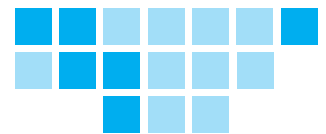


# IVU.rail at AKN



## PLANNING, DISPATCH AND PAYROLL ACCOUNTING IN A FULLY DIGITAL WORKFLOW



### 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 33 traction units and 130 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

|                           |  |
|---------------------------|--|
| <b>Employees</b>          | 130 train drivers  |
| <b>Vehicles</b>           | 33 traction units  |
| <b>Transport Services</b> | 12 million passengers per year   |
| <b>Operations</b>         | Regional passenger rail transport  |
| <b>Objectives</b>         | Integration of duty scheduling and run scheduling<br>Improvement of planning results<br>Digitalisation of personnel dispatch |
| <b>Specific Details</b>   | Swift and simple provision as part of a system upgrade<br>Integrated workflow from planning and dispatch to the settlement   |
| <b>IVU products</b>       | IVU.timetable, IVU.run, IVU.duty, IVU.crew, IVU.pad.employee, IVU.control  |

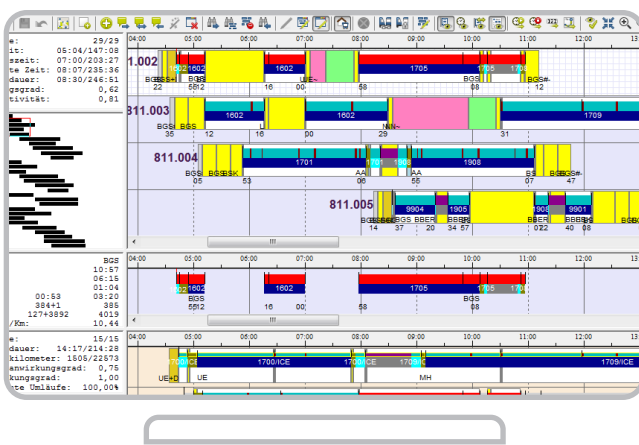
## OBJECTIVES

In order to improve the planning results and particularly to unburden the planners and dispatchers, AKN decided to replace the existing system by introducing an integrated system. As well as a uniform approach to personnel dispatch and 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 and dispatchers.

## 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 and dispatch 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. Based on this data, the personnel dispatch produces fair, balanced duties for the drivers in a seamless process. In addition, the IVU.pad.employee web portal supports direct communication between personnel and the dispatch team. An integrated duty and shift exchange allows modification requests to be submitted straight to dispatch managers.



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

The IVU solution also has a powerful optimisation engine, which was developed by IVU in collaboration with the renowned mathematicians from LBW Optimization. Fully developed mathematical algorithms calculate the best solution from all vehicle runs in accordance with the requirements.

All planning steps benefit from an automatic suggestion system, which significantly accelerates the work process and makes it easier for the planners and dispatchers. 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 and dispatchers at AKN. All relevant data from the duty scheduling and run scheduling as well as the personnel dispatch 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 balanced and more efficient duty schedules and run schedules, with less time and effort needed for their creation.

“By introducing personnel dispatch, we’re forging further ahead with digitalisation in our company. Small-scale processes such as duty swaps and reporting in sick can now be done 100% electronically without any intermediate steps or pieces of paper.”

**Ulrich Bergmann**  
Managing Director | AKN Eisenbahn GmbH