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Reference "Mobile telecommunication networks"

Planning the GSM-R (Global System for Mobile Communication - Railways) network for the Deutsche Bahn AG (German railroad)



Concrete pole made
by centrifugal action

For many years, the Deutsche Bahn AG has used different analog telecommunications systems for their corporate applications, such as railway communication, radio in marshalling yards, maintenance communication, continuous automatic train running control as well as further speech and data communication appliances. These systems, however, do not meet the increasing needs of a modern railway company.

For technical and economic reasons, Deutsche Bahn is planning to replace these systems. The new digital corporate communications network GSM-R is based on the standard GSM, phase 2+ and the projects accompanying the UIC as well as the initiatives EIREN, ERTMS and MORANE.

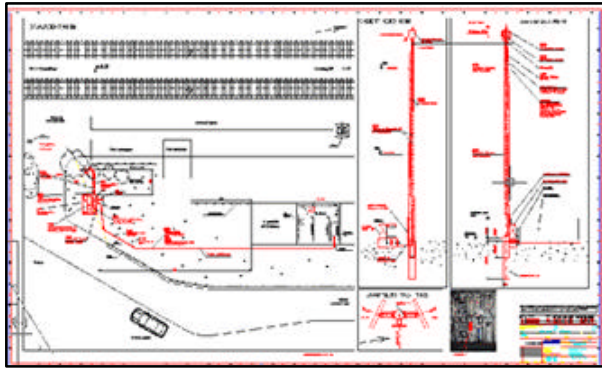
GSM-R offers new services, quality improvements, capacity increase, integration of new security-relevant applications for train protection and control as well as interoperability with other European railroad companies.

With regard to the necessary planning services for conducting these construction projects, DHV E-Net was contracted to perform the following services:

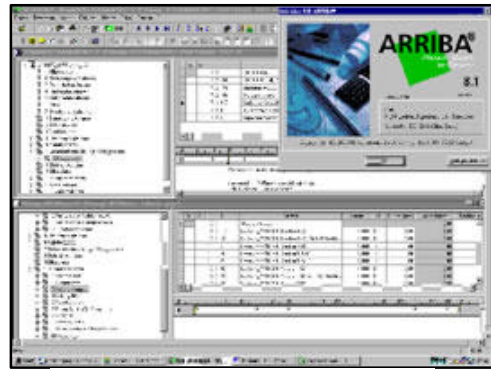
- A Technical and structural site inspection and documentation of the technical details in written, as well as documentation of the times of site access and the transport routes with the customer's specialist departments, involvement in the determination of location details
- B Verification of the existing DB-specific plans of actual facts and documentation for correctness and correspondence with the actual conditions
- C Preparation of object-specific cost calculation on the basis of standard prices agreed upon in the performance specification



Technical site inspection at an
existing mast location



AutoCAD based construction plan



Software tool for the preparation of specification schedules

D Planning and on-site meetings being conducted and regularly attended by the DHV E-Net employee responsible for the project and all other persons involved

E Preparation of the approval and construction planning with all connected partial activities on the basis of the master planning verified and released by the German railroad authorities

F Regular control of the performance level

G Verification of the construction planning realisation in accordance with rules and regulations. Control of deliveries/Set-up of system technique, delivery/Set-up of masts, antennas, concrete switch huts and cable facilities as well as laying and installing all antenna, energy and fixed network cables to the connection points of the system technique while maintaining current telecommunications operations



Finished location of a BTS for GSM-R applications