



ERICSSON

5G on the front lines: Emergency medical services



Why reliable connectivity is vital for emergency medical services

Emergency medical services (EMS) are operating in an increasingly complex environment, with factors such as recruitment challenges, limited resources, and growing demand for services adding additional pressures.

Increased pressure on EMS departments is impacting their ability to assist the public – for example, over 3,500 calls per day to emergency services are missed by paramedics in England.¹ At the same time, there has been a marked increase in demand for emergency services, with the number of serious calls for ambulance assistance rising by 34 percent between September 2019 and September 2025.² This rising demand is even more concerning considering that many departments are struggling with recruitment. In the US, for example, 65 percent of agencies say they've seen a reduction in applications for EMS roles.³

When resources are stretched and the pressure is high, inefficiencies must be addressed. First responders in the medical field increasingly view technology

as a key enabler in their roles, with 73 percent saying they believe that access to a reliable and resilient network is vital during emergencies.⁴ Inefficient, outdated systems can also pose issues, with 76 percent of public safety professionals stating that legacy systems hinder operations and can consume up to 70 percent of their IT budgets.⁵

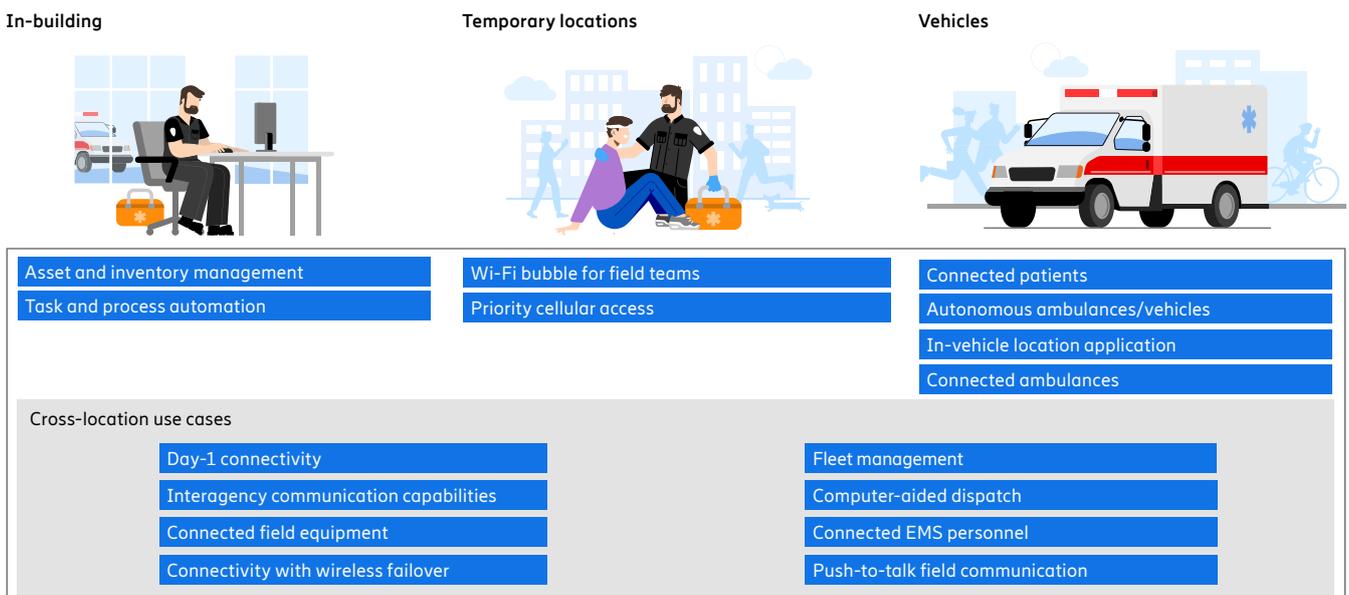
Use cases that offer value

This report explores research conducted on behalf of Ericsson⁶ into the benefits that wireless technologies can bring to EMS departments. Wireless technology can make a tangible difference in three key locations: "in-building," "temporary locations," and "vehicles," with this report focusing on the latter two.

