

# Deutsche Bahn AG

## Overview

### ■ Challenges

Deutsche Bahn's financial system lacked a number of key features, many associated with corporate-wide functionality and integration with Microsoft Excel. For example, reporting was time-consuming and resource-intensive, report customization was the order of the day, and getting data into Excel for further analysis was a major challenge.

### ■ Solutions

- IBM® Cognos® TM1

### ■ Solutions

- Flexible, real-time calculations and reporting
- Easy integration with current enterprise systems in a multidimensional database
- Scalable data model
- Minimal reliance on IT resources and database specialists
- Low total cost of ownership



Deutsche Bahn AG, currently owned by the German government, is Europe's largest provider of ground transportation. The company, with revenues of 25 billion Euros and 215,000 employees, is a management holding corporation with three business portfolios: passenger transport, transport and logistics, and infrastructure and services.

Deutsche Bahn AG provides long-distance passenger transport, as well as regional and urban passenger transport, carrying 1.7 billion passengers yearly throughout

*“With a relatively small team, we are basically developing a solution that is running on cost-efficient hardware platforms while being accessible corporate-wide.”*

Andreas Methner,  
TM1 Project Leader,  
Department for the Development  
of Corporate Systems

Germany and neighboring countries. The company also moves about 280 million tons of freight every year. Other Deutsche Bahn divisions manage the company's train stations and its track infrastructure.

Deutsche Bahn AG has been using IBM Cognos TM1 for several years. Before adopting this solution from Cognos, an IBM company, Deutsche Bahn struggled with a financial system that lacked corporate-wide functionality. Real-time business analysis was not possible, report generation involved a tremendous amount of work, and software and IT-related costs were high.

Today, Deutsche Bahn AG has in IBM Cognos TM1 a flexible, enterprise-wide application that supports more than 28,000 accounts, 70,000 railway sites, and almost 2,500 cost-center executives and controllers. The capabilities of TM1 range from generating predefined reports in Excel, and using models to segment data, to creating customized Excel reports.

Most important, IBM Cognos TM1 is doing all these things fast. The multidimensional TM1 model uses approximately 6.5 GB of core memory and contains more than 190 million units of data. In an average day, the entire data model needs a maximum of 15 GB of core memory (without journal entries). According to Andreas Methner, TM1 Project Leader, Department for the Development of Corporate Systems, "The impressive speed with which

the database performs calculations remains consistent, irrespective of the amount of data or the complexity of the data architecture."

### **Challenges faced**

Before the implementation of IBM Cognos TM1, Deutsche Bahn's financial system lacked a number of key features, many associated with corporate-wide functionality and integration with Microsoft Excel. For example, reporting was time-consuming and resource-intensive, report customization was the order of the day, and getting data into Excel for further analysis was a major challenge.

### **Strategy followed**

The first step in the move toward an enterprise-wide solution was to determine Deutsche Bahn's needs. The general requirement was that a large number of users be able to access all the data from the most important corporate systems in a ready-to-use-format from one central database. Specific requirements included the following:

- *Integration of enterprise systems in a multidimensional database*
- *Integration with Excel at the cell level*
- *Visual display of data for all cost centers*
- *Intuitive report generation*
- *Superior system performance*
- *Real-time calculations for financial planning*
- *Low total cost of ownership*
- *Scalability and transparency of the data model*
- *Minimal ongoing reliance on IT resources and database specialists*

With these requirements in mind, Deutsche Bahn reviewed a number of solutions and chose IBM Cognos TM1.

The company's second step was to create a prototype to prove TM1's technical feasibility, as well as its ability to handle cost-center calculations. In a short pilot phase, Deutsche Bahn mapped a flat file of cost-accounting data from SAP to account-level data in TM1, and the resulting performance exceeded user expectations.

The final step was full system implementation. The system needed to be able to access complex journal entries, additional reports, and several thousand corporate cost centers. In addition, Deutsche Bahn wanted a maintenance-free system that could integrate data and metadata daily or monthly into the TM1 database without manual intervention.

When originally installed, IBM Cognos TM1 ran on a 32-bit server. However, as data volume increased over time and users accessed more and more data, IBM Cognos TM1 needed a more powerful server platform.

Deutsche Bahn quickly and easily migrated from TM1's 32-bit platform to its 64-bit platform, with little or no change in its data model.

### **Benefits realized**

IBM Cognos TM1 is a flexible solution with superior performance that can handle corporate-wide budgeting in real time.

As a system based in core memory, IBM Cognos TM1 uses very few resources. And system performance remains unchanged, regardless of the amount of data or the complexity of the data architecture.

Numerous other corporate systems have been integrated into the IBM Cognos TM1 database and can now be assessed centrally, including:

- *Finance and cost-center data from SAP*
- *Human resources data*
- *Unit-cost data for tracks*
- *Monthly, quarterly, and annual data*
- *Budget-planning data*
- *Manual entries, such as forecasts or late entries*
- *Historical data from legacy systems*
- *Journal entries*

When used for budgeting, IBM Cognos TM1 both allows users to directly populate the database and permits the real-time analysis of changes in line items on profit and loss (P&L) statements. For example, the company can simulate planning situations by changing planning parameters.

Because IBM Cognos TM1 mirrors the functionality of Deutsche Bahn's former budgeting system, it allows the company to perform these tasks easily:

- *Integrate P&L data, balance-sheet data, and performance data as plan, actual, and forecast values*
- *Conduct planning simulations*
- *Carry out parallel planning for Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) requirements*

- *Verify planning data to ensure the quality of manual data entries and data imported from decentralized applications*

The large number of active Deutsche Bahn users testifies to the broad acceptance and success of IBM Cognos TM1. Supporting more than 28,000 accounts, 70,000 railway sites, and almost 2,500 cost-center executives and controllers, the TM1 solution has become indispensable to Deutsche Bahn.

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3755 Riverside Drive  
Ottawa, ON, Canada K1G 4K9

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