



# Connected Response for Public Safety: Vehicle + Responder

Connected Solutions for **Fire-Rescue**: Powered by FirstNet®

As a fire safety professional, you need clear communication and easy access to information to protect life, property, and the environment. These are essential for making smart decisions that reduce risks. That's why you need **Connected Response for Public Safety on FirstNet**.

It modernizes and connects technologies such as FirstNet mission critical push-to-talk solutions, FirstNet 5G-powered routers, and FirstNet MegaRange™.

## **Connected Vehicle and Connected Responder for Healthcare offers your team:**

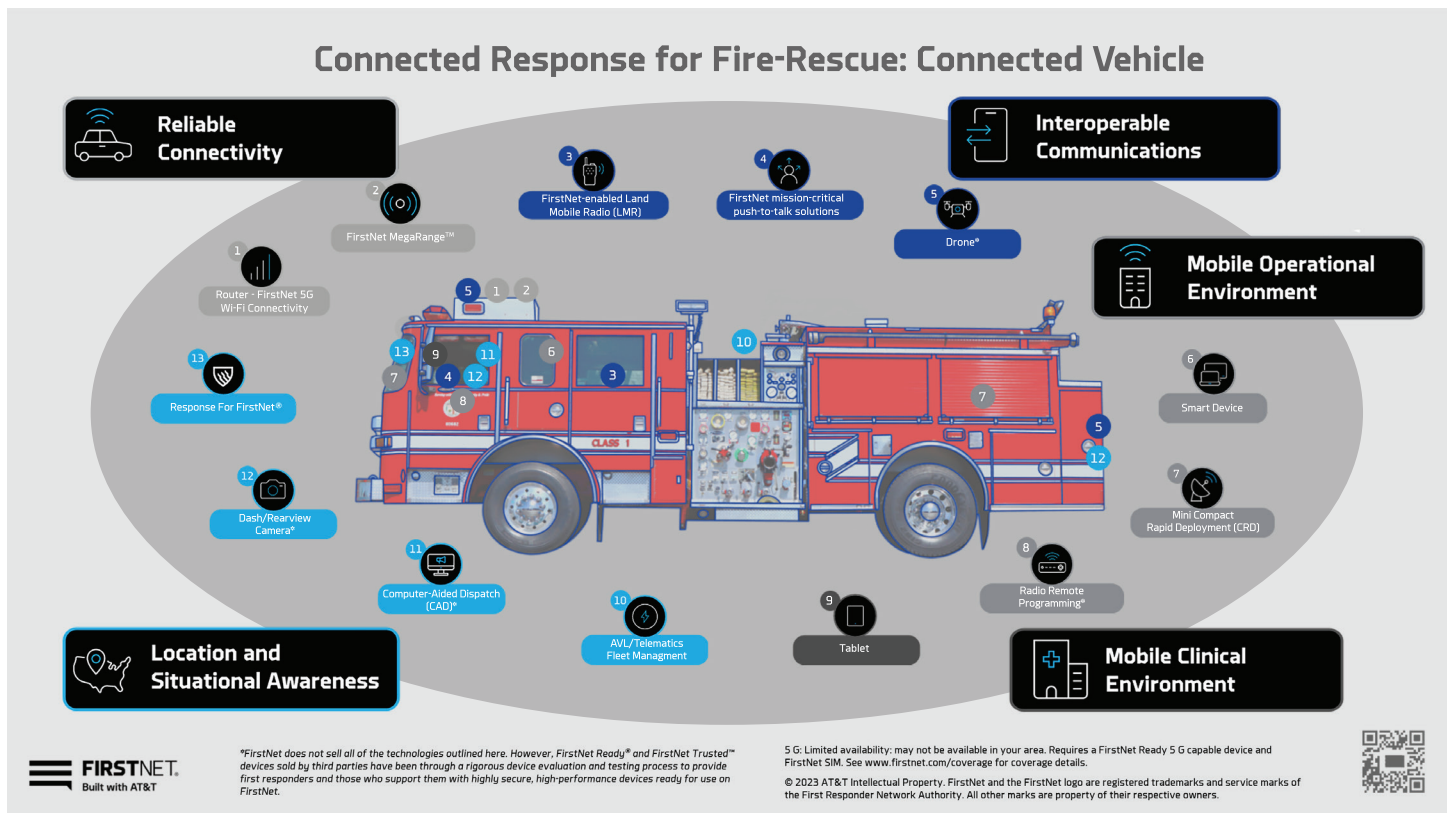
- Robust, prioritized and highly secure connectivity
- The ability to share information — video, photos, data, text and voice — in near real-time across agencies, regions and jurisdictions
- A mobile operational and clinical environment that delivers data to support decision-making and improve efficiency
- Greater insight into firefighters' health and wellness

Whether you choose one Connected Vehicle/Connected Responder technology or the whole suite, you'll be helping your staff do their job more safely and effectively.

