



CASE STUDY

## England and Wales NHS Trusts Ambulance Radio Programme

Panasonic TOUGHBOOK chosen for ambulances across England and Wales as part of a major technology refresh

**Client: Ambulance Radio Programme**

Location: England and Wales

As part of the nationwide Ambulance Radio Programme (ARP), Ambulance Service Trusts across England and Wales are undergoing a significant technology refresh to increase efficiency and patient safety. Panasonic TOUGHBOOK devices will be used by every Trust in England and Wales in rapid response vehicles and dual crewed ambulances.

*"The crystal clear display and mapping solution has received great feedback from our frontline ambulance crews, enabling them to pinpoint the incident location with far greater accuracy. Ultimately, the roll-out has led to fewer vehicles off the road due to hardware failures, with increased uptime leading to better patient safety."*

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**Stuart Murphy**

Senior Programme Manager  
Ambulance Radio Programme

[The \(ARP\)](#) delivers crucial technological solutions across the UK, such as patient transportation applications, to ensure effective communications between Ambulance Service Trusts, the NHS, and other frontline emergency responders.

The programme is upgrading legacy mobile communications devices that are nearing end-of-life for all 12 NHS Ambulance Service Trusts across England and Wales, serving approximately 50 million people. Starting in April 2023, this programme involves the installation and maintenance of advanced radio and data equipment in more than 6,500 dual crewed ambulances (DCAs) and rapid response vehicles (RRVs), as part of the ARP's Mobile Data Vehicle Solutions (MDVS) roll-out.

Every Ambulance Service Trust in England and Wales is included in the ARP roll-out, with Panasonic TOUGHBOOK rugged mobile solutions installed in every vehicle. The Trusts are: East of England Ambulance Service Trust (EEAS); East Midlands Ambulance Service Trust (EMAS); Isle of Wight Ambulance Service Trust (IOW); London Ambulance Service Trust (LAS); North East Ambulance Service Trust (NEAS); North West Ambulance Service Trust (NWAS); South Central Ambulance Service Trust (SCAS); South East Coast Ambulance Service Trust (SECamb); South West Ambulance Service Trust (SWAST); Welsh Ambulance Services Trust (WAST); West Midlands Ambulance Service Trust (WMAS); and Yorkshire Ambulance Service Trust (YAS).

A mix of Panasonic TOUGHBOOK seven-inch and 10-inch rugged tablet devices and custom vehicle mounts, procured by technology partner, Centerprise, are being installed in RRVs and DCAs as Mobile Data Terminals (MDTs), by mission critical technology providers, Terrafix and Telent.



## First-class connectivity

Mobile data company, Terrafox, is providing radio connectivity and the Terrafox Vehicle Router (TVR). Equipped with cellular and eSIM connectivity, the TVR enables the TOUGHBOOK devices to effortlessly communicate with control rooms over the current Airwave Network, and the future-proofed, replacement Emergency Services Network (ESN).

Terrafox and the ARP have also developed the National Mobilisation Application (NMA), enabling ambulance crews to access the most up-to-date and detailed mapping of England and Wales's rural and urban areas, including highly accurate road and address information, all through the in-cab TOUGHBOOK device. This is being rolled-out in tandem with the ARP's new standardised Control Room Solution (CRS) through the new LifeX application, provided by Frequentis, which delivers instructions directly to frontline ambulance crews across England and Wales.



## Tried and tested partnerships deliver best-of-breed technology

Panasonic's long-standing relationship with Centerprise, Terrafox, and Telent is delivering best-of-breed technology to all 12 Trusts.

The collaboration between each Trust and the partners has led to a standardised, yet flexible solution to be deployed nationally. Although based on the core solution, each deployment can be tweaked to each Trust's individual requirements to deliver additional tailored benefits.

A key reason for choosing Panasonic TOUGHBOOK devices with the Windows operating system, was the ability for additional functionality and applications to be easily developed for use on the devices as the programme's requirements evolve.

*"From the very start of the MDVS program, the detailed requirements were extremely complex and posed a huge challenge to any company trying to meet what was asked. The program is split across several contracts, primarily software and hardware, which meant the interactions had to be seamless; Terrafix was chosen as the Systems Design Authority for both major contracts. From the beginning, deciding to collaborate with several suppliers was fundamental. Based on the specifications and the track record of working with Panasonic over the years, we preferred to use the great products they offered, knowing this would give us the best mission-critical system for the UK ambulance market."*

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**Chris Green**  
Managing Director  
Terrafix

## Carefully considered roll-outs reduce downtime

Every MDVS solution, including rugged TOUGHBOOK devices, undergoes months of testing at the ARP Test Suite in Yorkshire, ensuring it is fit-for-purpose before installation.

With anywhere between 400 and 1,000 RRVs and DCAs in every Trust, fleet departments worked closely with the partners to carefully balance the update schedule to minimise operational disruption and ensure enough vehicles were always on the road.

Those Trusts that were experiencing the highest failure rates, with the oldest equipment, were updated first with new Panasonic TOUGHBOOK devices, providing a significant leap in their technological capabilities.

After installation, Terrafix's provision of the NMA means that ambulances no longer need to be taken off the road, in order to download the latest mapping and navigation data. Updates can be streamed to the in-vehicle technology through the use of designated Wi-Fi hubs and support sites.

## Customisation is key

With a variety of different vehicles, models, and dashboard designs, it's during the evaluation phase that customised solutions were requested by the ARP; there is no one-size-fits-all solution for every vehicle.





*"The end user was always at the heart of our installations; using the technology on a day-to-day basis meant it needed to be as ergonomic and intuitive as possible. For example, it was clear that off-the-shelf docking solutions weren't going to be fit for purpose. We therefore worked with Telent and Panasonic to produce prototype mounts and cases that would ensure maximum in-vehicle stability and ease-of-use for our ambulance crews, which could help to save vital seconds during an incident."*

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Senior Programme Manager  
Ambulance Radio Programme



## Future-proofing technology with continuous improvement

A key consideration in the roll-out was ensuring compliance with the Road Traffic Act. A request from the crews was to provide drivers with voice command functionality when the vehicle is moving. The ARP-led programme is the first to provide this voice-activated functionality to an emergency service.

With the roll-out currently underway, the ARP has set-up a service desk to resolve any hardware or software incidents reported with CRS and MDVS operations, and to gather general end-user feedback, as part of a national review group.

This enables any refinements to any element of the in-vehicle solutions to be captured, reviewed, and implemented over the course of its lifetime. For example, the ARP has already deployed Panasonic TOUGHBOOK technology into vehicles with infotainment systems, enabling crews to take advantage of existing technology, providing a streamlined user experience.

*"For those Trusts that have completed their installations, we're seeing next-to-no failure when compared to legacy technology, with fantastic reliability and usability. The crystal clear display and mapping solution has also received great feedback from our frontline ambulance crews, enabling them to pinpoint the incident location with far greater accuracy. Ultimately, the roll-out has led to fewer vehicles off the road due to hardware failures, with increased uptime leading to better patient safety."*

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*"The system must be as reliable as possible in a very demanding environment, 24 hours a day, 7 days a week. Building the system with the Terrafix TVR smart router alongside the Panasonic TOUGHBOOK, running the Terrafix NMA software, has provided a complete UK-wide solution that is successfully being rolled out to all Trusts. The collaboration between Terrafix and all suppliers has contributed to this program's success."*

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**Chris Green**

Managing Director  
Terrafix

