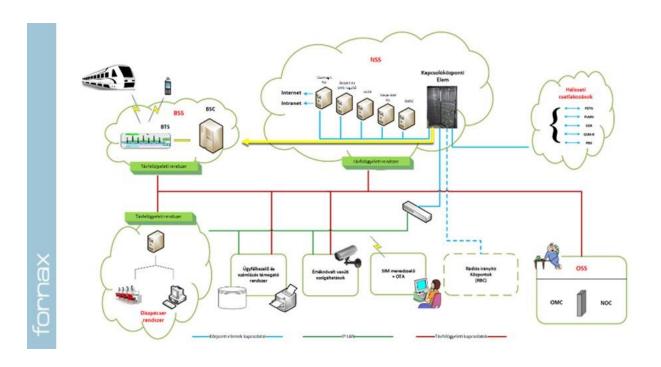


MÁV GSM-R NETWORK WITH EVENTUS SOLUTIONS AND FORNAX PARTICIPATION

Hungarian Railway is building its own GSM-R network, resulting in not only more efficient communication, but also the ability to join the European GSM-R network. Fornax ICT supports the project with as many as four systems.



Similarly to railway companies of neighbouring countries Hungarian railway companies (MÁV, GYESEV) introduce the more efficient so-called ERTMS system that paves the way to a competitive railroad service in Europe. The National Infocommunications Services Company launched a public procurement procedure within the framework of an EU tender in the topic "System integration and delivery of GSM-R system" for the creation of MÁV's railway GSM-R communication network.



With the help of the project the network will be able to serve the ETCS L2 Train Control System to be introduced later without modifications regarding radio technology, switch centres and the connecting landline transmission systems. The implementation of the GSM-R project creates the transparent communication platform of the ETCS L2 Train Control System to be introduced later as a link between the Hungarian railways and the European rail network.

During the course of the project the experts deploy mobile towers and base stations next to the tracks in compliance with EU standards, replacing the former, efficient walky-talky communication. Consequently much less employees responsible for the operation and maintenance of the network, section hands, drivers and dispatchers will transmission technicians, communicate via approximately 30 000 special phone devices over the company's own network. The complete system will make the internal communication of employees much faster and more efficient, contributing to the improvement of organizational efficiency, and following the return of investment operation will be less costly in the long run. With the help of the GSM-R system MAV can join the European GSM-R network, and foreign trains travelling in Hungary will be able to use the Hungarian GSM-R system.

Fornax ICT contributes with four separate IT solutions to the Operating Support Systems area of the system and thereby to the success of the project.

The company's own product, Eventus supports the operation of the GSM-R network efficiently, managing fault repair, change management, maintenance, procurement and related tasks. Additionally the new network provides the speech and data transmission services. The NI2 software provided by Fornax once the project is completed creates a technical directory for the network, both in the physical and in the logical sense. This includes all material assets, such as buildings, optical cables or transmission towers.

OpenKM is a document handler software managing and version controlling all documentation related to the network. Finally, Graylog2 analyses logs created by software and hardware elements of the GSM-R network, and offers efficient queries in the data. By tracking software events it becomes possible to discover security events or problems arising from incorrect workings of the network, and to elaborate solution options.

Fornax's complex system support comprising of the four software above complies with the business requirements of the European GSM-R network, and





significantly contributes to the efficient operation of the Hungarian GSM-R system.

Client: MÁV

Technology: Eventus, Ni2, OpenKM, Graylog2

Timespan: September 2014. – present. Following the installation the systems

will be used by approximately 100 MÁV employees on a daily basis.