## **Core Technologies for Connected Response**

While fire-rescue agencies can and should choose only the solutions that will most benefit their personnel, these four solutions are the foundation of Connected Response for Public Safety on FirstNet and often a good place to start:

- FirstNet-enabled Land Mobile Radio (LMR)
- FirstNet-connected smart device with mission critical push-to-talk
- FirstNet-enabled Router with 5G Wi-Fi Connectivity
- FirstNet MegaRange™



In an age of dwindling resources and ongoing staffing and retention challenges, Connected Response for Public Safety illustrates how incorporating innovative technology can help enable fire safety agencies do more with less.

## Reliable Connectivity

**1. FirstNet MegaRange™:** Exclusive to FirstNet, this high-power user equipment (HPUE) solution helps boost the signal at the edge of coverage, no matter where a fire is being fought—in wildlands or a rural or urban area with poor cell reception. For EMS functions such as cardiac monitoring, FirstNet MegaRange can help staff receive updates about hospital status and send and receive prehospital instructions.

**2. FirstNet-enabled Router with 5G Wi-Fi Connectivity:** Providing connectivity for nearly every aspect of the Connected Vehicle, the router enables the communication of status changes, runs your computer-aided dispatch (CAD) and records management system (RMS), and connects to the Knox Box. Personnel can also use the router to access electronic patient records (ePCRs).

## Interoperable Communications

**3. FirstNet-enabled Land Mobile Radio (LMR):** In augmenting your existing LMR, this technology delivers nationwide coverage and push-to-talk capabilities that allow for far greater interoperability. The FirstNet LMR also extends the capability of medical radio systems used for prehospital alerts and medical direction.

**4. FirstNet mission-critical push-to-talk solutions:** Collaboration with your team and other companies is made much easier with the sharing of video, images, data, text, voice (1-to-1 or 1-to-many/talk groups), location and more — all of which improve operational effectiveness and firefighter safety. FirstNet push-to-talk solutions on your smart device allow for the fast, seamless set-up of communications for any group responding to a scene (including mutual- and automatic-aid situations), and when it's time to file the incident report or hotwash, the necessary documentation is at your fingertips.

**5. Drone\*:** Connect to a drone sent up to provide situational awareness of a fire or other incident and stream video footage to incident command, using that information to provide operational insight.

## Mobile Operational Environment

**6. Smart Device:** Enables video, voice and text communication. Even in areas with minimal connectivity, the FirstNet-enabled smart device can still be used to communicate and with the lift provided by FirstNet MegaRange high-powered user equipment, can boost signal strength up to six times normal cellular power.

**7. Mini Compact Rapid Deployable (CRD):** This satellite-based deployable creates a mobile operational environment through which firefighters can set up wi-fi to connect through the FirstNet router.

**8. Radio Remote Programming\*:** Delivers the ability to remotely program a radio, eliminating the need to manually program individual radios. This saves valuable time and effort in, for example, a mutual-aid situation with an immediate need to align with another jurisdiction's radio system.

## Mobile Clinical Environment

**9. Tablet:** The FirstNet-supported tablet enables many functions for fire departments that provide EMS. You can use the device to track patient vital signs, transmit 12-lead EKG and cardiac monitor defibrillator data, communicate with EDs, and contact medical control for advanced airway management, trauma and pediatric care and more. If your firefighters wear a smartwatch to track their vital signs, the tablet can also show whether a firefighter is incapacitated and needs to be extricated.

When connected through the FirstNet network, the tablet can also be used for a wide range of applications that provide critical information to firefighters when they arrive on-scene, including checking personnel into and out of an incident (accountability tracking), sharing information with the incident commander, tracking fire inspections, conducting building surveys and interior mapping of buildings, providing building maps to see shut-off locations and alarm panels, and much more. Video captured by a firefighter's helmet camera and displayed on the tablet improves situational awareness and the footage can help inform an incident commander's operational strategy to deploy his/her crew in the most effective and safe manner.





