

Case Study

Private Mobile Network solution installed in the latest generation of Mobile Incident Response Vehicles

The UK's NHS HART (Hazardous Area Response Teams) contract began its rollout in 2009 with the units already having been successfully deployed at major incidents such as the Cumbria flooding and the Bull Ring chemical leakage in Birmingham. The new generation of Incident Response Vehicles are the most comprehensively equipped units throughout Europe.

Effective communications are vital to maintaining the chain of command when dealing with any major incident. The challenge is to provide a suitable communications service that is robust, secure, reliable and able to support highly mobile personnel from a number of different agencies.

Experience has shown that reliance on the normal mobile phone networks during times of crises is to be avoided. Such networks, open to the public, can very quickly become congested or even taken out of service within the vicinity of the incident on grounds of national security.

The Private Mobile Network GSM solution, provided and managed by Excelebrate under the Excelebrate RapidNet brand, is a mission critical element of the overall emergency response vehicle services and is the first deployment of a standalone private mobile network by any Emergency Service in Europe.



“This new generation of HART vehicles provides high levels of real-time information to enable ambulance service personnel on the ground to make more effective decisions and enhance patient care at major incidents.”



CBRN HART Co-ordinator, London Ambulance

The Solution

Each command vehicle incorporates a highly resilient voice solution. This solution includes a variety of voice options, including: UHF, VHF and Airwave for mobile two-way radio communication, satellite and the ability to generate a private 900m radius mobile network, enabling personnel to maintain communications totally independently of the UK's existing mobile networks such as O2, Vodafone, Orange and T Mobile. This solution provides additional mobile coverage or coverage when traditional mobile networks are compromised, congested or have been switched off. Encrypted mobile handsets provide additional security and, along with other existing handsets, are interoperable across data enabled GSM networks using Circuit Switched Data (CSD) data transmission including the onboard Private Mobile Network.

The Private Mobile Network (PMN) solution provides the ability to access voice services using 2G and 2.5G mobile handsets over a private GSM network. Any standard mobile phone handsets, as well as ruggedised and encrypted handsets, can be used to connect users together on a secure, private network, in exactly the same way as within a macro mobile network, but without incurring any mobile phone call charges. Voice quality is high, as expected, on an industry standard-based GSM network, and support for SMS and GPRS for data communications is available. To ensure that the network is secure from unwanted parties, only handsets with registered SIMs can utilise network functionality. Pico cell base stations (BTS units) are placed within the vehicles to give maximum coverage and provide the interface between the handsets and the network. Users are able to roam anywhere within the coverage area.

The private mobile network is deployed under the TeleWare low power spectrum licence within the UK under the Ofcom licence awarded in 2006 and the solution has undergone extensive testing by Excelebrate before being integrated into the Mobile Incident Response Vehicles (MIRV).



The Benefits

Regardless of where the vehicles are deployed, full private and secure mobile capabilities are assured in situations where no carrier mobile networks exist. This will help eliminate the reoccurrence of the communications problems experienced during the 7/7 incident as highlighted in the London Assembly Committee's report.

The private mobile network solution is fully preconfigured and can be up and running within minutes to ensure business-critical communications continuity is maintained.

Excelebrate Technology, the UK's leading provider of integrated video, voice and data solutions and transmission technologies to the emergency services, is the appointed technology supplier for the MIRV project.



Private Mobile Networks provides private GSM network solutions for a variety of deployment scenarios including: in building coverage, remote sites, GSM infill situations and rapid deployment applications. PMN offers a viable alternative to DECT and PMR for in-building solutions and delivers fixed mobile convergence solutions to business users.

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