NEWCOM
Tech Forward, Future Ready

White Paper

Maine EMS Connectivity project

MAINE EMS

Executive Summary

PROJECT OVERVIEW

Maine Emergency Medical Services (EMS) launched a federally grant-funded connectivity project to equip every licensed EMS vehicle in the state with high-speed Internet, on-scene Wi-Fi capabilities, emergency vehicle alerting to other motorists, and positioning support for computer-aided dispatch (CAD) integration.

The Maine EMS Connectivity project is designed to address evolving needs of a people -centric EMS system. Working with NEWCOM, Maine EMS can future proof the connected fleet and enable enhanced in-home care. The proposed solution covers all aspects of modernizing emergency vehicles with the right equipment, professionally installed and supported by industry experts.

INTRODUCTION AND BACKGROUND

The state of Maine EMS received grant funding from the U.S. Department of Transportation through the Bureau of Highway Safety to begin the Maine EMS Connectivity project. The installation for this project was granted to NEWCOM, a statewide contractor that holds a Master Service Agreement with the state of Maine.

NEWCOM's contract with the state of Maine allows tech variations of each ambulance based on what is needed to reach the desired level of connectivity. In alignment with the National Roadway Safety Strategy adopted by the U.S. Department of Transportation, Maine EMS was granted the funds to support this project to create safer people, roads, vehicles, and speeds and improve post-crash care.

The Challenge

PROBLEM DESCRIPTION

The state of Maine was in need of connectivity and technology upgrades for their emergency medical services and finding funds to support the program.

> “This is such an exciting project, our team at Maine EMS is very pleased with the progress that has been made so far. Improved connectivity enhances our ability to deliver the best in pre-hospital care, and it is a key component of our 2035 Plan for a Sustainable EMS System in the state of Maine.” - Wil O’Neal, Maine EMS Director

PILOT PROJECT

In 2023, the University Volunteer Ambulance Corps (UVAC) ambulance received donated equipment and technology. The technology upgrades to the UVAC’s ambulance not only made it safer to operate, but also provided better patient care and more effective communication from first responders to medical facilities where patients are being transported. It also makes the University of Maine’s volunteer ambulance service even more unique in the area.

> The fleet modernization for Maine EMS is not only enhancing connectivity and access to real-time information, it is creating an environment for mutual aid and increased efficiency, statewide.
>
> This will ultimately translate to improved patient satisfaction, streamlined dispatching, and overall safer communities”, said Jim Carman of NEWCOM.

“

In addition, the modem and Internet connections alert oncoming traffic through Waze, Apple maps, and other in-vehicle map solutions when the ambulance is incoming so they can make room. This safety feature helps the community and also the emergency responders”, said UVAC Chief of Service Aiden Koplovsky.

PILOT PROJECT RESULTS

The first upgrades in 2023 included 360° cameras installed on the left and right sides and the back of the UVAC ambulance. These cameras allow the driver to gain a bird’s eye view of the entire surroundings as well as back up and side view cameras in real time. This improvement increases pedestrian safety, and also reduces the amount of damage to ambulance bays and other property. Since its installation earlier this year, the ambulance has had zero incidents.

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The 360° cameras have allowed us to increase safety by decreasing accidents and collisions,” Koplovsky said. “We have a driver’s safety course for our ambulance drivers and it has been hard to teach [new] drivers the size of the ambulance and where it exists spatially. This new technology enables us to improve our driver’s training into an even more robust program.”

The technology improvements being made to UVAC’s ambulance will not only meet a need seen in Maine by local Emergency Medical Services, but it also acknowledges what patients and providers needing quicker, more accurate transmission of medical treatments to ensure better patient outcomes.

Emergency medical services have been on the forefront of legislators’ minds, the UVAC chief noted. The Legislature recently convened a blue ribbon commission (LD 1988) to study EMS services in the state.

Proposed Solution

MOVING FORWARD

This project seeks to connect all licensed EMS vehicles in the state of Maine to high-speed Internet using a high-gain roof-mounted antenna and FirstNet service by AT&T. This capability will also support the ability for ambulances to broadcast a Wi-Fi signal in and around the ambulance, including in homes (depending on distance and construction materials), that will facilitate greater access to online medical control, telemedicine, and the Internet.

TECHNICAL SPECIFICATIONS

Safety Cloud alerts motorists of a nearby or approaching emergency vehicle through leading navigation apps like Waze or Apple Maps and through compatible in-vehicle infotainment centers, such as 2018 and newer models of Chrysler, Dodge, Jeep, and Ram vehicles. The next phase of this project will have roadway messaging signs across the state of Maine alerting drivers about an ambulance responding on the side of the road up ahead. Digital alerting services like Safety Cloud have been proven to reduce the risk of collision by up to 90 percent, which has the potential to drastically improve the safety of EMS calls that require clinicians to operate on or near the roadway.

