MOTOROLA SOLUTIONS

THE CITY OF VIRGINIA BEACH MODERNIZES COMMUNICATION TECHNOLOGY TO STRENGTHEN PUBLIC SAFETY

EMERGENCY PERSONNEL IMPROVE RESPONSE, AWARENESS AND LIFE CYCLE MANAGEMENT BY UPGRADING MOTOROLA SOLUTIONS' ASTRO® 25 NETWORK INFRASTRUCTURE AND ADDING APX™ RADIOS

THE CHALLENGE

For many years, the City of Virginia Beach's first responders relied on their ASTRO 25 communications system and XTS/XTL radios to help protect and serve their communities, bay and coastline. With time, the City found they did not have enough personnel to adequately maintain the infrastructure. Despite new releases and patches issued by Motorola, the City's network eventually lagged far behind the security and performance of today's software. "When you operate on an IP-based system, you have to update it regularly to reduce risk. We don't have a big lab to test patching. As a result, our systems were degrading," said Matt Arvay, who at the time, served as Virginia Beach's chief information officer.

Fourteen-year-old, subscriber radios also presented issues. Firmware was no longer supported and became outdated. Antennas, screens and cases were broken from heavy usage; transmitters couldn't be serviced, and voice profiles had aged. This hindered emergency personnel from doing their jobs to the best of their ability. Communicating was difficult, especially in the face of excessive noise and extreme conditions. Plus, the radios lacked advanced features essential to safety. "Motorola Solutions has supported us very well. But we heard from our public safety users the challenges they were facing," said Arvay. "We knew we had to invest in keeping these things modernized."

CUSTOMER PROFILE

The Police Department

The Fire Department

The Department of Emergency Medical Services

The Emergency Communications & Citizen Services

The Sheriff's Office

450,000 residents

2 million visitors a year

300 square miles

Bordering the Chesapeake Bay and Atlantic Ocean

SOLUTION

3,400 APX 6000 series & 7000 series multiband Project 25 (P25) portable and mobile radios

ASTRO 25 infrastructure upgrade through a system upgrade agreement

The addition of ASTRO 25 advanced messaging and GPS support

ASTRO 25 maintenance with security monitoring and patching

IMPRES™ two-way radio batteries and smart charging

KEY BENEFITS

- Louder, crisper audio with background noise cancellation
- Instant interoperability across 700/800 MHz and VHF bands
- GPS location tracking for enhanced safety
- Text messaging and controllable lighting for discretion
- Optimized, glove-friendly ergonomics and lighter form factor
- Increased efficiency from one unified communications platform
- Simplified asset management and greater IT control
- Increased security posture
- Battery life cycle visibility

THE SOLUTION

A P25 SYSTEM NETWORK REFRESH AND UNIFIED COMMUNICATIONS VIA NEW APX™ RADIOS

Recognizing how critical communications were to the well-being of first responders and citizens, the Information Technology (IT) department made it their mission to rectify the situation. It became clear that upgrading the City's radios first required the modernization of their ASTRO® 25 network.

That's where Motorola proved pivotal. The City of Virginia Beach contracted Motorola to monitor the system 24/7 and service it as needed. This included updating the security and software of the ASTRO 25 platform to the current supported release. By alleviating the burden and capital expense of upkeep, the City could ensure peak performance and security at a predictable and affordable operating cost.

Starting in January 2015, IT worked closely with Motorola Solutions for eight months to rapidly improve the ASTRO 25 infrastructure and test configurations for new APX 6000 and 7000 series radios. Then, IT and Motorola worked with the public safety users to rapidly deploy the 3,400 new APX radios. RFID and barcode technology helped accelerate the process and minimize human error. Rather than manually input long series of numbers, the team simply scanned the barcodes to instantly capture the data and populate fields.

With the ASTRO 25 system made current, subscribers gained the cutting-edge opportunities of today's APX radios. Text messaging, GPS tracking, smart battery management, and louder, clearer audio were just a few of the new advantages offered by the APX mobiles, portables and consolettes purchased.

> " I wanted to make sure that, if we invested the money, we had a long-term plan that never let us fall behind again, because we understand how critical public safety is to the community and the region. "
>
> Matt Arvay,
> Former CIO, the City of Virginia Beach

THE RESULTS
INCREASED SAFETY, QUICKENED RESPONSE, GREATER EFFICIENCY

LOUDER, CLEARER AUDIO

In the past, communicating over blaring sirens and roaring fires posed a serious challenge for the Fire Department. Firefighters had to hold a microphone up to their masks to be heard. Even then, the audio was muffled. "You kind of sounded like Darth Vader," said Battalion Chief Brian Sullivan. The new APX radios resolved that with background noise cancellation and dual speakers and microphones. As the loudest radio on the market, the APX features best-in-class audio that made every message crisp and clear. Having Bluetooth® communication integrated into the radios also made a big impact, as firefighters could speak directly into their masks.

