



VAN DEN BOSCH.COM

THE SUPPLY CHANGER IN BULK

THE POWER OF OPTIMIZED LOGISTICS PLANNING

Founded in 1964 by Ad van den Bosch, the company started with a single truck driven by Ad himself, making deliveries six days a week and planning or accounting on Sundays.

Today, Van den Bosch has expanded to become an international logistics services provider with over 750 employees and a turnover of 200 million euros annually. They specialize in dry and liquid bulk transport, managing more than 300 trucks, about 300 trailers, more than 5000 tanks and containers, and moving 2.4 million tonnes of materials via an extensive intermodal network. The Dutch company is committed to driving positive, sustainable, and tangible changes within the supply chain by approaching it with data, insights, and innovation.

Van den Bosch maintains its headquarters in Erp, the Netherlands, and operates internationally from more than 10 branches across Europe, Africa, and the Middle East.



THE CHALLENGE

Like most businesses, the onset of pandemic restrictions and other disruptions threw a major curveball for Van den Bosch's operations, exacerbating vulnerabilities in the supply chain. In 2016, Van den Bosch implemented DELMIA Quintiq Logistics Planner to replace its legacy spreadsheet system and other manual processes.

But when the pandemic hit in March 2020, Van den Bosch found that they were not immune to new challenges like rising costs, shortages of staff, and the continued importance of sustainability. The company decided to take its planning to the next level to increase the quality of their plans, improve efficiency, and extend its planning horizons. By adding an optimizer, planners could focus more on planning by exception rather than repetitive tasks.

Van den Bosch's biggest challenge was the added complexity in planning brought on by recent events. A global shortage of containers combined with increased demand meant additional pressure on planning. Van den Bosch planners were under pressure to decide on the best action plans to maintain a high level of customer service, with even less wiggle room than before. Linda Krielaart, Manager IT Projects & Development at Van den Bosch, described the possible scenarios for their operations as equaling "more than the estimated number of atoms in the universe." Without an optimizer, arriving at the best plan that is also sustainable in such a limited amount of time would be extremely time- and cost-consuming.

Another key challenge was garnering the trust of Van den Bosch's experienced planning team. An optimization project is at its most successful when there is buy-in from planners and stakeholders. Thus, the leadership at Van den Bosch had to ensure gradual and seamless technological integration into their planner's current working processes.



THE SOLUTION

The team at Van den Bosch worked with The Logic Factory experts to ensure that the optimization project achieved its goals. According to Krielaart, consultants at The Logic Factory helped her team to focus on the following three critical pillars:



Data Readiness

The optimizer needed to mitigate the high complexity in bulk logistics. Most logistics challenges have two elements, while Van den Bosch considers three elements in their planning: chassis, trucks, and orders. The number of possible solutions increases exponentially with the number of orders, and the bulk products for delivery have specific properties that must be considered when planning.

At the start, The Logic Factory conducted a maturity scan to evaluate whether the organization and processes at hand were ready to proceed towards optimization. Operations Research Scientists from The Logic Factory then worked with the team at Van den Bosch, including input from the organization's planners to focus on real-time data.



Change Management

One of the key aspects of a successful software implementation is managing the human aspect. The Logic Factory helped to get the planners on board with changes by involving them from the start of the project. “Planners are used to being in control,” explained Krielaart. “Now, suddenly a system comes in, and will do some planning for them. That scares them. Planners have to be included in as many parts of the changes as possible. That way, they feel they actually own the solution, and it is not pushed on them.”

To ease hesitation, The Logic Factory consultants proposed a friendly challenge for the Van den Bosch planners to help them see the benefits of the optimizer for planning outcomes.

In the challenge, some of Van den Bosch’s best planners (as a benchmark) were sequestered in a room for five days and asked to produce the best plan. “For two days of planning, they had five days. So, they really did their very best looking at the constraints and KPIs. And we gave the same starting situation to The Logic Factory and said, ‘Okay, let your optimizer run and let’s see’,” said Krielaart.

With this benchmarking, The Logic Factory showed Van den Bosch’s planners that the most important thing that optimizers do is prune the solution space so that it takes as little time as possible to find a great solution. It also allowed the planners to actively participate and take an interest in the optimizer. With confidence and trust won, Van den Bosch planners were on their way towards change and ensuring effective operations with the system.



Measuring Value

Siloed planning puts the business at risk of optimizing one area in isolation without considering how it affects the entire business. Moving from a silo-based strategy to a holistic one is a key benefit gained from optimization.

To achieve this, the optimizer had to be integrated to allow Van den Bosch’s supply chain to be optimized at both operational and tactical levels. This included balancing and setting weights to each constraint of cost and time and incorporating their targeted KPIs into the solution.

Continuous KPI tracking and weight setting of constraints enables planners to work more efficiently. Seeing the impact of planning decisions on KPIs in real-time ensures a holistic view with end-to-end visibility of planning operations and a better qualitative measurement of the value.





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Linda Krielaart

Manager IT Projects & Development

BOTTOM LINE

Benchmarking is critical in demonstrating the value of optimization in improving planning operations. Firstly, the speed of planning a single day improved from ½ day to only 3 minutes. The optimizer successfully manages the high complexity of planning intermodal, bulk logistics, enabling the planners to work with the system to solve exceptions quickly. This efficiency in planning allows planners to focus their expertise on quality, improvement, and exceptions instead of on repetitive, tedious tasks.

Krielaart says that the organization saw an impressive benchmark improvement.

“The interesting thing is that, in all the benchmarks we had, they showed an improvement of 5%. For logistics, that is huge because the margins are not super high. So, a 5% increase in the plan's quality is high for us. Even in the dry goods market, our biggest area, we saw a 10% improvement in the dry goods benchmark.”

Overall, Van den Bosch gains agility and balance as a business with the optimizer. By providing qualified experts to configure the solution to Van den Bosch's specific business rules and properties, The Logic Factory provided a perfect fit solution for the organization's current operational success and beyond.



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