



# P25 System of the Month

## Miami-Dade County FL

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Miami-Dade County has one of the nation's largest 800 MHz/700 MHz. Project 25 (FDMA phase I) radio telecommunications systems. The Harris P25 system supports both government and Public Safety operations for multiple agencies including:

- Miami-Dade Police Department
- Miami-Dade Fire Rescue
- Miami-Dade Corrections and Rehabilitation Department
- Miami-Dade Transit
- Miami-Dade Public Works and Waste Management
- Miami-Dade Water and Sewer
- Miami-Dade Airports
- Miami-Dade Seaport
- Miami-Dade County Public Schools
- 29 Municipalities in the region

In addition to these local agencies, numerous state, federal, and tribal agencies depend on this P25 system for day-to-day communication among first responders, and for coordinated multi-agency response to natural disasters and special events. The systems are used daily for regular operational work within the County, the International Airport, the Port of Miami (Cruises and Cargo Ships), and day-to-day events in this large metropolitan area. They are used during large sporting events such as in the Sun Life Stadium for the NFL Miami Dolphins Football games and in the Marlins Park for the MLB Miami Marlins Baseball games.

The P25 radio systems cover the entire Miami-Dade County geographical area and service over 95 agencies/departments with over 30,000 active radio devices. On a monthly basis there are over 5 million transmissions processed by the radio systems. Miami-Dade County self maintains the radio administration, infrastructure, terminal unit repairs, installations, and interoperability with agencies. The Radio Communications Services Division has 51 employees dedicated to support these functions.

### Background

On August 6, 2004, the Federal Communications Commission (FCC) issued a report and order to modify its rules governing the 800 MHz band stating that public safety and other radios systems occupying the 800 MHz band were experiencing radio frequency interference as a result of the growth in adjacent commercial bands. The order required its users, including Miami-Dade County, to reconfigure operations by engaging in a frequency

swap known as rebanding. On January 28, 2010 the Board of County Commissioners (Board) approved a Resolution waiving the formal bid procedures to authorize the execution of a settlement agreement with Nextel South Corporation and a purchase agreement with Harris Corporation to address the FCC mandate. The rebanding effort as required by FCC and the ensuing agreements provided the County with a change from the EDACS proprietary trunked technology to a P25 open source, state of the art radio communications systems. The project was completed in two tasks.

### **Build-Out**

The first task of this project was successfully completed by the end of December 2012 which consisted of a 20-channel P25 trunked simulcast system. The users of this system consist of non-law enforcement agencies and departments (i.e. OEM, Fire Rescue, Schools, and Transit). As part of this task, a Harris P25 Inter RF Subsystem Interface (ISSI) was configured to work with a Motorola P25 ISSI connected to a County owned 450 MHz conventional system. These ISSI connections provide access to additional radios to connect to the system. The second task of this project was completed by November 2014 which consisted of a P25 20-channel P25 trunked simulcast system and several mutli-site systems. These systems have law-enforcement agencies and departments.

### **Aggressive Schedule Met On-Time**

This project was completed on schedule even with the magnitude and complexity of mobilizing thousands of users across Miami-Dade County. It consisted of coordinating and planning the installation of antennas, support systems, upgrading electrical systems, physically reprogramming an estimated 30,000 radios, training users and having to resolve a multitude of challenges along the way. This project impacted the entire base of law enforcement and general government agencies which were transitioned to the new P25 infrastructure in a period of less than four years since the resolution was approved in January 2010.

### **Success Factors**

Rigorous planning and commitment from all agencies/vendors working as a team, resulted in a successful cut-over. Extensive user training was one of the critical factors leading up to the success of the project. There are distinct differences with the audio characteristics and functionality of an analog and a digital system. To address this, multiple types of training sessions were provided (i.e. one-on-one, group, roll-call meetings, and overview meetings) along with a 24/7 call center for questions (during and after cutover) and a quick-reference training pamphlets distributed to the users.

### **Results**

Users of the new P25 systems have expressed a high level of satisfaction. The systems are currently successfully processing millions of calls each month.

To see how your P25 System can be nominated as a P25 System of the Month

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