

# Tetra Case stories



## Project:

Cardiff RadioNet – Retail Management and security radio system.

## Application/Market segment:

To replace the existing analogue radio communications system with a modern computer assisted digital scheme.

## Objective and requirements:

Retail management schemes are typically simple basic analogue talkthrough repeaters with radio equipment based on a “push and shout” strategy. With the pressing needs for security in town centres, some responsibility is being shifted from police to civilian employees and shops themselves with great benefits to the businesses involved and the community in a modern city centre.

Many different user groups need to intercommunicate at different times to resolve issues and security matters. Traditionally in many town centre schemes, radio schemes are installed piecemeal to satisfy different user groups and are often incompatible with each other. These often terminate in different offices and control rooms making management by control staff cumbersome and inconvenient. With the pressures of CCTV monitoring and all other manner of alarms and alerts being monitored by a smaller number of control room staff, simplification is an essential requirement. There is also a major need for multi-agencies to be under one communications system separately provisioned but with the ability to communicate as necessary both on the ground and to a controller. Police control rooms are also heavily involved and a common set of equipment giving comparable performance to the Airwave system is now expected.



For the radio scheme, the radio users need to be clearly identified when making calls to each other and the operator, audio needs to be of a high quality and the grouping of users into separate talk-groups allows shopkeepers, wardens, pub and club operators and emergency users to be segregated. An all informed Emergency group is used to alert all users if an incident is occurring. The radios have additional facilities which help to streamline various operations and also have advanced features. These can be utilized to enhance officer safety with and lone worker features.

## Project details:

**SAFETYNET**  
digital

The new scheme was chosen to be based on a TETRA platform with TetraFlex single carrier base station which will be expanded to 2 or 3 further carriers as the number of user groups increase. The need for a talkgroup structure which is secure was paramount to allow different groups of users to communicate without the intervention of a controller. The CCTV and police control rooms must have access to whatever groups are active to intervene and control, monitor and record all activities for evidence collection. The use of several control rooms based on a VoIP structure was also defined to allow management of different talkgroups eventually from different locations. SafetyNet Digital was installed to provide the systems solution providing the main functions being;



- Retail and leisure outlets individual personal alarms.
- Alarms activation presented to all handsets showing the user names
- Complete log of activities and audio playback
- All informed background scanned emergency talkgroup for incidents
- Talkgroup management and monitoring from several control positions
- Link into small existing analogue and local digital DMR schemes in outlying areas

SafetyNet is a networked solution allowing multiple terminals to be provided as gateways to the TetraFlex system over a standard LAN. Simple PC tablets were provided to allow access to the radio talkgroups from anywhere onsite with a LAN connection such as a secondary control room or incident suite effectively extending radio coverage through IP. Operators can take care of special groups of radio users or incidents via these workstations .

The Sepura SRH3800 was selected offering the flexibility and for its compact size and weight, easily carried by shop keepers and wardens.

The ability to integration into SafetyNet's advanced features is a significant requirement providing a number of sophisticated status messaging features through its highly versatile and flexible programming capabilities. In addition the users need to be displayed by name when active requiring up to 1000 user names to be defined in the phone book, a recent addition to the SRH3800 software release 9.



## Rationale for choosing TETRA:

TETRA was chosen as the technology due to;

- Compact radio terminals with modern look and feel
- Flexible talkgroup structures for multi-agencies
- Security of the audio traffic due to digital encoding of signals
- Personal alarms
- All informed background group facility

As a main infrastructure element PMR Products worked with Damm and the TetraFlex® solution integrated with SafetyNet Digital. The system will be extended with a new interface for SafetyNet Digital operating with DMR channels to small outlying schemes all connected via an IP connection.

## Customer feedback:

The installation was completed in record time of less than 10 days and actual changeover from analogue to digital occurred over a weekend. The penetration of the radio signals around Cardiff city centre is vastly superior to previous equipment and the quality of the audio is noticeably different. Remote access to the system for diagnostic purposes has proved to be invaluable particularly when a complete power failure across the city knocked out all systems.

## Contact details for further questions.

Steve Clarke

Managing Director

[sj.clarke@pmr-products.com](mailto:sj.clarke@pmr-products.com)

David Horton

Sales Director

[dn.horton@pmr-products.com](mailto:dn.horton@pmr-products.com)

PMR Products Ltd telephone: +44 (0) 1291 629 333

Website: [www.pmr-products.com](http://www.pmr-products.com)

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***Innovative Solutions in Mobile Radio***

Evets House Station Road Chepstow Monmouthshire NP16 5PB United Kingdom  
Tel 01291 629333 Fax 01291 621567 enquiries@pmr-products.com www.pmr-products.com