

Success Story in Manufacturing Worldwide transportation management success at Bosch



4flow and Bosch optimize globally

The Bosch Group is a leading global provider of technology and services operating as part of a worldwide network focusing on research and development, manufacturing, and sales with 270 plants, as well as offices and regional subsidiaries in 50+ countries. The equally sophisticated transportation network includes inbound transportation from suppliers to locations as well as outbound transportation to supply customers and its own subsidiaries. Each year, Bosch incurs transportation costs of roughly one billion euros, with road transportation making up 60%. This enormous sum promises a significant amount of potential savings.

Bosch therefore decided to set up universal integrated transportation management and incorporate all 4 business sectors with a total of 19 divisions and many locations worldwide. This posed a big challenge since Bosch has a very broad spectrum of goods that need to be transported - from parts and systems for the automotive industry to wind turbines. This variety requires a lot from transportation management processes. As a provider of consulting, software and 4PL services, 4flow supported Bosch not only with the as-is analysis but the development and implementation of the new strategy as well. The focus was on continuous planning and optimization of transportation and routes to reduce costs sustainably.

Planning ahead and improving continuously

Internationally, a TMC is being set up in each region enabling supply chain experts at Bosch to continuously optimize the transportation network in each region by relying on the integrated transportation management system (iTMS) from 4flow. The tasks range from planning and implementing new routes to daily execution and transportation coordination along with freight invoicing, including auditing and reporting. The Bosch team is supported on site by specialists from 4flow. By implementing the iTMS, the efficiency of organizational structures, processes, and service providers can be measured by using key performance indicators. As a result, the transportation network is optimized dynamically on a continuous basis and adjustments to fluctuations are flexible. The new setup also enables better identification and use of transportation consolidation effects. "Until now, milk runs, for example, were only used by some of the plants. The consolidation of shipments promises the largest optimization potential for plant-to-plant transportation," explained Christine Mezger-Behan, who led the global implementation of the TMC at Bosch as project head. The standardized system also simplifies the invoicing process. "The success factor for integrated transportation management is that routes are optimized on a daily basis. The best transportation concept for each shipment is selected and demand can be adjusted on short notice. Let's say a particular shipment

takes up only 20% of a truck's capacity. If possible, we would add other materials to the shipment earlier than planned or would transport the materials as less than truckload or a milk run," Rainer Schmitz, vice president at 4flow, said.

Projects in Europe, China, India, and South America

The individual plants and locations are all linked by interface to an EDI manager that passes the data to the iTMS. One advantage of this is that any ERP system can be integrated at a low cost using a universal interface. In order to increase the overall acceptance of the new organizational setup and the processes including the new IT system around the world and cover many transportation modes early on, Bosch and 4flow implemented a pilot project with 3 European locations, parallel to a pilot project with 4 locations in China. The logistics markets vary considerably; In Europe, there is a broad spectrum of mid-sized to large-service providers, while in China there are many small carriers that typically operate as subcontractors for large logistics service

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Christine Mezger-Behan, Vice President and Project Head of Global Implementation of Transportation Management Centers at Bosch

Customer

> Bosch Group

Manufacturer and supplier

> 270 plants, along with offices, and regional subsidiaries in 50+ countries

Project scope

> Develop and implement an iTMS
> Integrate all 4 business sectors and 19 divisions and implement multiple TMC globally

Results

> Transportation cost savings of over 10%
> Increased transparency about structures, processes, service providers, and costs
> Successfully onboarded 7 plants, 1,200 transportation lanes, 23 logistics service providers and 3,500 sales partners in Europe and China in just a few months

providers. The analysis of the transportation network in China showed that out of 14 different scenarios, a setup consisting of 8 cross-docks in 4 regions including North, East, South and Middle/West proved to be the optimal network with the highest potential cost savings.

Despite different market conditions, the partners were able to implement the new strategy with one common process and IT standard in those regions in just a few months. During this time in Europe, 4flow integrated 3 plants, 1,200 origin-destination pairs along with 4 large logistics service providers and 16 smaller ones. In China, a total of 4 plants, 3,500 distribution partners, and 3 logistics service providers were implemented successfully. "We can only achieve our objective of optimizing transportation networks and thereby reducing costs if we have the transparency provided by a globally integrated system," Christine Mezger-Behan explained. Rainer Schmitz added: "A common critique concerns higher inventory costs when we consolidate capacity and have suppliers deliver once a week instead of daily. Inventory costs and transportation costs, however, are factored into the total cost of ownership in equal parts. Aside from this, inventories on the whole can be lowered thanks to exact planning since less safety stock and replenishment time need to be allowed for."

Achieving success with change management

One of the keys to the quick and successful implementation was change management geared to specific target groups. Due to the cross-functional requirements and the effects of the necessary changes, project team members from various functions had to be integrated and trained. To ensure quick acceptance, individual users are trained only on the modules and processes that they require. "The optimization of the network and the implementation of new processes along with inbound and outbound routes in just 6 months set a new benchmark. We were able to do it with 4flow and are now benefiting from the project experience. We have already met the cost-savings objectives we set out to achieve," Christine Mezger-Behan said, summing up the collaboration. Bosch and 4flow continued the implementation in Brazil and India in addition to other European and Chinese plants. Air and sea transportation is also being integrated into the TMC. A global network is being built.

About 4flow

4flow is a leading provider of supply chain consulting, software and fourth-party logistics (4PL) services. With more than 1000 team members, 4flow is a global partner for its customers at more than 20 locations in Europe, Asia, North America, and South America. 4flow completes more than 300 projects a year in cooperation with customers on 5 continents, in more than 40 different countries. 4flow is headquartered in Berlin, Germany.