

Hytera multi-mode terminals enhance functionality and safety for Johannesburg emergency services

Client

Johannesburg Emergency Management Services (EMS) and Johannesburg Metropolitan Police Department (JMPD)

Industry

Public safety

Project time

2021

Products

PTC680 TETRA/LTE Multi-mode Advanced Radio



Introduction >>

When the City of Johannesburg's Police, Fire and Ambulance agencies wanted to access broadband applications while still retaining their narrowband mission critical voice services, they turned to Hytera TETRA/LTE multi-mode radios for a solution.

Background >>

Johannesburg is the largest city in South Africa. The public safety agencies in the city are the Johannesburg Metropolitan Police Department (JMPD) and the Emergency Management Services (EMS), which are responsible for firefighting, emergency medical services and rescue programmes.

JMPD's duties include crime prevention, traffic policing, ensuring the safety and security of citizens and visitors. It has a visible street police force of about 7,985 operational staff members.

The city's Emergency Management Services (EMS) is one of the biggest emergency services units in the whole of Africa. It looks after an area of 1,620km² and a population of almost 4.4 million people. EMS has an operational staff of approximately 1,688 people, who must respond to about 250,000 emergency calls a year.

The Challenge >>

Both JMPD and EMS rely on a narrowband TETRA two-way radio network for their communications, but the functionality of their TETRA radios is limited to voice and text messaging services and both organisations wanted to access broadband applications such as video, images, maps and data. However, JMPD and EMS did not want to abandon the TETRA network, as they still wished to retain their existing mission critical voice communication services.



PTC680





The Solution

Hytera was able to solve the problem by supplying its hand portable PTC680 TETRA/LTE multi-mode advanced radio. The PTC680 combines a traditional two-way radio and a cellular smartphone in one device. It can provide both mission critical voice services over TETRA and broadband services such as video, and data over 4G LTE commercial mobile phone networks.

One of the great advantages of the multi-mode radio is that the metro police and EMS personnel can now also access push-to-talk over cellular (PoC) voice services if the user is out of coverage range of the TETRA network. The radio will automatically and seamlessly switch between networks without the user having to manually change anything.

This capability provides back-up voice service to ensure police, fire and ambulance personnel can stay in contact with colleagues and with the control room at all times, which widens their range of operations, improves their efficiency and enhances their safety.

LTE broadband or Wi-Fi can be used to stream video back to the police control room to enhance situational awareness and aid faster, better informed decision making. Firefighters can stream footage to commanders, while paramedics can stream footage of a patient to consultants in hospitals for expert advice.

The PTC680 uses five GNSS and A-GNSS to enable users to be accurately located in open outdoor areas. Location-based Service (LBS) or Wi-Fi can be used to locate staff inside buildings or in areas not covered by GNSS.

Dispatchers are therefore able to track the whereabouts of JMPD and EMS devices in real time. This allows commanders and supervisors to manage their resources more efficiently and to coordinate the response to any incident or emergency more quickly, thereby helping to keep people safer and potentially save lives.

The Results

Hytera's PTC680 multi-mode advanced radio has enabled Johannesburg Metropolitan Police and EMS to fulfil their goal of maximising their earlier investment in the TETRA narrowband network and retaining mission critical voice services, and to extend their communication capabilities into the modern broadband world.

Police officers are now able to query vehicle license databases themselves using broadband without having to ask dispatchers in the control room to do the search for them. The ability to access maps, see routes, the location of colleagues, to view images and video on the radio has improved the field capabilities of metro police and EMS crews.

The PTC680 enables them to carry out multiple tasks simultaneously, thereby increasing their efficiency and ability to collaborate better with each other. In turn, this enables Johannesburg police and EMS to provide a better service to citizens.



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