



# SAFEGUARDING STUDENTS ACROSS CAMPUS

**MOTOTRBO™ WIDE AREA NETWORK A MAINSTAY FOR CAMBRIDGE UNIVERSITY SECURITY OPERATIVES**



Security patrols protecting staff and students at one of England's flagship universities have the reassurance of instant and reliable communication with the control room, following the installation of a MOTOTRBO wide area digital radio network. The new system provides continuous coverage across the entire city of Cambridge, and offers increased functionality to enhance safety.

The University of Cambridge spans a rich history of tradition dating back to 1284. Renowned as one of the world's leading institutions of learning, the university's eminent affiliates include Isaac Newton, Lord Byron, Charles Darwin and Stephen Hawking.

Today it attracts over 18,000 students and employs nearly 6,000 staff. There are more than 150 Departments, Faculties and Schools dispersed across Cambridge and the students live in 31 colleges situated in the city.

#### **CUSTOMER PROFILE**

**Company:**  
University of Cambridge

**Partner Name:**  
Direct Telecom Services

**Industry Name:**  
Education

#### **Key Benefits:**

- Continuous, wide-area communications
- Improved audio quality and reliability
- Automated battery management
- Reduced operating costs

#### **Product Name:**

- MOTOTRBO DR 3000 repeater
- DM 3600, DP 3400 and DP 3600 radios
- IMPRES intelligent battery management
- Remote Speaker Microphone, two-wire earpieces with acoustic tube

## CASE STUDY

SAFEGUARDING STUDENTS AT CAMBRIDGE UNIVERSITY

**“By improving the reliability, quality and range of communications, the MOTOTRBO system has provided the life line Security Personnel need to perform their duties to the best of their ability.”**

Amanda Pickering, Account Manager at Direct Telecom Services.

### THE CHALLENGE

Cambridge University’s existing two-way radio system was susceptible to interference, with the result that communication between security guards and the control room was unclear at times, and certain areas had dead spots where there was no coverage at all.

With students and staff travelling between colleges and faculties across the city, it is imperative that security patrols have clear and reliable communications at all times in order to perform their duties effectively. Missed calls or garbled messages can severely impact on efficiency, particularly in an emergency situation.

Personnel safety is also a high priority, especially when guards have to patrol areas alone at night. The radios are their first line of communication with the control room, therefore knowing that guards can maintain constant contact is vital for their peace of mind and protection.

Thus, the need for continuous, high-quality and reliable wide-area communications prompted Cambridge University’s decision to evaluate alternative technologies.

### THE SOLUTION

The MOTOTRBO digital radio system was chosen due to its two-slot TDMA technology, which doubles the capacity of the existing licensed channel. It enables two conversations to take place simultaneously on a single channel, thereby reducing equipment overheads.

Using the industry standard IP protocol, MOTOTRBO provides a converged voice and data platform that supports a range of applications to further enhance productivity. Channels can also be allocated for simultaneous voice and data communications as required.

Motorola Reseller Direct Telecom Services integrated the university’s mobile alarm system into their radio network, so that guards can receive alarm notifications via their two-way radios. When guards are patrolling areas alone, the radios can be programmed to prompt them at set intervals, improving safety by alerting the control room if they fail to respond.

Another major benefit of digital radio technology is its built-in error-correction capability, which is able to reconstitute the voice throughout most of the coverage area. This provides clearer communications across a wider area without the need for multiple repeaters to boost signal strength. Direct Telecom was able to provide coverage across the entire city of Cambridge using a single MOTOTRBO DR 3000 repeater.

The University opted for Motorola’s patented IMPRES™ smart energy system, which automates battery management to ensure optimum performance and longer life cycle. Remote speaker microphones allow hands-free operation so guards can focus on the job at hand, and two-wire earpieces with acoustic tubes provide more discrete communications when they’re on patrol.

### THE BENEFIT

With coverage now extending throughout the city of Cambridge, security personnel have clear and continuous communications, improving the co-ordination of operations, providing reassurance that calls won’t be missed and summoning back-up immediately in the event of an incident.

The IMPRES automated battery management system ensures that guards can work extended shifts without worrying about losing contact with the control room, and provides a greater return on investment by maximising battery lifecycle.

So, as an added precaution, Cambridge University now has a digital fall-back channel which they can automatically switch across to in the event of a disaster, such as a lightning strike, at their main repeater site. The system has been programmed to receive a coded message from the radios which switches off the main repeater and re-routes operations through the standby control system located at a remote site, to minimise downtime.



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CAMBRIDGEUNIVERSITY/CASESTUDYUK(06/12)

