



Airdrie Fire Department

How Motorola Solutions radios are leveling up safety at Airdrie Fire

Like every fire service across North America, Airdrie Fire Department's (AFD) primary focus is to help protect people, property and places within its community. AFD currently has around 85 staff working across three stations - with a fourth under construction - to respond to incidents in Airdrie.

The department has grown from a volunteer-based outfit in the 1980s and 90s to a more robust full-time career fire service that has expanded alongside its community. Airdrie's population sat at around 20,000 at the turn of the millennium but that has since ballooned to more than 80,000 people, making it the fastest-growing city in Alberta.

The responsibilities of the department go beyond just incidents involving fire. Working closely with other emergency services in the area, AFD provides medical responses, rescue operations and educational outreach programs.

Customer

Airdrie Fire Department

Location

Airdrie, Alberta, Canada

Industry

Public safety

Solutions

- APX NEXT XN All-Band P25 Smart Radios

Benefits

- NFPA 1802-compliant radios
- Ultra-clear voice communication with advanced background noise suppression
- Rugged devices that can withstand extreme conditions
- Enhanced operability even when wearing gloves
- Improving the safety of firefighters responding to incidents

Challenges

AFD firefighters put their lives on the line every day, but they were doing so with communications technology that did not serve their needs.

When responding to incidents it's essential that firefighters can hear and be heard clearly because, should an emergency develop and immediate assistance is needed, every second counts. Clear communication is a life-saving aspect of firefighting.

A crucial part of this communication is audio clarity. Firefighters often need to wear some form of breathing apparatus when dealing with large amounts of smoke, and this equipment can make it difficult for the person wearing it to be understood when speaking. The radios being used must be able to keep speech - even if it's muffled by some form of mask or helmet - crisp and clear at all times. Likewise, AFD often operates in noisy environments when responding to incidents, so reducing background noise such as traffic, machinery and wind is essential for radio communications.

Given the dangerous nature of its work, AFD needs to know it can rely on the radios it is using. Drops in coverage and interference are unacceptable. Teams can be spread out over wide areas across Airdrie, so their radios must connect over a large range. When responding to incidents inside densely packed concrete buildings, AFD's old radios struggled to penetrate through the building.





Too often departments like AFD are equipped with two-way radios that aren't designed for their specific needs; they might be military or civilian applications that are not purpose-built for firefighters. They need radios that can withstand very high temperatures but also - as the weather can get very cold in Alberta - low temperatures too. The devices they use must be able to withstand the rigors of firefighting, while also providing ease of use. Firefighters often wear thick gloves when working, which can make using a radio with small buttons difficult.

Having enough capacity on its radio systems has also been a challenge for AFD. In the past, firefighters have struggled to find an available frequency to use when trying to communicate over the radio. This has been because the systems they were using were not capable of meeting the communication demands of the department. AFD works closely with other emergency services in Airdrie, making sufficient radio frequency capacity even more important.

AFD needed a suite of radios designed to meet the needs of its firefighters, while also being compliant with NFPA 1802, the national standard for portable two-way RF voice communications devices (such as radios) used in the hazard zone.

“ There's a saying in our profession: 'You better be doing everything right when something goes wrong. You could go through your entire career as a firefighter and only have to make one mayday radio call but if you do, you need to know you can rely on that radio so that you'll be heard. We know that now.

– Mike Pirie, Fire Chief, Airdrie Fire Department





Solutions

To overhaul its radio communications suite, AFD turned to Prairie Mobile Communications. As a partner of Motorola Solutions, Prairie Mobile Communications worked closely with AFD to find the ideal technology solution for the department. After rigorous testing, AFD selected the APX NEXT XN All-Band P25 Smart Radio, a device designed to keep firefighters safe and effective in extreme environments.

AFD firefighters are now equipped with NFPA 1802-compliant radios that pass the most extreme ruggedness tests including a 4ft. drop to concrete on all faces, edges and corners, a 4.6oz steel ball drop from 20in directly onto the display, and operating at temperatures of -22F to +140F. Protected by toughened glass, the touchscreen works in the hottest, wettest and grittiest conditions, and is resistant to false actuation by water, snow, ice or debris.

Ultra-clear voice communication is now possible at AFD thanks to the APX NEXT XN's advanced audio performance and sophisticated noise-reduction techniques. The radio features two High Dynamic Range (HDR) microphones, which improve intelligibility with extremely loud and soft inputs, and reduce noise and distortion. Its proven adaptive audio engine - including advanced noise suppression - works with the HDR microphones to reduce the effects of unpredictable background noise in loud or windy environments. The microphones feed into sophisticated algorithms that track the user's voice and filter out the surrounding noise for superior intelligibility.

The intuitive knobs and buttons on the radio are easy to grip, distinguishable by touch and designed to minimize accidental activations. From display size to button positioning, the radio controls are easy to access and operate with or without gloves for all mission-critical and essential radio operations.

With LTE, WiFi and Bluetooth functionality the APX NEXT XNs ensure AFD firefighters are always connected, even in noisy, densely-packed buildings.

Radios built for the job

AFD has equipped itself with a suite of radios designed to keep its firefighters safer and more effective when responding to incidents. Compliant with NFPA 1802, the NEXT XN All-Band P25 Smart Radios provide the audio quality, durability and operability required to ensure AFD firefighters can rely on their devices when it matters most.

To learn more, visit: www.motorolasolutions.com/apxnextxn



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