Almost half of the identified use cases can be scaled across multiple locations, including: interagency communication capabilities, connectivity with failover, push-to-talk field communication, and connected EMS personnel. These solutions create seamless data sharing and coordination between the department, the vehicle, and the incident site, ensuring that every part of the EMS network remains synchronized and fully prepared to respond to medical emergencies.

These help EMS departments adapt to changing conditions, maintain operational resilience, and do more with existing resources amid high demand and stalled recruitment.

Figure 1: EMS department digital transformation opportunities from Enterprise Wireless Solutions



¹ [The Guardian, Ambulance crews stuck at A&E miss thousands of 999 calls a day in England \(12 January, 2025\).](#)

² [House of Commons Library, NHS key statistics: England \(14 October, 2025\).](#)

³ [NAEMT, Rethinking Emergency Medical Services \(10 February, 2025\).](#)

⁴ [Verizon Frontline 2025 Public Safety Communications Survey.](#)

⁵ All statistics in this report are from Arthur D. Little research on behalf of Ericsson, based on a theoretical, typical small-to-mid-sized EMS department in the US with an annual budget of USD 35 million. The department employs 200 full-time employees, 135 of which are emergency medical technicians and paramedics, and responds to 50,000 calls annually.

Use place: Temporary locations

Ad-hoc or event-driven deployments, such as field hospitals, disaster zones, and large public gatherings, all fall into the category of temporary locations. Strong collaboration between teams and team members is vital at these often-unpredictable use places.

Providing medical assistance out in the field at temporary locations often means dealing with rapidly evolving situations. Coordination, both between team members and across teams, must be instantaneous to ensure that resources are directed to where they're needed most. In fact, multidisciplinary teamwork has been shown to boost patient outcomes by 28 percent,⁷ so reliable communication and situational awareness are absolutely key.

The research conducted on behalf of Ericsson shows that key use cases and benefits hinge on interagency communication capabilities.

- This use case strengthens first responders' ability to share vital information quickly and reliably across multiple disciplines, increasing EMS crews' situational awareness and improving safety and continuity of operations.
- During a traffic incident, real-time data sharing and integrated coordination procedures can reduce overall incident response time by 30 percent.⁸
- For the typical EMS department, this results in an average response time reduction of approximately 2.3 minutes per traffic incident – equating to around 47 hours saved annually.

- These faster response times also decrease the likelihood of secondary crashes by around 6.5 percent. In practical terms, this could translate to avoiding up to 81 secondary crashes annually, generating societal cost savings of roughly USD 31 million.

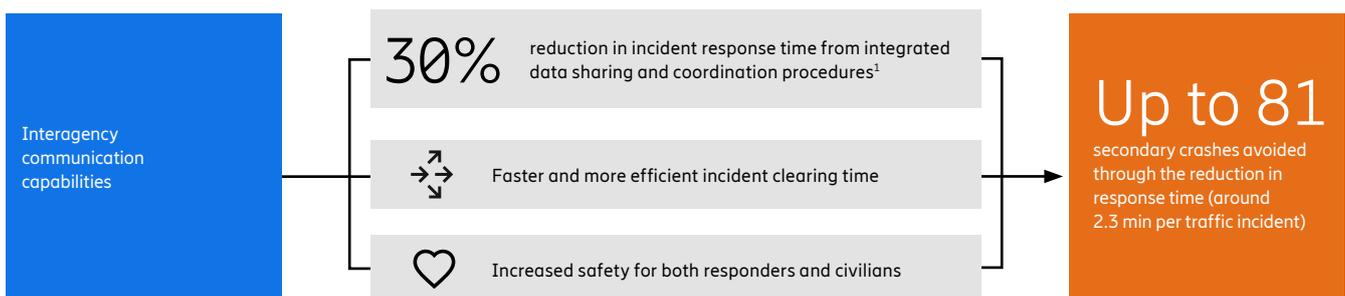
Stronger coordination between agencies can lead to measurable improvements in terms of productivity gains and budgetary savings. For example, looking closely at just the savings generated through avoiding secondary crashes, the typical EMS department could save

USD 101,000 against its annual budget of USD 35 million – and that's without considering the societal cost saving and clear benefits for the public from there being fewer injuries and less property damage.

