

# Green Light for Blue Light Mission Critical Broadband

## Simoco Launches Vehicle as a Node Solution for Public Safety

**T**he mission critical communications world is changing fast with the rise of mobile broadband to complement existing radio technologies.

Simoco Wireless Solutions is at the forefront of this drive with its VR-950, a combined multi-bearer router and onboard computer, effectively turning the response vehicle into a communications node, or VaaN (Vehicle as a Node). Built with reliability in mind and state of the art power management, it consolidates a whole range of different in-vehicle devices into a single compact unit that can integrate with 3GPP compliant LTE, LMR (including P25 radio), satellite and Wi-Fi. As an evolution of previous VR-devices used extensively in the UK ambulance sector the VR-950 is being launched in Australia at this year's Comms Connect.

## Public Safety Deserves Better Mobile Broadband

Public safety has been playing catch up in Australia for some time. And we don't mean catching up with criminals but keeping pace with the kind of broadband technology that every teenager has in their pocket, in the shape of a 4G or 5G enabled smart phone. And yet, the benefits of mobile data and video are clear to see for all blue light services, from body-worn cameras at the scene of a crime to ambulances being able to send and receive live data about a patient and speed up access to emergency care. So why do we rely on narrow band voice communications as our go-to technology for mission critical applications? Simoco Wireless Communications is addressing the issue head on with some breakthrough innovations in mobile data.

## Parallel InStream Mobile Bearers with Five 9s Uptime at Control Centre

Police, fire, and ambulance users love their two-way radios because they are incredibly reliable. One of the obstacles to deploying mobile data in public safety is that it is prone to outages for a variety of

reasons, and this is just not acceptable when lives are at risk. As a vehicle moves around it needs to find the strongest mobile signal but switching from one carrier to another introduces a delay in handover that you cannot afford in an emergency. So, the VR-950 gets around this by having several bearers running in parallel, known as InStream bonding. It's like betting on every horse in the Melbourne Cup; you don't mind which one wins because you have backed the lot. With room for up to four SIM cards this provides mission critical standard wireless performance. At the control room data centre the InStream Gateways are engineered to deliver 99.999% uptime or "Five 9s" reliability.

## Declutter your Vehicle Dashboard

Modern emergency service vehicles have accumulated a whole host of mobile solutions and user interface devices, including mobile data terminals (MDTs), light and siren control, camera and voice radio control systems. The VR-950 is more than just a mobile data router, it has an onboard computer that can do all the heavy lifting of data system and device control from a single box. Instead of User Interfaces, the VR-950 runs a



iStock.com/Pejman Images

whole range of replacement applications that can be integrated with the OEM touchscreen that can be found on the majority of new vehicles. This makes better use of the limited space available, making the installation process simpler and less costly and cuts down the number of distractions for drivers, whilst reducing the power drain on the vehicle battery.

### Power Management

And talking of batteries, you can have all the smart devices you like in a response vehicle but if you have no power then you are putting lives at risk. A response vehicle is a pretty harsh environment in terms of power supply with, sometimes, heavily used batteries and multiple devices pulling power at different times. The Simoco VR-950 fixes this problem. As well as reducing the overall power load by needing fewer devices, it uses built-in power management technology such as instant wake from sleep, and dual onboard power supplies with 9–36-volt range universal input and an internal UPS. This means that, not only can it access a wide variety of power sources, but critically, it can smooth out the changes in voltage from a vehicle

battery when, for example, the engine is started. Without this feature the drop in power could effectively switch off all the devices in the vehicle, causing delays and risking lives.

### P25, Satellite and Two Flavours of Wi-Fi

The Simoco mobile data solution takes account of the specific needs of the Australian geography and public safety communications infrastructure. Services rely heavily on P25 digital radio, which is reliable and optimised for narrowband voice, so it was important that the VR-950 offered P25 connectivity alongside the mobile data features. However, breaking news, Australia is a big country and the P25 and LTE networks have to be focused on population centres. So the unit's ability to integrate with satellite services like Starlink and OneWeb is a game changer. When out of range of P25 and LTE, the device can automatically switch to a satellite network and keep the data flow intact, whether it's two-way voice over IP, video or geolocation data, there can be no out of signal areas for first responders. As part of the InStream bundle of bearers VR-950 includes two Wi-Fi connections. This means that not only do you

have an in-vehicle Wi-Fi hotspot but you can also use Wi-Fi to connect to the enterprise network when parked back at base. This can be useful for transferring large data files like patient reports, video evidence or mapping data.

### Platform for Software Apps

Connectivity is vital in public safety, but Simoco is also at the heart of innovation to drive improvements in public safety. VR-950 is both a data router and a computer which means, unlike any other mobile router on the market, it can run a whole range of applications from a single device. In the UK Simoco has already developed a full mobilisation app for ambulances called Mobilize MDT which can run everything from booking in an ambulance crew and prioritising emergency calls to directing the vehicle to the most appropriate facility. Simoco's in house development teams can integrate existing apps or help develop entirely new bespoke apps for police and ambulance to further enhance safety and efficiency.

### With you all the way on your MCX Journey

Mission critical is about saving lives and protecting the public so, with advances in technology, reliability is paramount. Simoco's VR-950 complies with the latest 3GPP LTE mobile standards with all its built-in provisions to prioritise public safety. Features like the InStream parallel bearers and power management to keep the lights on mean that it delivers on that core promise of protecting lives both of emergency workers and the public. At the same time, the innovations it enables in terms of new software applications will keep police, ambulance and fire services equipped to face the challenges of the future.



**Simoco Wireless Solutions Pty Ltd**  
[www.simocowirelessolutions.com](http://www.simocowirelessolutions.com)