CUSTOMER STORY

Mitsubishi Electric

Getting inventory levels back under control, but not at the expense of service levels

Challenges

Mitsubishi Electric Europe needed to get inventory levels back under control in one of its spare parts businesses as obsolete stock was doubling nearly every two years. The company was seeking to reduce inventory while achieving the same or even higher service levels. The challenge was that its heating, cooling and ventilation systems business is inherently 'hyper-seasonal' and most system repairs are urgent, requiring many parts to be delivered within hours.

Industry

- Manufacturing - Spare parts

Solution

- Demand Forecasting & Planning
- Inventory Optimization

Results

- Reduced spare parts stock by 30%
- Increased service level from 87% to 97%, even during seasonal demand peaks
- Improved ability to forecast the seasonality of new items including product substitutions
- Unprecedented planning visibility and understanding of obsolete stock

Company Overview

The Living Environmental Systems division of Mitsubishi Electric is a market leader in providing solutions to heat, cool and ventilate our world. As the world's leading supplier of air conditioning technology for home, business and industrial applications, Mitsubishi Electric offers an impressive range of uniformly intelligent, energy-efficient solutions.

Project & Objectives

When an internal analysis at Mitsubishi Electric Europe revealed that one of its spare parts businesses was doubling obsolete stock nearly every two years in order to achieve 87 percent service levels, it knew there must be room for improvement. But by how much? The company needed to get inventory levels back under control, but not at the expense of service levels.

Mitsubishi Electric's Living Environmental Systems division is a market leader in providing systems that heat, cool and ventilate private and commercial spaces. Its spare parts business is inherently 'hyper-seasonal' since weather fluctuations drive demand. And most systems repairs are urgent, requiring many parts to be delivered within hours. This makes determining optimum stock levels much more complex than Mitsubishi's legacy SAP inventory management software was designed to handle. Planners resorted to using a manual process that only took historical data into account. Seasonal demand fluctuations were not factored into the planning, nor were the major variations in demand patterns for slow and fast-moving items.

> **Within three years, ToolsGroup helped us reduce our spare parts stock by 30 percent and we increased our service level from 87 to 97 percent. Even during seasonal demand peaks we are now always able to achieve this exceptional service level."**

According to Thomas Schuhmann, General Manager Business Development and Sales Direct Markets, Mitsubishi Electric Europe B.V. "We had a good 87 percent service level but this came at the expense of building up more and more obsolete parts in our warehouse. We set out to modernize in order to reduce inventory, strive for even higher service levels and gain more useful insights through our planning."

Mitsubishi Electric Europe turned to ToolsGroup, whose SO99+ software was renowned for overcoming challenges similar to theirs in spare parts businesses. In the first testing and benchmarking pilot, the company worked together with ToolsGroup to establish the "optimum stock level curve," factoring in current and historical service and average stock levels and built custom reports to monitor these over time. After this very successful pilot, Mitsubishi Electric Europe decided to deploy SO99+ and went live in only five months. This included building and validating the data model, redesigning the interface, simulations and live testing.

According to Thomas Schumann, "We were very successful in deploying SO99+ because it was very logical and straightforward for all our planners to understand and use. The level of detail we integrated into the data model helped to minimize implementation risks and maximize forecast accuracy."

Day to Day

Mitsubishi Electric Europe integrated SO99+ with SAP to handle demand, inventory and replenishment planning. The system helps the company to establish optimum stock levels for each SKU-Location regardless of whether it's a seasonal, low-volume part or a fast-moving item. As Thomas Schumann explains: "When we drill down into each unit, SO99+ shows us a 'corridor' – the range from the lowest to the highest level of stock – needed to fulfill each part's particular service level. This allows us to plan inventory and replenishment within that corridor."

The same process also works extremely well for the company's large portfolio of seasonal products. By analyzing the demand history, SO99+ automatically detects seasonalities and uses predictive algorithms to forecast future demand patterns.

"SO99+ lets us drill down on single SKUs, on product families, or on the total warehouse policy", says Thomas Schumann. " This means we can now forecast the seasonality for new items, even those that are product substitutions."

Results & Benefits

SO99+ has given Mitsubishi Electric unprecedented planning visibility to continually fine-tune operations and make profitable everyday decisions. High and low demand alerts set up in SO99+ identify items whose demand are historically under- and over-estimated, respectively. Another warns planners of exceptional demand peaks. Others are triggered when stock levels exceed maximum or minimum safety thresholds. If a delivery threatens to create overstock, a "de-expedite" alert suggests a later delivery date. Finally, an inter-depot transfer alert lets planners redistribute stock around its European warehouse network to optimize storage and transportation costs.

Using SO99+, Mitsubishi Electric was able to increase its service level and to decrease its inventory from day one. However as the system is self-learning, outcomes continue to improve over time. As Thomas Schumann concludes: "Within three years, ToolsGroup helped us reduce our spare parts stock by 30% and we increased our service level from 87% to 97% .Even during seasonal demand peaks we now are now always able to achieve this exceptional service level."

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