MOTOROLA

Technical Institute Security Improves Multi-Campus Communications with MOTOTRBO™ Digital Solution

Coverage gaps prevented two-way radio communications between the three main campuses of a technical institute located on the east coast. Administrators looked to digital technology to improve campus safety and security communication. The solution was MOTOTRBO digital two-way portable radios with GPS location and IP Site Connect. Today the institute has eliminated coverage gaps, even in the buildings' basements, and security officers now have access to seamless communications between the three campuses.

"With the MOTOTRBOs and IP Site Connect, coverage has been improved all across our three campuses. In fact, the main campus is about 47 miles from the others and we could never talk with them via radio before. Now, it's like you're talking on the phone."

- Director of Security

Situation: Maintaining security for 15,000 students and multiple locations

Founded more than 50 years ago, a non-profit, private institution in New York offers undergraduate, graduate and professional degrees in more than 90 fields of study. More than 15,000 students attend classes at the institute's main campuses, as well as online and at several remote campuses.

With full responsibility for the safety and security of students, staff members and faculty on the main campuses, the institute's security personnel patrol the locations 24 hours a day, 365 days a year.

All three campuses are located in the same city and each has its own unique characteristics. The institute's main campus, sits on 100 tree-filled acres in an upscale area. The second campus is comprised of four buildings that span several blocks near some of the city's major tourist attractions, and the third is home to a vocational independence program.

Products
- IP Site Connect
- MOTOTRBO XPR™ 6550 digital portable radios
- MOTOTRBO XPR™ 8300 repeater

Benefits
- Improved campus safety
- Faster security response
- Expanded coverage with no gaps
- Scalable for future applications

Coverage gaps and linking remote campuses

In 2008, after attempting to patch the school's aging UHF analog two-way radio system to improve communications on the main campus, it became apparent that it was time to upgrade to more reliable technology. The existing system was unable to cover the campus from end-to-end and experienced serious coverage gaps inside the buildings.

"The elevation of the campus is very uneven, with high and low areas," says the institute's security director. "Even though a repeater was mounted on the highest point of the campus, in some areas we couldn't get any radio coverage at all."

One of the buildings on the campus, an early 20th century mansion, presented one of the biggest challenges. Located on the far west side of the campus, the building's physical construction and location in a low-lying area created radio signal barriers preventing communications on the first and second floors. Coverage in the basement area was nonexistent.

Another challenge the institute needed to address was how to easily and seamlessly communicate between all three main campuses. Although one of the campuses is only open at certain times, security is still maintained 24x7. Officers used cell phones to stay in touch but even cell phones experienced coverage gaps in certain parts of the campus and in lower parts of the buildings.

Solution: MOTOTRBO with IP Site Connect

The security director contacted a local Motorola channel partner to discuss options. The channel partner recommended MOTOTRBO portable radios, along with IP Site Connect, a digital feature of MOTOTRBO that can link up to 15 repeaters for enhanced coverage.

"The MOTOTRBO IP Site Connect would allow a security officer to patrol anywhere on the grounds and go into any of the buildings on the main campus and still have radio communications back to his dispatchers," says the channel partner. "The IP Site Connect was a natural because it would further enhance the MOTOTRBO system by allowing the radios to automatically switch to the closest repeater."

Via IP Site Connect, the channel partner connected the school's multiple repeaters on a private network. The MOTOTRBO digital portable radio automatically selects the nearest repeater, which converts the signal and sends it out to the other two repeaters. Combined with background noise reduction software, the audio is crisp and clear, regardless of where the officer is located on campus.

"It's an interesting situation," says the channel partner. "We installed the repeaters in the basement of two buildings. One of the buildings is built on the side of a hill with the main floor above ground on one side and underground on the other. Those two repeaters cover the interiors of both buildings as well as providing coverage in the surrounding area."

The Motorola channel partner worked closely with the school's IT staff, installing the radio backbone while the IT staff installed the network connection. Once the installation was complete, which took less than a week, the old system was switched over to the new system all at once.

"It was a very simple and easy transition for our security people," says the security director.

"We've had the system close to a year and it works very well. Each campus has their own software with a map locator so the supervisors know exactly where the patrol officers are at all times. If we get an emergency or a service call, we can dispatch the officer who is closest to that site."

– Director of Security

Results: Enhanced campus communication throughout all three campuses

With MOTOTRBO digital portable radios and IP Site Connect, physical barriers, limited coverage and lost functionality are no longer issues; manual intervention for roaming between repeaters has been eliminated; and IP Site Connect also lowers cost because there are no monthly service or access fees.

