

SAFE, INTEGRATED DISPATCHING AND CRISIS MANAGEMENT SYSTEM

PIK-MC

Communication Integration Platform – Mission Critical

PIK-MC – a safe, integrated dispatcher communication and crisis management system is a comprehensive system supporting integration of various communication technologies used in rescue and crisis management operations. It can also be used to perform other tasks requiring a dispatcher-based communication. The system was designed in accordance with the international 3GPP Mission Critical Services standards.

APPLICATIONS:

State public safety services: Police, Border Guard, National Revenue Administration

Emergency services: Ambulance service, Fire Departments, Rescue Services

Critical infrastructure security services:

refineries, power plants, ports, airports, warehouses

Services responsible for security and safety during mass events

e.g. concerts, football matches, etc.

Personal protection and property security companies

Taxi corporations

The PIK-MC system consists of the following hardware solutions and dedicated software:

- PIK-DC-MC Dispatcher's Console
- An integrator connecting external communication systems with the ICT environment of the PIK-GATE-MC system
- PIK-MCX-MC application servers
- Mobile terminals with installed PIM-MC application
- LTE, 4G/5G NIB-MC – a private, mobile ITC network

KEY FUNCTIONALITY OF THE SYSTEM



Nationwide safe dispatcher communication based on LTE and PLTE cellular networks



Can work in an autonomous mode by setting up its private network



Integration of various radio communication systems (including incompatible ones), e.g.: Tetra, DMR, analogue radio, etc.



Organization of dispatcher communication



Safe, mobile access to databases and logs



Live video feeds from drone and mobile crews' cameras



Broadband Internet access using LTE, PLTE and satellite networks



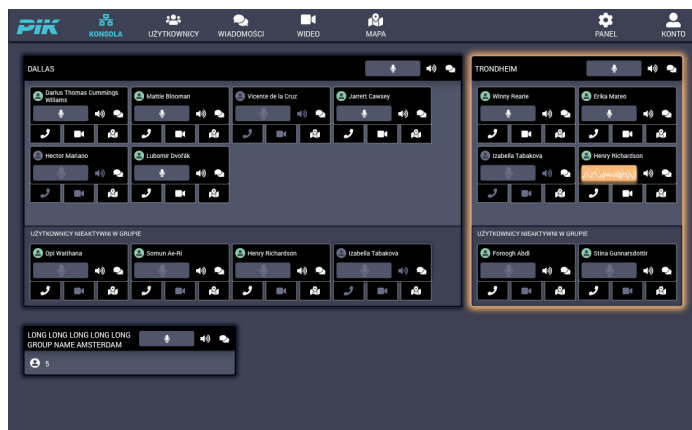
Easily integrable with other systems



Situational awareness building and expanding

PIK-DC-MC Dispatcher's Console

The dispatcher's console functionality has been implemented in the form of a web application that facilitates management, visualization and communication between defined users, using various communication standards. This design permits dynamic change of teams taking part in rescue operations, while maintaining their hierarchy within the crisis response structure. The console technology allows it to be run on various hardware, including mobile devices, regardless of the operating system.



The Dispatcher's Console – a PIM message sent to the group



Mobile terminals with installed PIM-MC application

The key premise of the PIK-MC system is to allow users to use their hand-held radios and other data transmission and processing equipment already owned (such as cameras, terminals, printers, scanners, computers, etc.). PIM-MC – Push and Talk – Mission Critical (Push to talk over Cellular - PoC) – a dedicated Android app, which is also a part of the system. It supports

communication with all users of the PIK-MC system. The application allows users to work using cellular and WiFi networks.

The Integrator PIK-GATE-MC

The integrator, being a part of the system, integrates communications from various radio systems and ensures safe data transmission.

As standard, each integrator is equipped with three LTE modems (supporting all mobile carriers) or with other modems, such as: LTE 450 or 5G. To allow the PIK-GATE-MC integrator to operate with access to other remote users, it is necessary to ensure packet data transmission.

Integrator functionalities:

Extends the range of UHF/VHF systems without requiring users to deploy a specialized infrastructure – utilizing transmission over LTE networks

Integrates the existing radio systems operating in the UHF/VHF bands and various communication standards (DMR, TETRA, Nexedge, analogue) into one, integrated radio communication system

Provides broadband data transfers – allowing introduction of many advanced modern functionalities including video transfer, data from service repositories, digital documents (maps, images, forms), etc. to visualize activities of the services, personnel and teams

Supports unlimited configurations available in communication interfaces and carrier hardware (LTE, working in their own APNs, aggregation of channels handling connections in special, dedicated networks: LTE 450, LTE, 5G)

PIK-MCX-MC application servers

The PIK-MC system server software has been fully developed by MindMade Sp. z o.o. Optionally, we also offer: a video server, supporting concurrent live camera streaming to multiple recipients (point-to-multipoint streaming) and access to user databases and servers. Data transmission is secured against tapping and manipulation.

Private mobile ITC network LTE, 4G/5G NIB-MC

Thanks to the NIB-MC solution, the PIK-MC communication and crisis management system can support rescue and crisis management operations in any area, including locations with where public LTE networks are not available. The NIB-MC system is a closed, private communication and data network based on the 4G/5G, LTE technology.