The efficiencies gained from data-driven decision making and real-time situational awareness across agencies could translate to other operational benefits, such as shortening the duration of incidents, reducing the number of unnecessary resource deployments, and reducing the costs associated with overtime and staff fatigue.



Figure 2: Operational benefits of the interagency communication capabilities use case at temporary locations



⁷ National Library of Medicine, [Interprofessional Learning in Multidisciplinary Healthcare Teams Is Associated With Reduced Patient Mortality: A Quantitative Systematic Review and Meta-analysis \(2024\)](#).

⁸ U.S. Department of Transportation, [Integrating Computer-Aided Dispatch Data with Traffic Management Centers](#).

Use place: Vehicles

EMS vehicles, including ambulances and rapid response units, not only function as the means of transporting personnel to incidents, but also as the location of emergency medical aid and patient data gathering.



Reliable communication – and the avoidance of miscommunication – is critical in EMS vehicles, whether travelling to a callout, attending an incident, or transporting a patient for further treatment. Studies show that miscommunication is a significant challenge in emergency medical situations, contributing to around 80 percent of fatal medical errors.⁹

One of the main requirements for this use place is continuity of care. Patient monitoring, treatment, and data transfer

must remain uninterrupted throughout the journey. Studies have shown that during the handover of trauma patients, up to 30 percent¹⁰ of critical information may be lost, highlighting the need for systems that facilitate effective communication in stressful situations.

Key use cases and benefits for vehicle use places identified in the research for Ericsson include:

Fleet management

- Optimizes vehicle performance and readiness through real-time tracking and predictive maintenance, giving command full visibility over vehicle status, location, and availability.
- For Priority 1 calls (around 66 percent of all calls), there is a critical window of 8 minutes where the likelihood of mortality decreases by around half.¹¹ With smarter fleet utilization and data-driven routing, ambulances can increase the number of incidents reached within 8 minutes by 8.7 percent in urban areas and 10.5 percent in rural areas.¹²

⁹ [Pulsara, Connected Emergency Services.](#)

¹⁰ [Joint Commission Journal, "Handoffs and Teamwork: A Framework for Care Transition Communication" \(July 25, 2022\).](#)

¹¹ PubMed.

¹² IISE Transactions.

Connected field equipment

- Enables real-time monitoring of equipment usage, readiness and condition.
- This approach has been shown to deliver up to 40 percent higher resource utilization,¹³ enabling teams to keep 63 additional pieces of equipment in active circulation without expanding their fleet. The result is a 22 percent increase in available equipment capacity.

Connected patients

- Enables secure, real-time transfer of patient data from ambulance to hospital, giving clinicians data about vital signs and updates before arrival and enabling them to prepare treatment in advance.
- Transmitting 12-lead ECGs in real time during transport enables cardiologists to diagnose and begin treatment before the patient arrives. This can reduce mortality from severe heart attacks by up to 47 percent¹⁴ and – for a typical EMS department – save about 18 additional lives per year.

