

Automating the Transportation Management With Combinatorial Optimization

Introduction

Automation.” This word is contained in the description of every single IT product for B2B. However, it is still not easy to comprehensively automate a particular business process. It requires both a deep understanding of the industry and advanced mathematics.

Read about the collaboration of Veeroute and a logistics management platform and learn how the joint product proved to be effective.

Our partner

Veeroute’s partner in this project is a developer of integrated IT solutions for transport logistics. The product they deliver is an IT ecosystem for managing logistics processes, which has Veeroute's optimization engine as a mathematical core.

The ecosystem’s functionality allows the client to manage:

- mainline transportation (FTL / LTL);
- last-mile delivery;
- multimodal transportation of containers;
- the logistics back office.

Challenge

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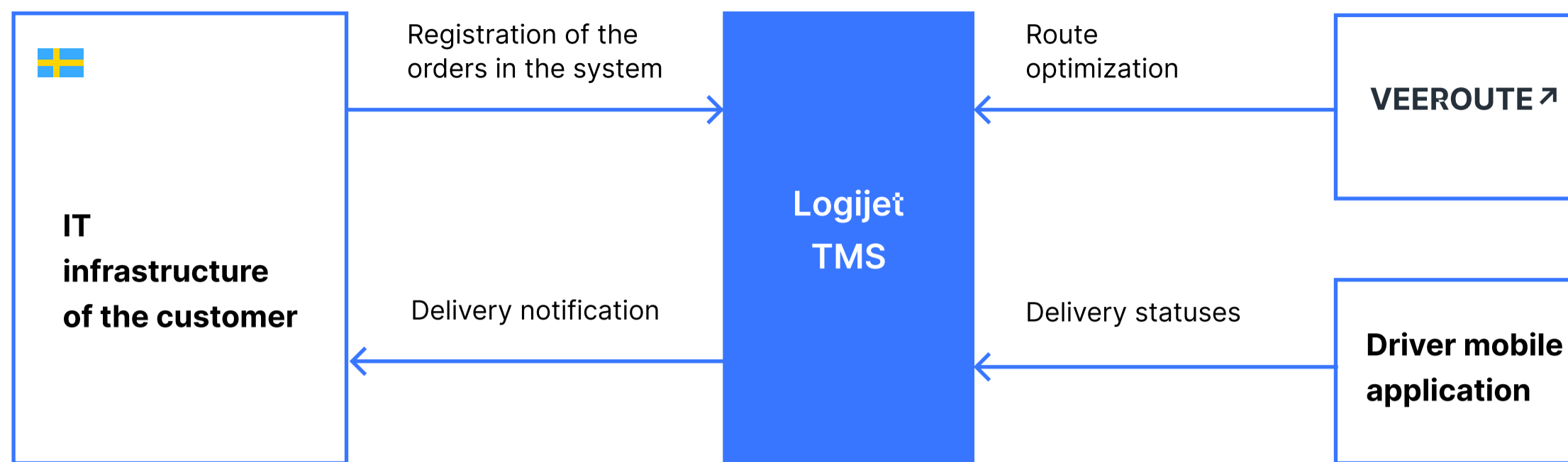
Delivery was carried out by a rented fleet, including more than 400 trucks. For logistics management, the IT platform with a built-in Veeroute optimizer was implemented.

The customer set the following tasks:

1. Deliver goods within 8-hour time windows, which will be selected by clients
2. Reduce freight costs
3. Build an information chain about the stages of cargo delivery

Veeroute mathematics was used to complete the first two tasks. The engine's functionality optimized transport costs taking into account time windows and delivery parameters. The third task was implemented using the IT ecosystem’s flexible interface, allowing the client to detail the stages of ordering, delivery, or services.

Integration



The project started in 2020. Integration into the customer's system consisted of two stages:

1. From the beginning, the automatic receipt of all orders for delivery in the city was launched.

The number of applications was 40 units per day. Two primary delivery intervals were established: 8:00 a.m. - 4:00 p.m. and 4:00 p.m. - 12:00 a.m.

At this stage, the work was focused on creating modern and flexible logistics that meets the customer's quality standards.

2. **After several months, the delivery zone was expanded to an area with a population of 6 million.**

The number of orders increased 5-6 times: up to 230+ units per day. The number of delivery intervals also has been increased from two to five. Time slots have been halved to 4-hour windows. Thanks to this solution, customers were able to choose a more convenient delivery time.

The efficiency of the joint solution made it possible to scale the service to other regions. By the end of 2020, the last-mile delivery service was launched in two more cities, both with a population of more than 1 million citizens.



Results

- Route planning time has been reduced by 95%.
- Vehicle mileage and delivery time have been reduced by 15%.
- Costs for transport logistics have decreased by 30%.
- The level of service quality has increased by 95%.

Veeroute made it possible to fully automate route planning. Logisticians were spared from the monotonous work that took up most of their time.

Reducing the routine workload gave employees the opportunity to pay attention to the transport system's efficiency. Since the start of the project, the client has managed to reduce logistics costs by a third, cut mileage, and shorten delivery times.

An important factor in improving the quality of service was expanding the number of order statuses. There are more than 25 statuses in the solution. They describe in detail the stages of receiving and processing an application, delivering cargo, performing a service, etc.

A wide set of statuses makes the delivery process as transparent as possible and, therefore, convenient for both customers and employees:

- The client knows exactly at what stage of processing the order is and when to wait for delivery.
- The logistician and account manager receive detailed information on the whereabouts of orders and couriers. This helps to adjust and improve the quality of delivery planning and customer service.



“Our positive expectations regarding the effectiveness of the route planning optimization solution were fully met. During our cooperation, we worked with Veeroute to decide upon indicators. The Veeroute team helped to quickly implement the solution and configure many parameters of the service integrated into the IT ecosystem.”

— **Technical Director**