

Case Study

UK prison deploys DIMETRA™ Express for reliable, mission-critical communications

HMP Five Wells

HMP Five Wells is a Category C resettlement/training prison for 18 to 21-year-olds and adult males, located in Wellingborough, Northamptonshire. The prison opened in February 2022 and is managed by G4S. It is one of the largest prisons in the UK.

G4S Care and Rehabilitation Services

G4S operates four prisons in England and Wales on behalf of the Ministry of Justice. These are HMP Five Wells, HMP Oakwood, HMP Parc, and HMP Rye Hill. Both Rye Hill and Oakwood have been described as two of the best prisons by His Majesty's Inspectorate of Prisons.



Organisations

- HMP Five Wells
- G4S

Partner

Radiocom Systems Ltd

Industry

- Security
- Prisons

Location

UK

Solutions

A single-site DIMETRA Express system comprising:

- An MTS4 TETRA base station with a dual-base radio configuration
- 420 x MXP600 TETRA portable radios
- Accessories, including multi-unit chargers, earpieces, and carry cases
- TRBOnet Enterprise control room solution



Challenge

During the construction of HMP Five Wells, G4S approached Radiocom Systems Ltd, as G4S's preferred supplier, to specify and design a new two-way radio solution capable of delivering seamless coverage, increased bandwidth, and crystal-clear audio across the entire prison site. Radiocom recommended a single-site DIMETRA Express radio system for its reliability and flexibility.

Indeed, the network design had to be developed and adapted as the new build progressed, to ensure the signal remained strong in all areas. A particularly challenging area proved to be the thick concrete structures of the outlying house blocks, positioned at the bottom of the site's hill and, to further boost the signal in this zone, Radiocom decided to install some off-air cell enhancers. Other challenges that presented themselves as the prison became more populated included the need for training to ensure appropriate radio use, growing user numbers, and evolving talk groups. Radiocom and G4S are working together closely, to ensure the system is being utilised effectively and intelligently.

Solution

The DIMETRA Express network comprises an MTS4 base station and TRBOnet (for dispatch and voice recording) running on dispatcher computers in the central control room. The MTS4 provides one control channel and seven traffic channels. It has been installed in a dual-base radio configuration for redundancy; if the primary base radio should fail, the secondary base radio automatically takes over, ensuring uninterrupted communications. Redundancy and reliability are essential, as the radio system is the main form of communication on site. The radios mostly operate on the main channel for all staff, called 'main net'. However, if users wish to talk to a targeted group, Radiocom has configured various sub-talk groups, including security, emergency, visits, and maintenance.

A pool of 420 MXP600 TETRA radios was introduced so that staff across a variety of functions including those working in security, the gatehouse, house blocks, services, visits, and facilities have instant access to reliable communications, without the need for individually assigned devices. At the start of each shift, officers securely check out a radio using a biometric system, which automatically links their details to the device. This not only streamlines the allocation process but also provides full accountability, allowing users to be tracked for safety and security purposes throughout their shift. At the end of the day, radios are returned to a secure charging cabinet, guaranteeing they are recharged and ready for the next team, ensuring a seamless handover between shifts.

“A dependable radio system is essential for our day-to-day operations as it is our principal means of on-site communication. Our DIMETRA Express system provides reliable, user-friendly communications with easy-to-use radios and loud, clear audio across the site, ensuring our teams can work in a safe, professional, and efficient manner.”

**Steven Ashman, Security Manager,
HMP Five Wells**



The MXP600 radios have innovative audio for loud and clear voice communication, an emergency button with transmit interrupt, and a long battery life. Staff have been issued with a carry holster and an earpiece. The carry holster enables users to comfortably wear the MXP600 radio on their belts. Using the earpiece instead of the radio's loudspeaker enables discreet communications, where prisoners can't hear the responses over the radio. Users have praised the MXP600 for its rugged yet lightweight and compact design, as well as its ease of use.

Radiocoms provides training, wraparound support and maintenance, both physically and remotely, including regular over-the-air updates and the ability to disable any misplaced radios, ensuring security of communications.

Outcome

Communications are constant, with thousands of calls made every day, covering a wide range of purposes, including prisoner movements, general daily operations and activities, incidents, and coordinating staff and teams.

In the future, even more redundancy could be built into the system. The solution is also set up for easy integration with other technologies, such as body cameras, and Bluetooth® low energy beacons, for accurate indoor GPS location tracking.

Feedback regarding the ease of installation, audio, radios, capacity, and reliability has been excellent. The security of the network is also a key benefit, considering the confidential nature of communications. Steven Ashman summarises: "At the end of the day, our DIMETRA Express system just operates how it needs to. It is extensively utilised and has become an integral part of our operational framework."



Benefits

- Flexibility and ease of installation to meet changing new-build requirements
- System reliability, redundancy, and scalability for mission-critical communications
- Excellent coverage across the prison site
- Full encryption for secure communications with the option to disable missing radios
- Clear, loud audio quality, so messages can always be heard the first time
- Easy-to-use, compact, and robust radios, with excellent user adoption
- Earpieces ensure conversations remain discreet
- Enhanced functionality, including central dispatch, messaging, and voice recording, for traceability, operational efficiency, and worker safety
- Ongoing maintenance and service support provided by Radiocoms for a long-term, effective solution and good ROI





To learn more, visit:
motorolasolutions.com/dimetraexpress



Motorola Solutions Ltd., Nova South, 160 Victoria Street, London, SW1E 5LB, United Kingdom

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the stylised M logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under licence. All other trademarks are the property of their respective owners. ©2025 Motorola Solutions Inc. All rights reserved. 09/2025