NEWCOM, the statewide contractor, with bonded and insured dedicated installers is responsible for installing these devices in EMS vehicles across the state.

Maine EMS's grant funding will pay for the purchase and installation of the following items:

- **Ericsson Cradlepoint Router**
- **High-Gain, Roof-Mounted Antenna**
- **FirstNet service by AT&T**
- **Safety Cloud**
- **Forward Thinking IntelliHub fleet management platform**
- **Supplies necessary for installation**

Benefits of Project

TARGET MARKETS AND PROCESS

NEWCOM's contract with the state allows variation for each unit based on what is needed to reach the desired level of connectivity. Therefore, NEWCOM can perform upgrades to existing equipment if desired. All organizations with emergency vehicles that wish to outfit with this technology (e.g., fire apparatus, law enforcement vehicles, snowplows, etc.) can utilize the Master Service Agreement with the state of Maine that is accessible to local governments. NEWCOM's process involves an installation plan that includes hardware design, installation, programming, in-vehicle en-route notification triggers, detailed vehicle, and agency to commission each ambulance.

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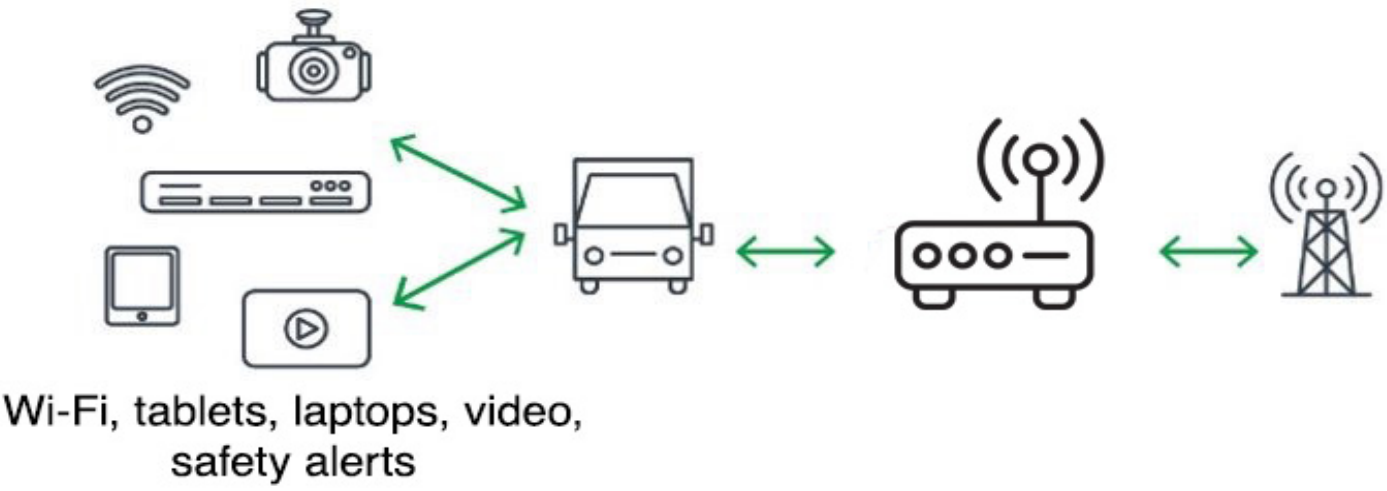


