

“Ab Ovo helps Lineas in reducing operational costs”

Integrated rail planning at Lineas with IRON



The Company

Lineas is one of the largest rail freight operators in Europe. With its base in Brussels, its goal as a freight operator is to provide stronger, broader and higher-grade rail services to customers in a liberalized European market. Lineas provides total logistic solutions and customer-oriented services, which include rail, inland shipping, road transport, terminals, warehousing, on-site operations, et cetera. To that end, Lineas continuously endeavors to improve quality, productivity and cost efficiency and to expand its international offering and network.

The Challenge

Planning and detailed scheduling of rail cargo processes is characterized by complex business logic and constraints. It involves long and short-term planning of locomotives, locomotive drivers and yard staff. A planning department has



to take a variety of interdependencies into account, plus constraints like maintenance rules, route knowledge, traction knowledge and different working time directives and regulations. Ab Ovo's key expertise is modeling this complex business logic – including all constraints - using specialized Advanced Planning & Scheduling (APS) software. The clients of Lineas expect high service. To fulfill this expectation the planners of Lineas need to have a solution that gives them a full overview of the planning puzzle and helps making the right decisions.

On a daily basis a variety of decisions are made, such as:

- Is there a path available for a train? Or should a new path be requested?
- Which resource (locomotive, loco drivers, yard staff) to plan on a train.
- How to distribute the shifts among staff in a cyclic or linear roster and obey all labor regulations.
- How to re-plan when a locomotive brakes down or a driver gets ill.
- How to plan drivers so that their knowledge of locomotives and routes stays up to date.
- These and many other decisions should be supported by the tool in order to ensure high service and to stay competitive in the market.

The Solution

Lineas selected Ab Ovo to deliver a planning solution that supports the full resource planning cycle, from long-term planning to real-time execution management. The solution, called Integrated Rail Optimization (IRON), integrates the planning and scheduling of line locomotives, shunting machines, drivers and yard operators. The solution is based on Quintiq technology.

IRON covers the entire planning process, from strategic and long-term planning to operational execution. IRON supports planners in making the best decisions for scheduling and re-scheduling resources.

The new system integrates existing planning methods with the new processes required for operations in the new Lineas organization. It is easy to adjust and improves communication between different planning teams. Lineas' unique constraints, such as traction knowledge or labor regulations, are modeled in the system, leading to a safer and more secure working environment and operational excellence.

The Results

The solution has proven to be very effective in lowering operational cost. Due to better overviews, fewer paths are required to serve the same amount of trains. The locomotives and staff can be planned more effectively, reducing the amount of unused resources. The locomotive maintenance is planned just in time and the staff's knowledge of routes and locomotives is kept up-to-date, reducing the amount of exams that are required when knowledge becomes outdated.

Furthermore the satisfaction rate among drivers and local staff has significantly increased due to the improved roster quality that ensures that all working time directives and regulations have been met. This has a positive effect on the level of sick-leave in the company.



Finally, the communication between planners has improved significantly and the process of lastminute changes on the day of operation has become smooth due to improved coordination, better overview and an effective accident handling procedure.

About Ab Ovo

Ab Ovo is an innovative and independent business & software solutions provider. We provide highly specialized logistics software solutions, supply chain analytics and rail cargo solutions. Ab Ovo is a key player in the field of logistics with extensive experience and expertise in supply chain management, logistic processes and advanced planning, scheduling & optimization solutions. Ab Ovo delivers unique software solutions based on our in-house software development and specialist third-party software from a selected number of highly innovative partners. Offices are located in the Netherlands (Rotterdam and Amsterdam), Germany (Düsseldorf), Denmark (Copenhagen), China (Shanghai) and the USA (Boston). Please visit www.ab-ovo.com for more information about our activities and relevant references.

“IRON is proving to increase our competitiveness and supports our mission to become the most reliable rail operator. This initiative is only one step in a line of measures that Lineas is undertaking to improve the safety, quality and productivity of its services.”

CEO of Lineas, Geert Pauwels

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