## Location and Situational Awareness

**10. AVL/Telematics Fleet Management:** By providing vehicle location information, this technology enables the dispatch of the closest unit to an incident, reducing response times. Telematics information can be delivered to leadership to monitor the need for maintenance on vehicles and provide information for accident reconstruction purposes. Other benefits of fleet management include reducing idle times, monitoring vehicle performance and various safety features, such as seatbelt sensors for improved firefighter safety.

**11. Computer-Aided Dispatch (CAD)\*:** With a single push of a button, the company officer can indicate that a vehicle has arrived on-scene or ended service, making it easy to track and report vehicle status, and prompt accountability/wellness check for personnel.

**12. Dash/Rearview Camera\*:** Provides critical guidance for maneuvering the fire engine as well as recording any traffic incidents that occur while driving.

**13. Response for FirstNet®:** This app functions as a mobile situational awareness platform for day-to-day and emergency operations. It delivers near real-time mapping of the location of all team members (both X and Y coordinates as well as Z/vertical location), enables the sharing of information between and among groups, and facilitates the coordinated mobilization of teams.

*\*FirstNet does not sell all of the technologies outlined here. However, FirstNet Ready® and FirstNet Trusted™ devices sold by third parties have been through a rigorous device evaluation and testing process to provide first responders and those who support them with highly secure, high-performance devices ready for use on FirstNet.*

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## FirstNet® Connected Responder for Fire-Rescue

While there's a lot a connected vehicle can do, true connectivity means extending capability *beyond* the fire apparatus — enabling firefighters to serve safely and effectively no matter where the job takes them.

That's where Connected Responder comes in. These 7 solutions help you:



Deliver remote, prioritized connectivity to communicate critical information in near real-time.



Use technology to keep firefighters safer, acting as a force multiplier in times of inadequate staffing or other resource limitations.



Make the firefighter's job — from administrative duties to aiding a neighboring jurisdiction — easier, simpler and faster.



## Interoperable Communications

**1. FirstNet-enabled Land Mobile Radio (LMR):** Allows the firefighter to use FirstNet network connectivity whenever and wherever they need to, including in times of mutual aid outside their service area.

**2. FirstNet mission-critical push-to-talk (PTT) solutions:** Building on the extended range provided by FirstNet, this technology allows for the sharing of video, images, data, text, and voice to make collaboration both within and beyond your team easier, faster and more reliable. Firefighters and fire-rescue leaders can immediately see the scale and extent of a fire or emergency scene, allowing for faster decision-making and resource allocation. An action plan can then be sent immediately and simultaneously to all team members. If a firefighter doesn't have a body-worn camera, these solutions can transmit video through their smart device. Using PTT during emergencies frees up space on your LMR channel for critical communication, while still allowing personnel to communicate.

## Mobile Operational Environment

**3. Tablet:** Useful for a wide range of operational needs, the tablet can be used to enter ePCR data, access CAD and RMS information, view drone footage and patient vital signs and monitoring, track firefighters during an incident, log fire inspections, manage staffing, and access information about hazardous materials, among other uses. In the future, leaders will be able to monitor the air level in a firefighter's SCBA equipment and pass device to ensure their safety.

## Health and Wellness

**4. Smart Detection\*:** While not widely available yet, these tools will enable tracking of indicators such as the Connected Responder's oxygen levels, location and building temperature. Incident command can then determine in near real-time whether a firefighter is at risk and should be extricated.

**5. Smart Watch\*:** Allows for the monitoring of firefighter vital signs such as heart rate and blood pressure in situations of extreme exertion.

## Location and Situational Awareness

**6. Helmet Camera\*:** Camera footage from the helmet improves situational awareness that reduces risk for firefighters, delivers critical information to an incident commander (via a tablet or other smart device) and can provide evidence in the event of litigation. Eventually, more firefighters will be able to transmit other data such as thermal imaging measurements through cameras like these.

**7. Response for FirstNet:** This mobile situational awareness app gives firefighters access to near real-time mapping of the location of all team members, enables information-sharing and facilitates the coordinated mobilization of teams.

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To learn more, go to **[firstnet.com/connectedresponse](https://firstnet.com/connectedresponse)**,  
or contact your **FirstNet Solutions Consultant**.