Tech Solution

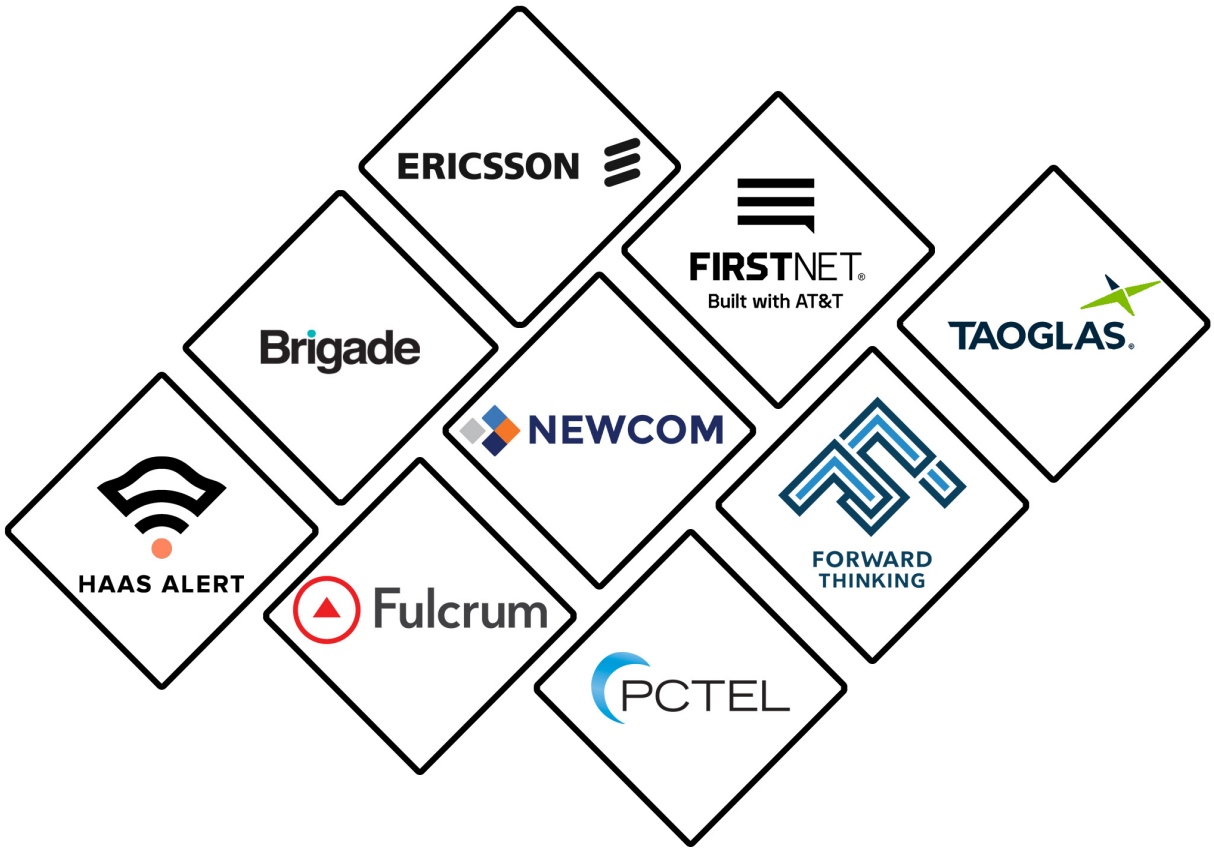
PARTNER ECOSYSTEM

NEWCOM will support Maine EMS in procurement, design, deployment, integration, and installation of a turn-key connected solution for emergency vehicles. This project seeks to connect all licensed EMS vehicles in the state of Maine to high-speed Internet using a rugged vehicle router with Wi-Fi, high-gain roof-mounted antenna, and FirstNet service by AT&T.

The project has a rugged vehicle router with wireless WAN for secure, reliable, cellular connectivity. Ericsson Cradlepoint router plays a crucial role in gathering and transmitting vital data before, during, and after service calls, ensuring seamless communication and coordination.

HAAS Alert Safety Cloud software is being used for the project for real-time digital alerts that prevent collisions by informing drivers and other public safety agencies of their presence.

The project has Forward Thinking Systems' IntelliHub fleet management platform to perform GPS tracking to capture vehicle location, movements, and status in real-time. Along with Brigade 360° cameras, forward facing dash cameras and backup alarms have been approved for the use on EMS vehicles to improve safety and security of both the EMS team and the surrounding public.



Summary

IN CONCLUSION

NEWCOM is at the forefront of advanced modernization of technology for emergency medical services (EMS) in the state of Maine through the Maine EMS Connectivity project. Director of Maine EMS, Wil O'Neal, recognizes the profound impact this technology will have on enhancing patient care throughout the state. By leveraging cutting-edge connectivity solutions provided by NEWCOM, EMS teams will be empowered with real-time access to critical information and resources, enabling them to deliver more efficient and effective care to those in need. The state of Maine EMS Connectivity project consist of 550 EMS vehicles across 309 agencies.

O'Neal emphasizes the significance of this initiative in advancing EMS capabilities and looks forward to future improvements that will further elevate the quality of emergency medical services across Maine. Video interview: Wil O'Neal, Maine EMS Director

The technology improvements increases pedestrian safety, and also reduces the amount of damage to ambulance bays and other property. Maine has 5,063 volunteers and career licensed EMS personnel with 85 Emergency Medical Responders (EMRs) and 2,631 Emergency Medical Technicians (EMTs); in addition to 878 Advance Emergency Medical Technicians (AEMTs) and 1,469 Paramedics. There are "nearly 300,000 EMS calls that occur every year in Maine[1]." Some EMS services, not licensed by Maine EMS, also use a number of people as vehicle operators to drive safely to the scene and to the hospital. The real-time access to critical information and resources, enables them to deliver more efficient and effective care to those in need.

If you have existing technology but are interested in upgrading your equipment or expanding the capacities of your equipment under this opportunity, don't hesitate to complete the interest form through Maine EMS. Complete Maine EMS Connectivity Project Interest Form

Reference[1]: Maine EMS. Retrieved from https://www.maine.gov/ems/home

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