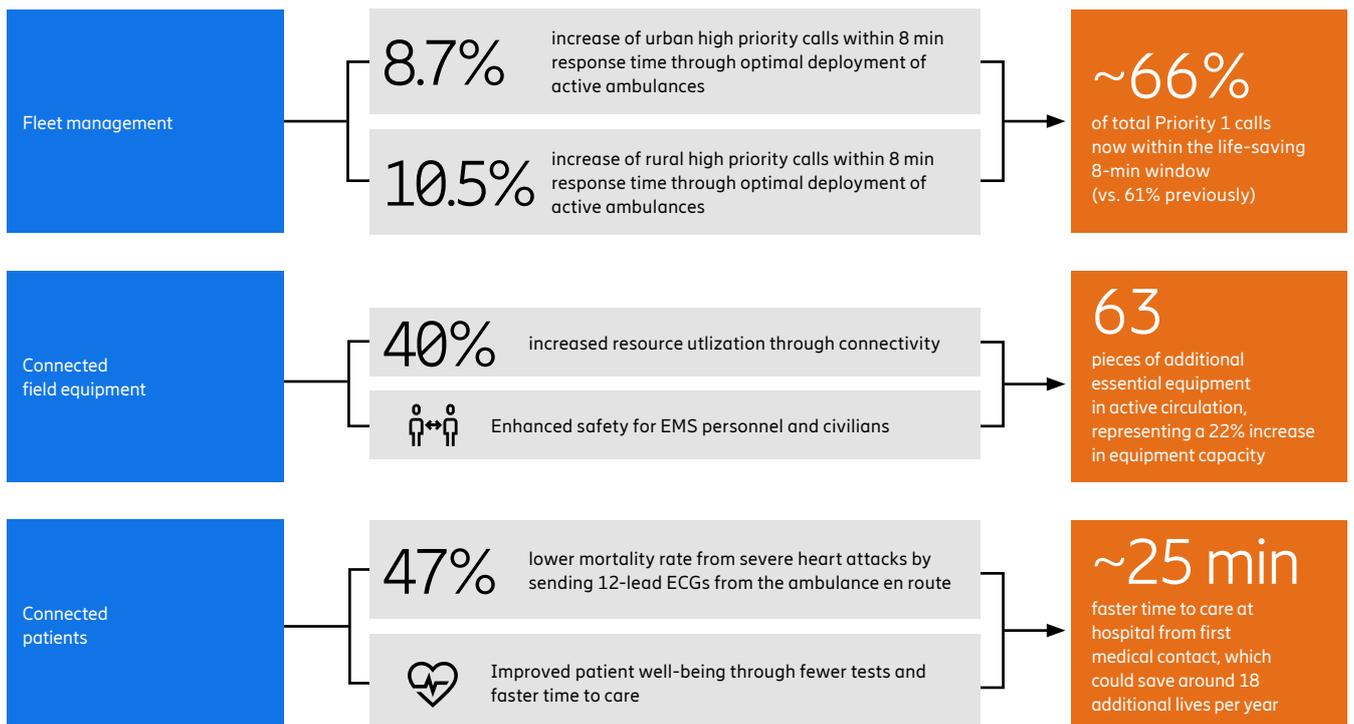


Through predictive maintenance and better asset planning, fleet management could save the average EMS department around USD 241,000 annually, with further savings possible through reduced fuel consumption, decreased vehicle wear and tear and fewer downtime events.

Connected field equipment could save USD 127,000 annually, equivalent to nearly USD 1.3 million avoided capex over the equipment’s lifetime. The fleet management and connected field equipment use cases together save around 1 percent of the annual budget, equivalent to the cost of around five new emergency medical technicians or two new ambulances.

To find out more about Ericsson Enterprise Wireless Solutions, visit cradlepoint.ericsson.com

Figure 3: Operational benefits of the fleet management, connected field equipment, and connected patient use cases in vehicles



¹³ IDC.

¹⁴ CJC Open; Arthur D. Little; Ericsson.

About Ericsson

Ericsson's high-performing, programmable networks provide connectivity for billions of people every day. For nearly 150 years, we've been pioneers in creating technology for communication. We offer mobile communication and connectivity solutions for service providers and enterprises. Together with our customers and partners, we make the digital world of tomorrow a reality.

www.ericsson.com