

Hytera DMR Radios Provide Vital Communications for Disaster Management in the Philippines



Introduction

Hytera has implemented an emergency communication system for the Metropolitan Manila Development Authority (MMDA) across the Metro Manila region in the Philippines. The DMR radio solution enables the region's flood control center and National Disaster Risk Reduction and Management Council's Emergency Operations Center to easily communicate with local government units and partner agencies.

The Background

The Metropolitan Manila Development Authority (MMDA) is an agency of the Republic of the Philippines. The MMDA performs planning, monitoring and coordinative functions, and exercises regulatory and supervisory authority over the delivery of services within the Metropolitan (Metro) Manila area.

User Name

Metro Manila Crisis Monitoring and Management Center-Flood Control Information Center

Time

December 2019

Industry

Public Safety

Products

DMR repeaters
DMR mobile radios
DMR hand portable radios

The Metro Manila area, also known as the National Capital Region (NCR), is composed of 16 cities: Manila, Quezon City, Caloocan, Las Piñas, Makati, Malabon, Mandaluyong, Marikina, Muntinlupa, Navotas, Parañaque, Pasay, Pasig, San Juan, Taguig and Valenzuela, as well as the municipality of Pateros.

The MMDA wanted to deploy a reliable communication system to connect the Metro Manila Crisis Monitoring and Management Center-Flood Control Information Center (MMCMMC-FCIC) and the National Disaster Risk Reduction and Management Council's (NDRRMC) Emergency Operations Center (EOC) to the 17 Local Government Units (LGUs) in the Metro Manila region and 16 partner agency members of NDRRMC.



The Challenge

The first major challenge any communications solution has to overcome is dealing with the large coverage area, as the Metro Manila region encompasses an area of 619.57 square kilometers and contains a population of more than 12 million people.

The system also has to be resilient as the Metro Manila region is exposed to multiple natural hazards such as earthquakes, floods and typhoons. It is surrounded by active faults including the Marikina Valley Fault System. Flooding is a yearly occurrence especially in low-lying areas. Around five to seven typhoons hit Manila every year.

The new communication system also had to have enough capacity to support multiple call groups across the Metro Manila region. The solution also needed to provide secure encrypted communications.

The Solution

A Hytera Digital Mobile Radio (DMR) solution was chosen based on conventional DMR repeaters, which were installed to accommodate the required multiple call groups. The DMR repeater is a 50W upgradable repeater, which can work in both analog and DMR conventional modes.

The DMR repeater supports Hytera IP Multi-site Connect, which links up repeaters via the IP port of the repeater to form a private radio network supporting data and voice communications. This enables wider area coverage to interconnect dispersed locations across the Metro Manila region. The repeater also enables simplex calls between radios and telephony networks.

Hytera also supplied DMR mobile base radios and DMR hand portable radios. The latter handheld terminals are extremely rugged and durable, as they meet MIL-STD-810 C/D/E/F/G standards for shock, drop and vibration resistance and are IP67 certified against dust and moisture ingress. The radios feature a large-size HD transfective color display screen, so users can easily see the radio status display and read text messages.

Products

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The Results

The DMR radios provide instant push-to-talk communications, including private one-to-one calling, one-to-many group calling, all calling, and emergency calling. Digital technology provides clearer audio than analog, especially at the edge of the cell, while Hytera noise cancelling technology optimizes voice calling in noisy environments.

The built-in GPS enables the portable radios to be monitored and tracked, which increases the safety of personnel as their position can be quickly and accurately located and appropriate help sent directly to them if they get into trouble.

The connected repeater sites provide a larger coverage area and enable all 17 Local Government Units in the Metro Manila region and the 16 partner agency members of NDRRMC to easily communicate with each other.

DMR technology is intrinsically more secure than analog and security can be further enhanced by the implementation of additional encryption capabilities such as AES 256-bit encryption. The system also supports a scrambler feature.



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