MOTOTRBO™ TAKES KOLTSOVO AIRPORT GROUND OPERATIONS TO NEW HEIGHTS

DIGITAL RADIO AND CONTROL ROOM APPLICATIONS UNDERPIN OPERATIONAL SAFETY AND EFFICIENCY

© Ekaterinburg Koltsovo International Airport

Safety and efficiency are of prime importance to Koltsovo airport, one of the top international airports in Russia. Situated in Ekaterinburg, the capital of Russia's mountainous Urals region, Koltsovo airport has undergone major reconstruction over several years, to cater for a sharp rise in passenger traffic. Today, over 4.3 million passengers pass through its terminals each year, travelling to 116 destinations around the world.

Instant, reliable, wide-area communication is needed to co-ordinate operations between Koltsovo's ground services staff inside the terminals and on the runway. The decision to upgrade their analogue two-way radio system to a MOTOTRBO digital radio network with IP Site Connect has ensured seamless connectivity throughout the airport. The addition of a SmartPTT dispatch software solution from Motorola Application Developer, Elcomplus, simplifies the management of communication between multiple subscribers and provides centralised control of the radio network.

Designed and deployed by local partner Saltan, the MOTOTRBO system has enhanced operational efficiency and personnel safety by ensuring that staff can keep in contact at all times.

CUSTOMER PROFILE
Company
Ekaterinburg Koltsovo International Airport

Partners
Partner: Saltan
Application Partner: Elcomplus

Industry
Airports

Products
- 302 MOTOTRBO radios: DP/DM 3000 and DP/DM4000
- 5 x DR 3000 repeaters
- MOTOTRBO IP Site Connect
- SmartPTT Enterprise
- SmartPTT Monitoring

Key Benefits
- Improved operational efficiency and safety
- Reliable, seamless communications
- Gradual migration to digital
- Simplified network management

THE CHALLENGE
Complete and Reliable Communications Coverage in an Airport Environment
Koltsovo airport had disparate analogue conventional two-way radio systems from a number of different vendors. The compact layout of the terminal buildings and high levels of interference resulted in poor coverage, unclear communications and "dead" zones where there was no communication at all. In addition, some of the equipment was becoming outdated and faulty, leading to unreliable performance. Constant communication between work groups across the airport terminals and on the landing strip is critical to co-ordinate activities and ensure safe and timely operations. Koltsovo airport decided to upgrade to a digital radio network that would be resistant to interference, audible in high-noise areas and extend coverage throughout the airport for reliable, consistent communication.

Having evaluated a number of digital radio solutions, they chose MOTOTRBO due to its ability to operate in dual mode, meaning that analogue and digital radios can communicate on the same network. This would enable Koltsovo to make a gradual transition from analogue to digital, avoiding disruptions to daily operations and protecting their existing investment, while also providing a future-proof solution that could scale to meet changing needs.

THE SOLUTION
MOTOTRBO IP Site Connect System Integrated with Control Room Software Applications
The MOTOTRBO system uses DMR compliant TDMA technology which doubles the capacity of the existing licenced channel, enabling two voice calls or a voice call and a data transmission to occur simultaneously. As such, it is a cost-effective digital communications solution with low equipment overheads. Using a combination of 302 MOTOTRBO DP/DM 3000 Series and DP/DM4000 Series portable and mobile radios, Koltsovo airport personnel have instant access to voice and data communications, are able to send and receive text messages and can use integrated GPS to pinpoint the location of staff or vehicles. The radio's Intelligent Audio feature automatically adjusts the volume according to the level of background noise, so communications remain clear at all times.

Two MOTOTRBO DR 3000 repeaters are connected via IP Site Connect for uninterrupted coverage across the entire site. Staff can roam seamlessly across the area without having to physically change channels and the repeaters can be monitored and controlled remotely.

Elcomplus' customisable dispatch console is based on a Windows PC with SmartPTT Enterprise software for the control of individual, group and all calls, as well as text messaging between subscribers and dispatchers. The solution - which comprises nine dispatcher consoles - enables dispatchers to identify which subscribers are active, to record and log voice calls and track the location of subscribers in real time. SmartPTT Monitoring provides a graphical representation of voice and data activity in real time, as well as indicating the workload on each repeater.
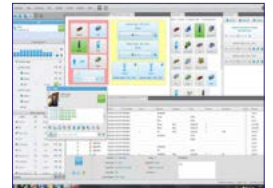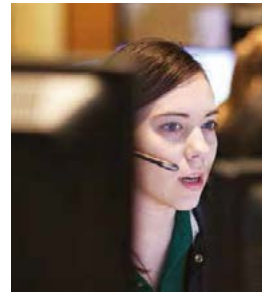
THE BENEFIT
Extended Coverage and Improved Fleet Management for Increased Efficiency and Safety
MOTOTRBO IP Site Connect's extended coverage, high performance and enhanced functionality provides the reassurance and reliability required for a demanding work environment where safety and service are paramount to success.

Simultaneous voice and data communications and expanded channel capacity gives Koltsovo airport personnel the ability to choose the most effective means of communicating to get the job done. Text messaging enables work tickets to be issued, monitored and acknowledged so tasks are performed more efficiently, while the ability to pinpoint the location of personnel and vehicles improves safety and saves time by identifying the closest person to respond to an incident or request. MOTOTRBO's unique Transmit Interrupt feature allows supervisors to override messages in an emergency, helping to ensure rapid response and enhancing the safety of passengers and personnel.

Administering the network has been simplified with SmartPTT Enterprise, which provides a holistic view of subscribers and enables centralised control of communications for more efficient dispatch operations and enhanced fleet management. SmartPTT Monitoring supports proactive management of the network, indicating network coverage and allowing remote diagnostics and control of repeaters for optimum performance.

"The extended coverage and reliability of MOTOTRBO IP Site Connect together with the enhanced functionality of voice and data communications has improved the communications of safety department members and increased the efficiency of our passenger services and freight management operations."

Dmitry Tyuhtin, Koltsovo Strategic Communications Department