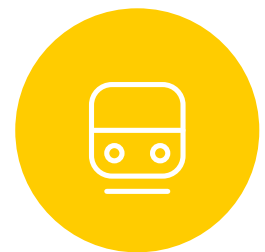ambient SYSTEM

We make everyday life safer

Railway infrastructure modernisation in Bulgaria

A case study of midiVES and miniVES all-in-one PAVA System implementation.

WHAT WAS THE CLIENT'S OVERALL GOAL?

The client's goal was to replace existing, old, analogue and simple PA systems for digital, remotely managed sound systems, compliant to both EN 54 and TSI PRM.

WHAT WAS THE SCOPE OF PROJECT?

The scope of the project was the design and delivery of multiple PAVA systems installed in Sophia, Blagoevgrad, Kostibrod, Mezdra regions. As a critical part of the project, the sound systems have been integrated with a third-party passenger information system and IP telephone system. New regional control centers were fitted with YELLOW PC work stations.

WHAT WAS DELIVERED SOLUTION?

The delivered solution included compact Voice Alarm Systems such as miniVES and midiVES, designed for versatility and compliance with EN 54-16 and EN 54-4. These devices are all-in-one compact control units containing all necessary components within one housing. They can operate standalone or within a TCP/IP network architecture and

WHAT EQUIPMENT WAS DELIVERED?

» **midiVES** all-in-one PAVA system
» **miniVES** all-in-one PAVA system
» **EN 54** loudspeakers
» **System Gateway** servers
» **Yellow** Software

offer features like DSP audio processing, VoIP/SIP integration and professional sound quality. The system integrated various EN 54 loudspeakers. System Gateway servers, specifically the ISE VES System Gateway, were used for integration. The entire solution was managed by the Yellow Security System Management Software. Yellow provides comprehensive visualization, remote management, call handling, voice recording and system logging capabilities.
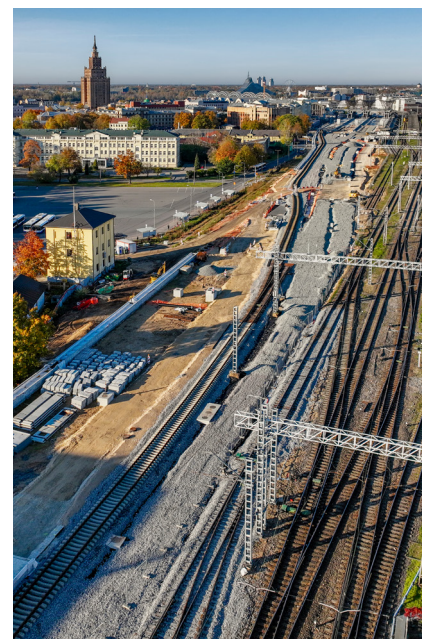
THE EXAMPLE - KOSTIBROD

Kostibrod train station is an example of the implementation of the Public Address System designed for railway infrastructure. The system's main task is to provide passengers with voice information regarding train timetables, including deviations and to emit general and security messages.

WHAT WAS SYSTEM OPERATION?

Customised Yellow HMI was created for local control center operators. Integration with passenger information system and IP telephony.

SUMMARY

» Modernization of railway lines in Bulgaria with new digital PAVA systems.

» Replacement of old analogue PA systems with EN 54 and TSI PRM compliant digital solutions.

» Implementation across multiple regions including Sophia, Blagoevgrad, Kostibrod, and Mezdra.

» Integration of PAVA systems with third-party passenger information and IP telephone systems.

» Use of compact midiVES and miniVES Voice Alarm Systems.

» Deployment of EN 54 certified loudspeakers.

» Centralized management via Yellow Security System Management Software with PC workstations.

» Remote control capabilities from Operation Control Centers (OCC).

» Ability to emit automatic, passenger information system generated, and manual messages.

» System monitoring for internal faults and speaker line integrity.

» EN 54 compliant battery backup power source for the systems.