

# IVU.rail at Trenitalia



## INTEGRATED PLANNING AND DISPATCH FOR 14,000 EMPLOYEES IN THE CLOUD



### INITIAL SITUATION

With 8,000 trains per day and around 14,000 employees, the Italian national railway Trenitalia is one of Europe's largest railway companies. As well as operating nationwide in regional and long-haul transport, Trenitalia also provides international connections.

Until 2009, any Trenitalia division planned and dispatched its vehicles and staff on a decentralised basis for each individual operation. The various systems, including redundant ones, were interconnected by means of numerous proprietary interfaces.

Growing competition in the rail transport sector increased the pressure on Trenitalia to structure its internal processes and its deployment of drivers and vehicles more efficiently.

### OVERVIEW

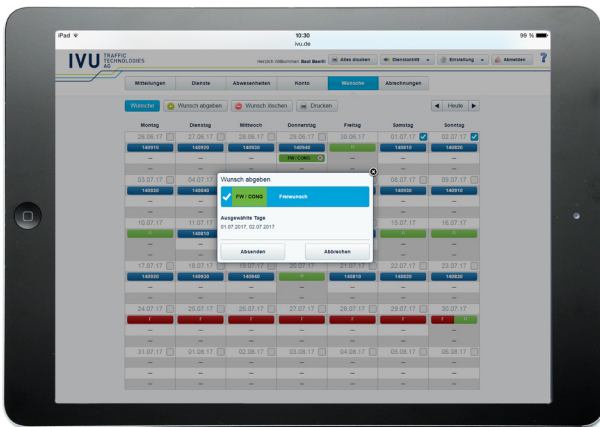
<b>Employees</b>	Approx. 14,000, of which 8,000 locomotive engineers, 5,700 train conductors, 300 shunting personnel
<b>Vehicles</b>	5,000 locomotives, 6,000 passenger carriages
<b>Transport services</b>	600 million passengers annually on a nationwide rail network covering 16,700 km
<b>Operations</b>	Regional and long-haul transport, high speed trains, international rail services
<b>Objectives</b>	Efficient vehicle and personnel dispatch Greater employee satisfaction Lower costs through high degree of automation
<b>Special features</b>	Optimisation of staff and vehicle deployment Hosting by IVU in the software-as-a-service model
<b>IVU products</b>	IVU.timetable, IVU.run, IVU.duty, IVU.vehicle, IVU.crew, IVU.pad

## OBJECTIVES

To achieve more efficient use of resources along with more cost-effective operation, Trenitalia was looking for a central solution for integrated planning and dispatch of all its resources. It was keen here to obtain integrated software for optimising vehicle and staff deployment that maps all divisions and regions with their specific rules in a flexible way.

## SOLUTION

After a Europe-wide tender, Trenitalia opted for IVU.rail. The standard solution from IVU impressed the company by virtue of its powerful optimisation components and its central data storage feature that combines all data for vehicles and staff in a single database.



For employee satisfaction: The mobile employee portal allows drivers to access their duties at all times and on the move.

IVU introduced the system in two phases: In the first step, IVU's engineers carried out duty scheduling and optimisation. This was followed by vehicle management. Standard interfaces enabled fast and seamless integration into the existing system landscape at Trenitalia.

Along with the sheer volume of data of 14,000 employees – including locomotive engineers, train conductors and other mobile staff – IVU.rail also processes specific details easily: for instance model knowledge and route qualifications or special types of duty such as staffing of a locomotive with two drivers, overnight duties or long rides during working hours. The requisite operational and industrial law-related duty rules can be flexibly stored in the system.

IVU hosts the complete production environment in the IVU cloud with a granted availability of 99,98%. The scalable hosting environment enables Trenitalia's planners to draw on more capacity flexibly in the event of CPU-intensive optimisations. Via a secure connection, users access the high-availability servers, which also easily handle being accessed several hundred times in parallel.

## OUTCOME

Through the powerful optimisation cores of IVU.rail, Trenitalia benefits from more efficient vehicle deployment and more cost-effective duties. Numerous further automations, such as automatic personnel dispatch, duty optimisation and adjustment optimisation, help planners with their tasks and make standard processes much faster. As well as ensuring that sufficient capacity reserves are on hand at all times, IVU.cloud has also reduced operating costs. All planning and dispatch data from timetable planning to personnel dispatch is always consistent, thanks to a fully integrated system.

“With IVU, we have reached a new level of transparency and flexibility in duty scheduling and optimisation. IVU.rail has enabled us to find the genuinely optimum solution and increase our productivity on a long-term basis.”

**Mauro Natali**

Production Manager Regional Transport during the IVU implementation project in 2016 | Trenitalia