

Hytera ACCESSNET®-T IP Travels in Germany

North-Rhine Westphalia Local Public Transport Cooperation KÖR Goes Well with Hytera Solution

User
Kooperation Östliches Ruhrgebiet, KÖR, Germany

Market segment
Railway

Project time
2006

Products
ACCESSNET®-T IP

Solution features

- TETRA-based mobile communication solution for managing voice and data traffic
- Integration of the control centers and traffic management systems
- IBIS on-board computer
- Dynamic passenger information
- Traffic signal control Telemetry online functions (e.g. integration of sensor data)
- Dynamic advertising in trams and busses
- Slow-scan video transmission to control centers in emergencies
- New cash systems for non-cash payment



Background

In the Eastern Ruhr Area Cooperative (Kooperation Östliches Ruhrgebiet, KÖR), three transport operators and a group of companies are working closely together: the Bochum-Gelsenkirchener Straßenbahnen AG (BOGESTRA, trams of Bochum-Gelsenkirchen), the Straßenbahn Herne-Castrop-Rauxel GmbH (HCR, trams of Herne-Castrop-Rauxel), the Vestische Straßenbahnen GmbH (Vestian, trams of Recklinghausen region) and the Dortmunder Stadtwerke (DSW21, Dortmund municipal works).

In 2006, KÖR decided to raise its voice and data communication to the digital TETRA standard. Their order for Hytera Mobilfunk GmbH, formerly known as Rohde & Schwarz Professional Mobile Radio GmbH: to optimize the output and performance of their existing ITCS dispatch centre application (Intermodal Transport Control System) with the help of a powerful ACCESSNET-T mobile radio solution.

Customer Demands

The ITCS of KÖR coordinates all the busses, trams and underground trains using a computer-controlled traffic management system. It controls the voice and data communication between dispatch centers and vehicles. For this purpose, the ITCS also integrates status and location data of the vehicles from AVLS and GIS applications.

KÖR handles one of the largest and most frequently used local public transport networks in Germany. A smooth operation and intelligent integration of the ITCS impose high demands on the mobile radio network: It must be able to integrate a multitude of users as well as quickly process enormous quantities of information and formats. At the same time, it must be robust, interference-resistant, safe against manipulations and expandable.

For this reason, there was hardly a way for KÖR to get around our ACCESSNET-T mobile radio solution. It is nearly endlessly scalable and covers all the network units from the control centre down to the individual radio transceiver. It fits perfectly into the existing system technology, ensures maximum security in the voice and data communication, optimizes the data management and also integrates non-system components.





Hytera Appealing Solution ➤➤

After a detailed inventory and demand analysis, we implemented an individual ACCESSNET-T network according to the TETRA standard for KÖR. The core of the system is formed by two central switching nodes. They work redundantly, i.e. if one fails, the other automatically takes over its functions to prevent breakdowns.

Together, both switching nodes check a total of 28 base stations in indoor and outdoor operation. As requested by KÖR, each station features two or three TETRA carriers, giving the entire network over 60.

We coupled the ITCS to the control centers, which are independent of each other, of the three KÖR transport operators. Each includes ten AVLS and GIS-compatible dispatcher workstations.

Highlights of Hytera Solution ➤➤

- Region-based group communication for efficient utilization of local resources
- SDS transmission to active terminals in group communication
- Optimization of the entire network for high data load (SDS) by using secondary control channels (SCCH)
- Pre-emptive calls in group communication
- Late-Entry-Function
- Concurrent emergency call transmission to various recipients; this allows emergency information to reach the correct recipient at all times
- Packet data transmission



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