IVU.rail at AKN





EFFICIENT DUTY AND RUN SCHEDULES FOR INCREASING DEMANDS



INITIAL SITUATION

AKN Eisenbahn GmbH is a firmly established part of the Schleswig-Holstein rail sector. For more than 130 years, it has guaranteed regular rail transport from the centre and the south of Schleswig-Holstein to and from the Hamburg metropolitan area. Today, the company operates three routes with 32 traction units and 75 train drivers: between Neumünster and Hamburg-Eidelstedt, Elmshorn and Ulzburg Süd as well as Norderstedt Mitte and Ulzburg Süd. Due to growing demands for efficiency and planning quality, the planners were facing challenges that they could not meet to the extent hoped for with the existing system, in which duties and vehicle runs were created in separate processes.

OVERVIEW

Employees	75 train drivers
Vehicles	32 traction units
Transport Services	Around 11.7 million passengers annually (2016)
Operations	Passenger rail transport
Objectives	Integration of duty scheduling and run scheduling Improvement of planning results Unburden planners
Specific Details	Swift and simple provision as part of a system upgrade Integrated workflow from the planning to the settlement
IVU products	IVU.timetable, IVU.run, IVU.duty, IVU.control
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OBJECTIVES

In order to improve the planning results and particularly to unburden the planners, AKN decided to replace the existing system by introducing an integrated system. As well as the combined planning of duties and vehicle runs, it was also intended that optimisation functions should contribute to more efficient personnel deployment. In addition, AKN hoped to automate numerous workflows and thereby noticeably reduce time and effort for planners.

SOLUTION

In the past, AKN had a very positive experience with the IVU.control settlement system. Together with IVU, the company then explored the possibilities of using the IVU.rail planning products. Subsequently, the software could be quickly and easily acquired and introduced as part of a simple system extension.

IVU.rail unites all the planning tasks of a rail company in one system. This ensures a continuous flow of data between the individual planning steps. This means that the duty scheduling can easily access the data from timetabling and run scheduling at any time.

The IVU solution also has a powerful optimisation engine, which was developed by IVU in collaboration with the renowned mathematicians from LBW. Fully developed mathematical algorithms calculate the best solution from all vehicle runs in accordance with the requirements. This helps the planners to consistently create balanced and efficient duty schedules. In addition, all planning steps benefit from an automatic sug-

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Numerous automation functions make it easier for planners at AKN to create efficient duty schedules.

gestion system, which significantly accelerates the work process and makes it easier for the planners. Using flexibly defined rules, IVU.rail determines suitable crews in accordance with the duty Guidelines.

IVU.control was also seamlessly integrated into the continuous workflow. Thanks to internal interfaces, planning data is automatically available for use in settlement with public transport authorities.

Standardised interfaces in the RailML and VDV plus format also ensure a frictionless data export to the fleet management and dispatch, as well as to the public transport authority.

OUTCOME

The introduction of IVU.rail has significantly simplified the work of the planners at AKN. All relevant data from the duty scheduling and run scheduling is now available at any time, meaning that the work cycles are now significantly quicker. Thanks to the optimisation and automation functions, AKN now has better and more efficient duty schedules and run schedules, with less time and effort needed for their creation.

"IVU.rail provides us with a flexible, future-proof solution that optimally prepares us for the increasing requirements being placed on our company."

Wolfgang Seyb

Managing Director | AKN Eisenbahn GmbH (2012-2020)