecasting that could set stocking targets at an SKU-Location level based on demand variability, service levels, costs and other parameters.

Solution

The goal was straightforward enough: improve service levels and optimize inventories to reallocate working capital and balance inventory allocation in the changing network. But the supply chain environment was daunting. It included:

- A multi-echelon distribution network with more than 80 locations, that was about to grow by 250%
- 450,000 SKU-Locations
- Tens of millions of dollars tied up in inventories, including a "long tail" (98% of SKUs responsible for 62% of revenues) and many slow movers with classic lumpy demand
- Many new product introductions: in one recent year nearly 50% of the finished goods product line was replaced with new models
- High product availability targets: 75% of orders delivered next day and 20% of sales to installers and contractors who need 'same day' pickup
- Assured serviceability on finished goods for 15+ years
- Highly variable independent demand, driven by external factors that are not known and difficult to model (i.e. weather, macro-economic)
- Highly seasonal demand (AC and heating), with little retail buffer

Lennox implemented ToolsGroup's SO99+ solution to dynamically rationalize the inventory mix and create an operational plan that sets inventory stocking targets and balances service levels with inventory cost. The system allows Lennox to reliably model both seasonality and variable demand patterns. Network inventories are rebalanced by creating a dynamic optimal mix of inventory and service levels down to the store level. Lennox can also set global service policies by group or category and then the system automatically calculates individualized service levels for each SKU-Location.

The solution is integrated to Lennox's SAP APO platform. Deloitte Consulting provided integration services and addressed key strategy, technology and change management issues. Key capabilities include:

- Manages deployment inventory levels by setting SAP reorder points and minimum order quantities by SKU-Location
- Drives MRP purchasing/manufacturing processes with forecasts and safety stocking targets at the "top of the network"
- Models and plans pre-builds in a highly seasonal environment
- Pre-deployment planning
- The process includes:

- Weekly reorder point, safety stock & order quantity updates
- Weekly requirements forecasts for purchasing/manufacturing
- New store/location inventory build
- Weekly demand sensing and exception management
- Monthly inventory planning for S&OP
- Quarterly service policy adjustment in conjunction with sales

Lennox also uses machine learning to reliably model highly variable seasonal demand patterns. It sifts through hundreds of thousands of SKU-Locations to identify "clusters" of those with similar seasonality profiles. These enhanced seasonality clusters substantially increase peak period forecast accuracy.

Benefits

Improved service levels by 16% while simultaneously increasing inventory turns by 25%. Supported significant increases in sales and market share growth.

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