

CASE STUDY DISCRETE HAIER GROUP

Haier Group, founded in 1984, is a global leader in the home appliances and consumer electronics industry. Headquartered in Qingdao, China, Haier is known for its innovative solutions and smart appliances. Thanks to a strong commitment to customer satisfaction and technological innovation, Haier has become one of the world's largest home appliance manufacturers. Haier is known for its continuous innovation, especially in the fields of smart home technology and the Internet of Things (IoT).

Haier Europe, one of Haier's five global divisions, is responsible for the European market. Haier Europe has its operational headquarters in Vimercate, Italy, and is committed to providing high-quality products that integrate advanced technology and unique design. Haier Europe's mission is "Zero Distance to the Customer," which emphasizes the goal of understanding and meeting European consumers' needs through continuous innovation and service improvement.

In recent years, Haier has expanded its presence in the digital and smart appliances sector, launching numerous products with IoT technology and acquiring AI-based technologies. The company has developed its own smart home platform, the hOn app, which allows users to connect and control appliances through a single interface, improving convenience and energy efficiency. The focus on the smart ecosystem and customer-centered innovation continues to push the boundaries of the home appliances industry.

Haier's vision is to become the global leader in the smart home ecosystem, providing users with an interconnected lifestyle that offers convenience, comfort, and efficiency. Through continuous investments in R&D and its "ecosystem brand" strategy, Haier aims to create a seamless experience where technology naturally integrates into everyday life.

OBJECTIVES

In an extremely dynamic and competitive environment characterized by a VUCA (Volatility, Uncertainty, Complexity, Ambiguity) world, where execution efficiency,

service levels, and customer satisfaction represent critical success factors, the ability to simplify and efficiently manage complexity is fundamental to optimizing operations.

Haier needed to:

- » Identify a reliable partner with experience in DDMRP (Demand Driven Material Requirements Planning).
- » Implement a solution that improves operational efficiency, reduces costs, and increases customer satisfaction, contributing to a more agile and responsive supply chain.
- » Adopt a continuously evolving system capable of leveraging the opportunities that new artificial intelligence technologies can offer.
- » Adapt to the challenges of a VUCA world, which requires a resilient supply chain, able to respond quickly to unforeseen changes and maintain operational continuity even in crisis situations.

Haier identified sedApta's DDMRP solution as the ideal choice for managing the process.

PROJECT

The project was designed to manage purchases and distribution for the entire distribution network of Small Domestic Appliance category items. The first modeling hypothesis involved Buffer management of materials at the central distribution warehouse only to generate supply orders using sedApta's DDMRP.

After a requirements analysis, it was decided to manage the entire distribution network with sedApta's DDMRP, including local warehouses, allowing the customer the necessary flexibility to autonomously reshape the network dependencies. This approach led, in addition to the generation of purchase orders, to the management of warehouse transfer orders (demand-driven distribution). The optimization of purchase order volumes and shipments to local warehouses is carried out using the Prioritized Share algorithm, typical of advanced DDMRP applications in logistics.



SECTOR
HOME APPLIANCES &
CONSUMER ELECTRONICS



SIZE
EUROPEAN PRESENCE
9,000 EMPLOYEES



REVENUE
€3.67B (2023)



SEDAPTA MODULES
DDMRP - BRICKS

Project Phases and Timeline

Design

During the design phase, the objectives and technical specifications of the project were defined in detail. This phase lasted 3 months, during which an in-depth feasibility study and requirements analysis were conducted.

Initial Development

The core of the system was developed over 6 months. During this phase, the main functionalities of sedApta's DDMRP were implemented and configured to meet Haier's needs.

UAT (User Acceptance Testing)

During the following 2 months, a User Acceptance Testing (UAT) phase was conducted, during which users tested the system to verify its compliance with initial requirements. This phase was crucial to identifying any additional needs and making modifications.

Implementazione e Fine Tuning

Subsequently, 4 months were required for the full implementation phase of the system and fine-tuning of the process. During this period, additional functionalities emerged from the needs identified during the UAT. The system was optimized and adapted to ensure seamless integration with Haier's business processes.

The sedApta Suite modules used were:

- » sedApta DDMRP – certified by the Demand Driven Institute.
- » Foundation Suite (sedApta Bricks).

The first was used as the calculation engine for order proposals, the second hosted all classic DDMRP planning and execution interfaces, customized to meet Haier Group's specific requirements.

The modules used from the sedApta Suite are natively integrated with the rest of the Suite used by Haier for planning items belonging to other Product Categories. They were integrated with TMS and SAP Haier for generating Stock Transfer Orders and transferring purchase proposals.

In addition, beyond the minimum requirements necessary for software certification by the Demand Driven Institute, the sedApta application implemented in Haier also features:

- » Prioritized Share: Used to optimize the mix of products acquired from each supplier and to optimize shipments from the central warehouse to Local Buffers.
- » Containerization Optimization.
- » Long Term DLT.
- » Lead Time Alert.

BENEFITS

During the design phase, a theoretical simulation was conducted to evaluate the effectiveness of the DDMRP solution. This simulation allowed early identification of potential benefits in terms of stock level optimization and service level improvement. The expected results were promising, indicating a significant reduction in excess stock by 20% and a 10% improvement in delivery punctuality.

With the implementation of the sedApta solution, the first actual data from September and October confirmed these expectations. Stock levels were optimized as expected, and service levels recorded a significant increase. If we wait until early December to publish the results, we will have a full quarter of the data that will allow us to clearly identify a trend and provide a more accurate assessment of the solution's impact.

Demand Driven Material Requirements Planning

Demand Driven Material Requirements Planning (DDMRP) is a planning and resource management methodology that focuses on real market demand to optimize stock management and improve material flow. Based on the principles of the Demand Driven Institute, DDMRP combines concepts from Lean Manufacturing, Theory of Constraints, and Six Sigma to create a planning system that is more agile and responsive than traditional MRP (Material Requirements Planning).

By using dynamic material buffers, DDMRP allows the reduction of lead times, minimization of excess stock, and improvement in delivery punctuality.

The standard capabilities of sedApta's DDMRP solution, necessary for certification, include dynamic buffer management, demand and inventory synchronization, and order generation based on real data. These capabilities ensure compliance with the highest demand management standards, as certified by the Demand Driven Institute.

sedApta also offers advanced capabilities that add value compared to other certified tools. For example, the Prioritized Share algorithm optimizes purchase order volumes and shipments to local warehouses, improving logistical efficiency. The Containerization feature optimizes container loading for transport, reducing costs and improving space utilization. Additionally, Long Range Order Spike Horizons help identify and plan for long-term demand peaks, enabling more proactive stock management.

The sedApta DDMRP solution is certified by the Demand Driven Institute, ensuring compliance with the highest standards in demand management.

