Supply Chain Network Design

Case Study: Mechanical and Plant Engineering

The global automotive and industrial supplier operates at several hundred sites worldwide and thus has a global network of production sites, research and development facilities, and sales companies.

Company data

- **Industry:** Suppliers to the automotive and mechanical engineering industries
- **Customer since:** 2012

Software in use

- **Deployed software:** PSIglobal
- **Realized interfaces:** Different ERP systems of the individual countries in the EU
- **Type of optimizations:** Greenfield, Brownfield

The challenge

The group decided to completely examine and restructure its distribution network to be able to supply customers in Europe quickly and efficiently with the complete product range in the future, while increasing customer satisfaction and optimizing distribution costs. Orders per customer, which at that date had sometimes been served from several warehouse locations, were to be dispatched centrally from just one warehouse location after optimization. At the time, the network comprised more than 200 warehouses.

PSI

Reference project

The solution

- PSIglobal can process large amounts of data in multi-stage and complex logistics networks easily and quickly. A feature that benefit the planned project, as the upcoming analyses and calculations concerned the entire two-stage goods distribution in Europe, including a very high number of articles, shipments and orders (>150 million data sets)
- Furthermore, PSIglobal made it easy to import data from various ERP systems in the individual EU countries. This step enabled the company to visualize the entire supply chain across all stages of the value chain and modes of transportation. On the way to realigning the central warehouse structure in Europe, the ACTUAL network was first analyzed extensively in tabular and graphical form to design preferred supply chain variants. Greenfield scenarios were used to calculate an optimal number and location of new sites for consolidation purposes. In doing so, the Group always kept an eye on the markets with the existing customer structure. In addition, the project team considered the different customer requirements, e.g., in terms of speed of delivery. Based on this, the evaluation of the possible new warehouse locations was carried out in brownfi eld and real scenarios
- After performing all calculations, three logistic nodes in Europe had been identified where warehouses of different sizes were established or operated. The restructuring has resulted in efficiency gains at many levels within the group. Added to this were new and more efficient backbone routes, as well as a significant reduction in transport costs due to higher utilization of truck capacity. In addition, inventories were reduced throughout the network and the productivity of individual warehouses was increased. In total, cost savings of around 10 % were realized in distribution. The initial goal of increased customer satisfaction has also been achieved

Fact sheet

User
- 10+

Language
- German and English

Solution components
- Data import
- Analysis/visualization
- Distance calculation
- Extrapolation/prognosis
- Location optimization
- Table and graphic export

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