- **Expanded coverage with no gaps:** "With MOTOTRBO and IP Site Connect, coverage has been improved all across our three campuses," says the security director. "In fact, one of the campuses is about 47 miles from the others and we could never talk with them via two-way radio before. Now, it's like you're talking on the phone."

- **Faster security response with GPS:** In addition to IP Site Connect, the MOTOTRBO radios are equipped with GPS tracking capability, which enables the dispatcher to use a location tracking application to identify where the officers are on campus. Even when the officers are off campus, their location can be identified as far away as two miles. "We've had the system close to a year and it works very well," says the security director. "Each campus has its own software with a map locator so the supervisors know exactly where the patrol officers are at all times. If we get an emergency or a service call, we can dispatch the officer who is closest to that site."

- **Greater campus safety:** The institute has placed solar powered emergency call boxes around the campus that allow students to immediately send a call for help to Security. Today, when the call button is pressed, the location of the call will be transmitted to each officer's radio as well as to the dispatcher. "With the old radios, a student standing at a bus stop might see someone suspicious coming toward him or her, run over to the call box, and wait for the dispatcher to respond," says the security director. "Dispatch would then have to try and get the location from the panicked student, get on the radio and dispatch an officer. This system works so much better."

- **Scalable for future applications:** Eventually the school will have the opportunity to place GPS radios on the campus buses. GPS tracking software, developed by the channel partner for MOTOTRBO, will display the bus route and current location on the campus website, allowing students, faculty, and staff to not only plan their route, but know exactly when the bus will arrive at the bus stop closest to them.

Motorola MOTOTRBO XPR Digital Radios
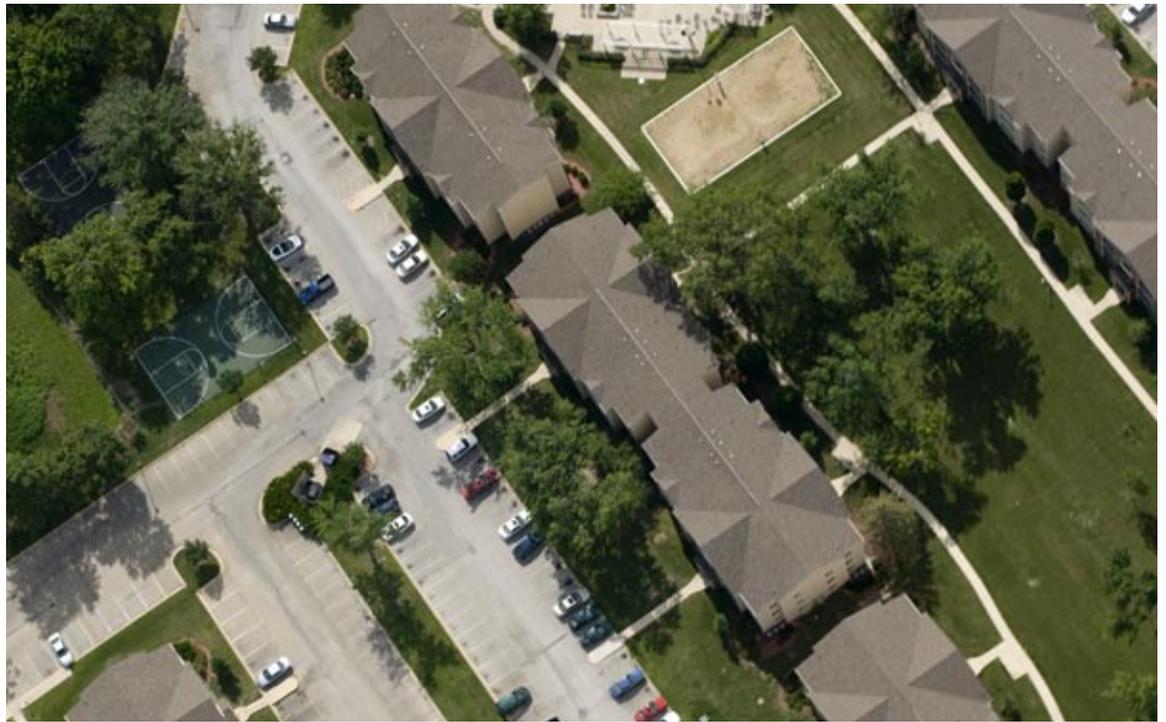
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RO-4-214 4/2010