

The world's first TETRA integrated multi-discipline emergency services joint control room

The Isle of Man, although situated in the heart of the British Isles, is an internally self-governing dependent territory of the British Crown and a member of the British Commonwealth.

The Island's population of 76,300 inhabitants can double during the famous TT racing event, held each summer, which is the principle attraction that draws many international tourists to the area.

The Business Issues

In 2001, the UK Government launched their 'Invest to Save' initiative, designed to encourage two or more public bodies to jointly initiate new processes to provide streamlined and more effective modes of service. This inspired the Isle of Man Government to look closely at its own Emergency Services.

“This is not a shared facility and not three services working independently, but truly joined up emergency services. We have proved it can be done and we would encourage others to do the same.”

Robert Williamson, Technical Director of the Isle of Man's Department of Home Affairs Communication Division



The Isle of Man Government recognised the need to provide interoperability in its communications and replace its separate Emergency Service analogue mobile radio systems by a single communications network.

After consideration of the available options the decision was made to move to a Terrestrial Trunked Radio network (TETRA). The benefit of TETRA is that it offers a secure and reliable single solution that would meet the requirements of the 16 user groups that would eventually be using it. These groups included the Emergency Services and other key Government agencies such as Transport, Forestry and Utilities.

At the time, the three separate Emergency Services lacked many of the facilities that are considered essential in any modern Control Room, such as computer aided despatch, integrated voice and data control, geographical information systems and incident and resource management. The joined-up Government initiative and the implementation of TETRA provided the underlying framework for the heads of all the 16 services, including Police, Fire and Ambulance, upon which a multi-disciplined Control Room was built - the first in the world.



The Solution

Consolidation of the three existing control rooms into an island-wide communications facility meant that the Isle of Man Government could implement modern command, control and despatch facilities. Effective and efficient utilisation of resources was essential, as was the facilitation of improved emergency services call handling. Taking all of these requirements into consideration and working closely with the primary agencies, APD was selected to provide a solution comprising its CORTEX™ Integrated Communications Control System (ICCS).

CORTEX was the first ICCS on the market to merge radio despatch, telephone call handling and video monitoring into a powerful networked communications tool over the TETRA network, providing seamless access to voice, video and text communications, whilst linked to call handling and command and control systems. The integrated nature of the network allows both voice and data transfer, enabling essential information regarding a situation to be sent directly to the crew before they arrive at an incident.

Automatic call prioritisation presents incidents directly to the touchscreen consoles of the Control Room operators, who have instant access to databases and applications within the same system, giving total single-seat control.

In addition to the Control Room system, the Isle of Man implemented vehicle location technology from APD in the form of GPS-enabled INCA™ tracking units fitted in patrol, fire and ambulance vehicles. Back in the Control Room, Co-Ordinator, the fleet management software at the host-end, is integrated to the Control Room environment so that operators can immediately pinpoint the location of the incident. They can then automatically select the nearest suitable vehicle for despatch, taking into consideration the type of incident as well as geographical information.

Communication over the TETRA network has radically improved radio quality across the whole of the island, providing clearer voice quality and support for dynamic talk groups, in the event of a major incident. The linking of 16 agencies and the enhanced management of communications between the Control Room and the emergency services allows for a more efficient and co-ordinated service for the people of the Isle of Man.

Time is a precious commodity when dealing with emergency situations and the ability to be able to route and queue calls according to priority, and present them directly to the operator touchscreen consoles reduces the time taken to log incidents. As a consequence the elapsed time from call to despatch is also significantly decreased.

Added to this are the time-savings experienced from the location application which helps to identify and despatch the vehicle closest to the incident, allowing significant and potentially life saving time efficiencies. Officer safety has also improved due

to the introduction of an emergency button on each of the 1,500 TETRA-enabled Motorola radios used by the services.

In June 2005, just weeks after the TETRA network and joint Control Room went live, the Isle of Man infrastructure was severely tested by the annual TT motorbike race week. The emergency services had to deal with over 200 incidents, including more than 120 road traffic accidents and there were over 8,000 radio transmissions per day, as opposed to a normal level of 3,000, and over 750 '999' calls. Robert Williamson commented, "This unprecedented level of voice communication during the TT was handled extremely well by both the Motorola TETRA network and CORTEX, making it a reliable solution in extreme situations."

The Benefits

- Better service to public and greater accountability
- Co-operation between emergency services
- Improved response times
- Enhanced management information

The Future

Following on from the successful implementation of the joint Control Room, the Isle of Man are now looking at what the future holds.

As well as investigating ways of enhancing this multi agency approach, there are ongoing discussions about the use of GPS-enabled TETRA radios to provide an officer location facility, as well as the development of mobile data solutions, to provide critical information to officers at the point of need.

Technology

APD Solution

CORTEX Integrated Control Room Solution
INCA Vehicle Location and Tracking
Co-Ordinator Fleet Management
Lone Worker Protection

Network

TETRA

Terminals

Motorola

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