

CASE STUDY

Deutsche Bahn

Optimization of Shifts and Rosters for Crew

Challenge

- Increase the efficiency of operations for 30,000 crew
- Reduce time required to plan crew yet increase flexibility
- Deployment of solution covering world's largest passenger railway system.

Approach

- Studies, benchmarks, and simulations giving case for business improvement
- Implementation of Jeppesen Resource Management Solution Shifts and Rosters
- Deployment of long-haul solution followed by regional roll-outs.

Results

- 3% to 7% increase in crew efficiency, giving annual savings of EUR 8 million for long-haul alone.
- Significant decreases in crew planning cycle
- Simulation and decision support capabilities allowing increased business flexibility.

Deutsche Bahn (DB) operate long-haul and commuter passenger traffic as a railway and road freight operation throughout Germany.

The passenger operation is supported by around 7,500 locomotives and motorised units with approximately 30,000 crew.

The DB requirement was for a crew scheduling system that would significantly increase crew efficiency, reduce planning overheads, yet provide a highly-adaptive system to allow simulation of different business scenarios.

Jeppesen were awarded the contract to implement the Resource Management Solution - Rail (RMS - R) for shifts and rosters in October 2001. This followed extensive benchmarking work that confirmed the feasibility of the proposed solution.

The delivery consisted of:

- Complete modelling of all crew staffing rules, following all company and union regulations

- Modelling of all processes associated with commencement and termination of crew shifts
- Customisation of the RMS - R software for Deutsche Bahn's operation
- Training of planners, instructors, and technical staff centrally and in regions.
- Post-implementation benchmarking to confirm validity and profitability of solution as delivered.

This delivery demonstrates Jeppesen's ability to address a planning problem requiring the scheduling of a very large number of crew, mainly for long-term and mid-term planning. In addition, the client's requirement was that the planning work be distributed among central and regional planners.

About Deutsche Bahn

Deutsche Bahn is the world's largest passenger railway, producing over 1,600 million journeys, corresponding to nearly 70,000 million passenger-kilometers per year. DB employ approximately 100,000 staff, of which 30,000 are train crew. The DB operation consists of a national long-haul network plus 26 regional commuter networks.

About Our Company

Jeppesen is a wholly-owned subsidiary of The Boeing Company, comprising over three thousand staff, including transportation business specialists, researchers, and software engineers. Our business has for more than 70 years grown from the supply of navigational tools for the aviation industry, to now include world-leading expertise in improving transport operators' bottom-line performance, efficient use of their capital assets, and quality-of-life for their staff.

The Rail, Logistics and Terminals business unit of Jeppesen supplies optimization, simulation, modelling, and decision support software and services to a wide range of leading transportation companies, giving them the competitive edge required to succeed both locally and globally.

"The Jeppesen product plays a vital role in improving our productivity to be best in our class in Europe. Moreover, the simulation possibilities are extremely useful to enable well-informed decisions influencing our future."

Robert Etmans
Director of Personnel, DB Fernverkehr

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