



**PROTECT YOUR CREWS AND PATIENTS  
WITH SEAMLESS CONNECTIVITY  
ALWAYS CONNECTED, EVERYWHERE.**

## THE CHALLENGE: WHEN EVERY SECOND COUNTS, CONNECTIVITY CAN'T FAIL

For ambulance services, reliability isn't a luxury, it's life critical. Crews depend on uninterrupted connectivity for voice, data, and patient telemetry while on the move. A momentary network drop can delay hospital notifications, interrupt vital data streams, or disrupt coordination with control rooms.

Across the UK, ambulance trusts manage thousands of emergency responses daily. Studies by the National Audit Office (NAO) and Ambulance Leadership Forum show that even a 60-second delay in digital dispatch or data transfer can increase patient risk by 15%.

In New South Wales, Australia, regional ambulance services report losing network coverage in over 12% of rural callouts, forcing crews to revert to legacy radio channels, a stark reminder that connectivity failures directly affect patient outcomes.

As ambulance networks evolve from narrowband to broadband communications, the demand is clear: resilient, interoperable, and cost-efficient systems that work everywhere, without compromise.

## KEY CHALLENGES FOR AMBULANCE SERVICES

### COVERAGE GAPS AND UNRELIABLE CONNECTIVITY



#### CHALLENGE

Ambulances operate across urban, rural, and remote regions with handover blackspots

#### IMPACT

Interrupted data transfer and voice communication between vehicles, dispatch, and hospitals.

#### SIMOCO RESPONSE

Simoco offers a multi-bearer platform with LTE/5G, Wi-Fi, satellite, and LMR support ensuring sub-second failover and 99.999% uptime through Simoco's InStream SD-WAN resilience.

### FRAGMENTED VEHICLE COMMUNICATION SYSTEMS



#### CHALLENGE

Multiple devices for voice, broadband, telematics, and medical data increase complexity and maintenance costs.

#### IMPACT

Disjointed communications and inefficiency during emergencies.

#### SIMOCO RESPONSE

A single modular platform integrating radio (TETRA, DMR, P25), LTE/5G, Wi-Fi, CANbus, and Ethernet, consolidating all connectivity functions into one chassis.

## DATA TRANSMISSION AND TELEMEDICINE RELIABILITY



## CHALLENGE

Ambulance crews increasingly rely on real-time patient data (ECGs, video, vitals) that require stable, high-bandwidth links.

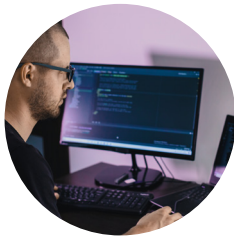
## IMPACT

Data dropouts or lag can hinder hospital pre-alerts and remote clinician assistance.

SIMOCO  
RESPONSE

Providing ambulance crews a continuous, low-latency broadband connectivity across all bearers, ensuring reliable streaming and secure transfer of patient data to hospital systems.

## COMPLIANCE, CYBERSECURITY, AND DATA SOVEREIGNTY



## CHALLENGE

Handling sensitive health and location data requires compliance with GDPR, Australian Privacy Principles, and NHS cybersecurity frameworks.

## IMPACT

Risk of data breaches, operational downtime, and legal exposure.

SIMOCO  
RESPONSE

We offer end-to-end encrypted communications (AES-256 GCM), secure boot, and integrity verification. Centralised management enables proactive patching and policy enforcement, supporting ETSI and 3GPP standards.

## INTEGRATION WITH DISPATCH AND HOSPITAL SYSTEMS



## CHALLENGE

Ambulance systems often lack seamless integration with CAD (dispatch), AVL, and hospital EMR systems.

## IMPACT

Duplication of effort and delayed transfer of patient data.

SIMOCO  
RESPONSE

Our platform provides an API enabling smooth integration with existing dispatch, AVL, and clinical systems, ensuring data continuity from field to hospital.

## POWER MANAGEMENT AND SYSTEM RESILIENCE



## CHALLENGE

Cold crank and high electrical loads from routers, monitors, and diagnostic equipment strain vehicle power systems.

## IMPACT

Reboots, brownouts, or data loss during patient transport.

SIMOCO  
RESPONSE

Dual power supply, built-in UPS, and power-efficient PSU design maintain uninterrupted operation even under fluctuating voltage conditions.

## OPERATIONAL DOWNTIME DURING UPGRADES



## CHALLENGE

Replacing or updating communication systems across fleets disrupts operations.

## IMPACT

Extended downtime and inconsistent configurations

## SIMOCO RESPONSE

Centralised firmware management, modular 5G upgrade cards, and remote configuration reduce rollout time and eliminate service interruptions.

## PROTECT YOUR CREWS AND PATIENTS WITH SEAMLESS CONNECTIVITY

The Simoco VR950 is the heart of next-generation ambulance communications.