INTUITIVE INTEROPERABILITY

Any savings in time has the potential to help save lives. That's why the City chose one common APX platform for its communication needs. Subscribers can now use any radio from any department and know how to operate it from day one. Even the dispatchers MCC7500 radio controls now match the naming and layout of the primary APX controls. Whether interoperating with each other, neighboring counties or public service agencies and the school system, it's more efficient with APX. Larger color displays offer at-a-glance intelligence, and intuitive technology simplifies switching between channels, when entering different precincts. "The ability to scan multiple precinct channels while actively working off of another one is something that wasn't available with the old technology," said Virginia Beach's Chief Technology Officer Darrel Riddick. With the radio's multiple bands, emergency staff can instantly switch from 700/800 MHz to VHF to coordinate with marine patrol. This eliminates the need to carry two different radios.

ENHANCED ERGONOMICS

In the heat of a moment, first responders don't have time to fuss with their radios. With the City's upgraded fleet, they won't have to. The knobs are bigger and further apart, making them ideal for bulky, gloved hands. The T-shape offers a firm grip, and the form factor is lighter than previous models. When duty calls for extreme conditions, this APX is ready, designed to be submersible and withstand dust, electrical shock and a greater range of temperature.

IMPROVED SAFETY AND RESPONSE

The new APX radios brought new capabilities that helped the City's public safety agencies fulfill their mission. "Thanks to GPS, we can track a resource on patrol, on ATVs, bicycles, horse or on foot," said Marc St. Clair, unified communications team manager. "We can see the location of their radios. That wasn't possible before." Text messaging, along with selectable profiles, offer discretion for tactical missions. The built-in speaker/mic flashlight provides a useful tool, and the SOS feature sends dispatch a distress signal. IMPRES™ batteries optimize radio performance, while visibility into the battery's health ensures critical power is always available. "As users get closer to the towers, the new APX radios automatically adjust power to maximize battery life. All these things we never had in the past now make a huge difference," said St. Clair.

SIMPLIFIED DEVICE MANAGEMENT

Easier and tighter control of radios – via the APX Radio Management database and APX GPS – played a significant role in the City's decision to stay with Motorola Solutions. "Being able to know the location of the asset, its present and past configurations, and identify lost or stolen radios helps us be more effective," said St. Clair. Today, St. Clair and the team can remotely troubleshoot and push configuration changes. In the future, they will have full automation for greater efficiency. Text messaging proved as useful for IT as for first responders. "We can send users a text that it's time to have their radios serviced. It may not seem like a big deal, but when you have 3,400 radios to keep up with, it's important," said St. Clair. "We've taken that burden off of all the public safety liaisons and made the subscribers responsible." This simplifies maintenance and helps keep radios operating at their peak.

> **The Police, Fire and EMS chiefs couldn't be more pleased with the implementation and technology.**
>
> Matt Arvay,
> Former CIO, the City of Virginia Beach

THE FUTURE
STAYING AT THE FOREFRONT

"Our hopes for the future are to leverage our radio and ASTRO™ investment with the rich capabilities of Motorola's PremierOne™ CAD, Records, and Mobile System solutions," said Arvay.

Using PremierOne CAD, their dispatch will be able to correlate text messages with a map of the area. In addition, the mapping application will enable a dispatcher to pull up a visual of the location and available resources. As the 9-1-1 operator takes information from the caller, it will automatically be entered into the CAD system and streamed to first responders in the field. When the emergency button is pushed, the dispatchers will know the location of the portable radio, thereby enhancing officer safety.

With PremierOne™ Records, the City of Virginia Beach will gain a simple means to securely capture, store, and retain data within a single repository. Advanced searching and information sharing will make it easier for them to create, publish and share reports. This wealth of data can then be used for analytics and relationship mapping to uncover patterns and trends key to predictive policing.

For more information, please visit us on the web at **www.motorolasolutions.com/astro**

> **"The jobs that our first responders do are critical, and they need to have state-of-the art equipment at their disposal."**
>
> Matt Arvay,
> Former CIO, the City of Virginia Beach