

## CASE STUDY

EFFICIENCY AT NIKOLA TESLA AIRPORT TAKES OFF WITH MOTOTRBO



**MOTOROLA**  
SOLUTIONS

# EFFICIENCY AT NIKOLA TESLA AIRPORT TAKES OFF WITH MOTOTRBO™

EXTENDED COVERAGE AND IMPROVED FLEET MANAGEMENT FOR INCREASED EFFICIENCY AND SAFETY WITH MOTOTRBO.



The first Belgrade airport was established in 1910 with a flying field in Banjica. Since then, it has changed location several times, growing and developing with each move.

The current location was opened for air traffic on April 28, 1962 with a single 3000m long runway, a 3350m taxiway, one passenger terminal building, control tower and aircraft handling apron.

Subsequent expansion saw the addition of a second passenger terminal, increase of the apron area and lengthening of the runway and in 1997, CAT II equipment was installed enabling the airport to operate in low visibility conditions. Telescopic passenger boarding

bridges were introduced in 2005 followed by further developments to the terminal and the renaming to Belgrade Nikola Tesla Airport in 2006.

November 2008 saw another major milestone with the implementation of ILS CAT IIIb equipment and procedures that allow operation at full capacity in conditions of extremely low visibility. The new systems were used for the first time on January 4, 2009.

In 2014, the airport was selected from 350 European airports to win the prestigious Euro Annie award for the largest increase in passenger numbers in the 3 to 5 million passenger category.

### CUSTOMER PROFILE

**Company name:**

- Nikola Tesla Airport.

**Location:**

- Belgrade, Serbia.

**Industry:**

- Transport, Airports.

**Partner:**

- TeleGroup Ltd.

**Solution:**

- 350 MOTOTRBO radios: DP/DM 3000 Series, DP/DM 4000 Series,
- 3 MOTOTRBO VHF DR 3000 repeaters
- 5 MOTOTRBO UHF DR 3000 repeaters
- MOTOTRBO Capacity Plus
- MOTOTRBO IP Site Connect
- SmartPTT Enterprise

**Key Benefits:**

- Smooth migration to a digital radio system and increased stability of operations
- Clearer communications plus Intelligent Audio automatic volume adjustment to suit background noise levels
- Digital technology reduces interference
- Possibility of using GPS for pinpointing the location of employees in critical situations
- Minimized time for work operations, increased savings and safety, speedup communication between employees

“My people feel much safer during critical situations knowing that somebody is monitoring their position”

S. Tahirovic, Head of Fire Brigade.



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## THE CHALLENGE

**Belgrade Nikola Tesla airport wanted to migrate from conventional analogue radio to a new digital system and also to improve the coordination of fire-fighters in critical situations.**

Belgrade airport Nikola Tesla is a longstanding Motorola user. Increasing requirements within the airport, poor spectral efficiency and future expansion plans began to overstretch the capabilities of the conventional analogue radio systems that were in use. It was clear the system needed to be upgraded but due to lack of budget, it was impossible to change the entire system at once - a step by step migration was necessary. MOTOTRBO provided the ideal solution: it allowed the airport to continue using the old analogue radios together with the new digital ones, plus the new network is resistant to interference, clearly audible in high-noise areas and extends coverage throughout the airport for reliable, consistent communication. The fire department added an additional challenge - they needed to be able to accurately locate fire-fighters in critical situations even if smoke prevented the dispatcher from seeing them from the control tower.

Finally, the national airline Airserbia Ground Services wants to become part of the new digital radio system to allow them to better integrate and coordinate their daily activities together with other Airport departments.

## THE SOLUTION

The MOTOTRBO system provides a cost-effective digital communications solution with low equipment overheads. It uses DMR technology to double the capacity of the existing licensed frequency, enabling twice as many calls.

Using a combination of 350 MOTOTRBO DP/DM 3000 Series and DP/DM4000 Series portable and mobile radios, the Nikola Tesla 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 firemen in critical situations.

The radio's Intelligent Audio feature automatically adjusts the volume according to the level of background noise, so communications remain clear at all times.

Three MOTOTRBO VHF DR 3000 repeaters are connected via IP Site Connect and five MOTOTRBO UHF DR 3000 repeaters are connected via Capacity Plus for uninterrupted coverage across the entire Airport. Staff can roam seamlessly across the area without having to physically change channels and the repeaters can be monitored and controlled remotely.

The airport also installed the SmartPTT customisable dispatch console developed by Motorola's authorised Application Developer Partner Elcomplus. This software is based on a Windows PC and allows the control of individual, group and all calls, as well as text messaging between subscribers and dispatchers. Five dispatchers are now able to identify which radio users are active, to record and log voice calls and track the location of radios in real time.

## THE BENEFIT

The new MOTOTRBO system extends coverage to the entire airport complex, eliminating earlier problems with communication at the furthestmost point on the runway. The increased capacity provides the reassurance and reliability required for a demanding work environment where safety and service are paramount to success. Simultaneous voice and data communications means Nikola Tesla airport personnel can 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.

Managing the network has been simplified by SmartPTT. It provides a holistic view and enables centralized control for more efficient dispatch operations and enhanced fleet management. Plus, it supports proactive network management by indicating coverage and allowing remote repeater diagnostics and control for optimum performance. Preparation time for the Airport work in low visibility conditions (CAT 3) is minimized from 45 to 30 minutes which increased fuel savings for Airline companies and Airport safety.

Overall, Belgrade Nikola Tesla Airport has seen the benefit of moving to a new MOTOTRBO radio system. Reliable voice communication due to digital operation, Over-the-Air programming for much easier radio network maintenance and GPS location and tracking of radio subscribers all add up to improved efficiency and safety for users.



**MOTOTRBO DR 3000 repeaters in indoor rack closet**



**Roof top antenna system**

**"Implementing the new system can be done remotely through IP access and OTAP (over the air programming)"**

V. Dimic, Chief Engineer for Intelligent Building Systems

To discover the advantages Motorola Solutions two-way radios can bring to your business, please visit [www.motorolasolutions.com/mototrbo](http://www.motorolasolutions.com/mototrbo)  
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