It unifies mission-critical voice, broadband data, and CAD applications into one always-on platform that keeps every vehicle connected, every patient monitored, and every decision informed.

Powered by InStream SD-WAN, the VR950 simultaneously manages multiple bearers, ensuring that as an ambulance moves from urban to rural zones, data never stops flowing. From patient vitals to vehicle telemetry and hospital links, everything stays live and secure.

By consolidating communications into one intelligent hub, ambulance services gain measurable efficiency. In one UK example, Simoco technology delivered a 2% operational efficiency improvement, saving the equivalent of two ambulances in a 100-vehicle fleet, more than £1.2 million in cost reduction over the deployment cycle.

## THE INTELLIGENT VEHICLE AS A NODE (IVAAN)

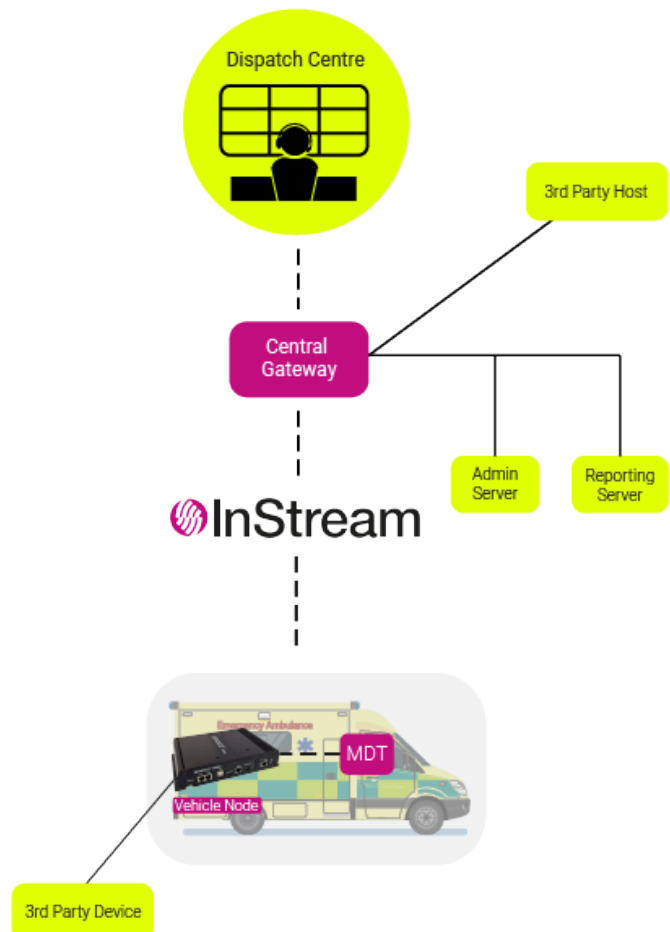
Modern ambulances are mobile command and care units.

The VR950 transforms each one into a connected data node — integrating cellular, Wi-Fi, satellite, power management, and telematics into a unified, intelligent system.

Through this convergence, ambulance fleets benefit from:

- Real-time dispatch and navigation updates.
- Live streaming of patient telemetry and video.
- Smart power management with built-in UPS.
- Cloud analytics for fleet performance and readiness.

This intelligent vehicle architecture allows paramedics and fleet managers alike to make faster, data-driven decisions, improving patient outcomes and operational safety.



## KEY FEATURES & BENEFITS



### CAD INTEGRATION READY

API-driven architecture tailored to customer CAD systems.



### API GATEWAY

Enables integration with CAD, AVL, and EMR systems.



### REAL-TIME TELEMETRY & DATA STREAMING

Reliable patient monitoring and remote diagnostics systems.



### VEHICLE POWER MANAGEMENT

Dual power inputs, UPS, and brownout protection.



### SECURE BY DESIGN

AES-256 encryption, secure boot, and standards-based compliance.



### CENTRALISED MANAGEMENT

Remote updates, configuration, and monitoring.



### MULTI-BEARER RESILIENCE

Seamless transition across LTE, 5G, Wi-Fi, LMR, and satellite for 99.999% uptime.



### MODULAR DESIGN

Field-upgradable framework supporting future broadband evolution.



### BESPOKE ENGINEERING

Custom solutions built for ambulance use cases.



### LONG-TERM SUPPORT

7–10 years manufacturer-backed lifecycle coverage.

## WHY SIMOCO

Simoco has supported emergency communications for over seven decades, helping ambulance, police, and fire services remain connected when it matters most.

The VR950 continues that legacy, combining resilience, flexibility, and innovation into a single platform designed for the future of mobile healthcare response.

Whether modernising dispatch systems, upgrading to broadband, or streamlining fleet communications, Simoco provides the proven reliability, support, and integration expertise that ambulance services can depend on.

## BOOK A VEHICLE DEMONSTRATION

Discover how the Simoco VR950 transforms your ambulance fleet into a connected, compliant, and mission-ready network. Always on, always secure, always saving lives.

