

IVU.rail for DB REGIO

INTEGRATED PLANNING AND DISPATCHING FOR 2,800 DRIVERS AND 1,300 TRAINS



[Photo: Flummi-2011, CC-BY-SA-3.0]

INITIAL SITUATION

With a share of 75% of the 653 million train kilometres conducted per year, Deutsche Bahn AG is the market leader in short-distance rail passenger transport in Germany, far ahead of the competition. In addition to the Interregio-Express trains, the Regional-Express trains and the regional trains, DB Regio AG also operates 14 suburban rail systems in Munich, Berlin, Hamburg, Frankfurt and other metropolitan regions.

The suburban rail system in Munich is an extremely complex operating system, with a tight headway, extensive addition and removal of auxiliaries on its routes and a high proportion of special transport services.

Increasing demands from both passengers and the contracting entity with regard to quality service, profitability and punctuality put a strain on the limited resources available for vehicles and personnel.

OVERVIEW Suburban Rail, Munich, Berlin, Hamburg, Rhine-Main, Rhine-Neckar

Employees	Approx. 6,200, of which 2,800 are drivers
Vehicles	1,300 traction units
Transport services	1.1 billion passengers per year, 81.2 million train kilometres on a transport network stretch of 1,682 km
Objectives	Integrated and resource-spanning production planning with a single system Increased efficiency and reduced costs through a high degree of automation
Special features	Munich and Rhine-Neckar the first suburban rail operations to introduce IVU.rail (2002) Optimisation of the personnel deployment Central technical operation and control

IVU.RAIL SUITE

IVU.rail.plan
Network
planning

IVU.rail.plan
Timetable
planning

IVU.rail.plan
Duty
scheduling

IVU.rail.crew
Roster
layout

IVU.rail.crew
Personnel
dispatch

IVU.rail.crew
Payroll
accounting

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Vehicle
working
schedule

IVU.rail.vehicle
Track
occupancy

IVU.rail.vehicle
Vehicle
dispatch

IVU.rail.vehicle
Vehicle
monitoring

SETTING GOALS

After successfully participating in a tender for Rhine-Neckar's suburban rail system in 2001, DB Regio AG's transport contract demanded a reliable and integrated system solution for managing its planning, control, dispatch, and accounting processes. At the same time, Munich's suburban rail system was planning on replacing substantial parts of its existing system for planning vehicles and personnel in favour of an integrated system solution.

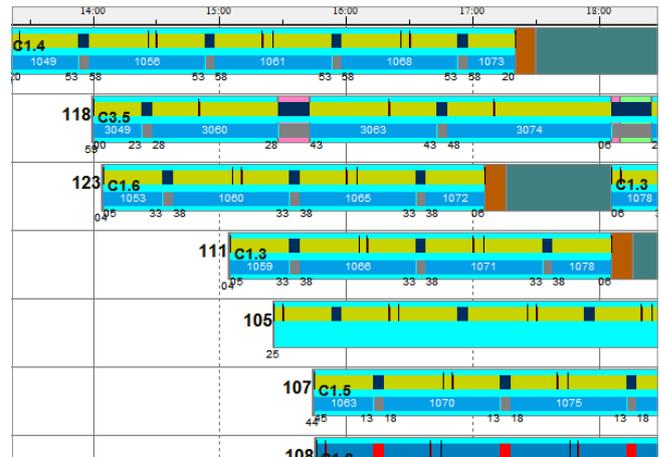
The new system aimed at substantially increasing efficiency when planning the deployment of resources, while helping planners and dispatchers to react quickly to last-minute timetable changes, to additional orders for special transport services, and to unscheduled roadworks. Furthermore, the system was to take into consideration all fare-related and operational arrangements during the planning.

SOLUTION

In 2002, Munich and Rhine-Neckar's suburban rail operators decided to use the integrated system solution IVU.rail. Today, in addition to Munich and Rhine-Neckar, the suburban rail systems in Hamburg and Rhine-Main also plan and dispatch their train drivers and vehicles with IVU.rail.

Some major advantages of IVU.rail include central data storage (all data in a single database) and proven optimisation components, which provide for economical, fair, and above all stable duty and personnel allocations.

IVU.rail was completely integrated into DB Regio's system landscape by means of interfaces. All fare-related and operational arrangements were saved in the system via configurable rule systems and are automatically taken into consideration by the system when planning and dispatching.



The integrated duty and vehicle working scheduling takes into account all of the operational and labour law-related issues and ensures that duties are scheduled in a fair, uniform and stable manner.

RESULTS

For 10 years, these suburban rail systems have been conducting their planning and dispatch activities successfully with IVU.rail. They have been able to significantly speed up their planning processes, especially with the help of the duty optimisation and the automatic personnel dispatch. Thanks to a completely integrated system, all planning and dispatch data from timetable planning to dispatch can be easily viewed at any time in a consistent manner. The result is the creation of reliable duty and vehicle working schedules, as well as complete transparency for all services performed in order to increase productivity.

„IVU.rail has already been used by DB Regio for several years in order to conduct integrated and resource-spanning production planning and dispatch for various suburban rail systems. The highly integrated planning and the complementary optimisation algorithms allow users to react immediately to last-minute timetable changes, which could be caused by additional orders for special transport services and unscheduled roadworks throughout the year.“

Dr Frank Scholz,
CIO DB Regio AG