



## V2X

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At Cohda Wireless, our mission is to make roads safer, not only for drivers, but also for the most vulnerable road users – pedestrians, cyclists and motorcyclists.

The US Department of Transport estimates 94% of crashes involve human error. Improvements in vehicle and infrastructure safety have reduced the global road toll significantly in recent decades, and now our V2X applications are leading the way to prevent crashes from happening in the first place.

V2X has the potential to eliminate or mitigate up to 80% of non-impaired-driving collisions. Beyond that, it can also better utilise infrastructure, reducing congestion and pollution. Cohda V2X will make cities safer and more productive.

Cohda's hardware-agnostic V2X stacks are used in more than 60% of all connected vehicle trials worldwide. Our history, backed by more than 18,000km of real-world testing, has made us the OEM supplier of choice for production vehicles, with Cohda selected for the world's first and second production deployments.

### **V2X Stack**

Cohda Wireless has a proven suite of 'Day One applications that have become the industry standard in automotive V2X production. Our mature, hardware agnostic V2X applications are the most widely deployed in this rapidly evolving sector, including major commuting projects, pioneering truck platooning initiatives and collision avoidance systems.

Cohda's V2X solutions are already making cities safer, smarter and greener, and setting the benchmark for the industry worldwide. Both Development Licenses and Production Licenses are available to developers of automotive V2X equipment.

# V2X Solutions

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## MK5 OBU

Cohda's fifth-generation On-Board Unit (OBU), the MK5 is a small, low-cost, rugged module that can be retrofitted to vehicles for aftermarket deployment or field trials, and can also serve as a design reference for Smart City deployments.

The MK5 exchanges data at high speeds over extended distances, providing class-leading reaction times to potential hazards and safety-critical scenarios. In challenging outdoor conditions where no line-of-sight is available, its radio performance is unmatched.

## MK5 RSU

Built with the same chipset as the MK5 OBU, the MK5 Road-Side Unit (RSU) is a rugged outdoor unit with integrated dual antennas, housed in a NEMA 4-standard weatherproof enclosure.

Designed for Smart City deployments, the MK5 RSU offers exceptional range and coverage, and a single, inexpensive, self-contained unit can cover all approaches to an intersection. It's available in mains and Power over Ethernet (PoE) variants, and is also available as a reference design for developers of Smart City infrastructure.

## V2X-Radar

The reliance on sensors for the future of mining is critical, however current sensor solutions offer line of site issues and can under perform in rain, snow and fog, directly hampering a CAV's ability to adequately identify and assess dangerous situations.

Cohda's V2X-Radar transforms a V2X system into a 360 degree radar system with no addition hardware.

Using multiple know points (other equipped vehicles or RSU's) V2X-Radar can distinguish between static and dynamic objects and identify their position. V2X-Radar not only helps CAV's identify and assess dangerous situations but it can also be used in plausibility checking and to enhance positioning of CAV's.

## V2X-Locate

Typically, GNSS positioning performance degrades in areas such as urban canyons, tunnels, parking garages, and any other compromised sky views, resulting in unpredictability in determination of vehicle position. The utility of V2X-Locate is particularly evident in such GNSS challenged locations.

V2X-Locate uses ranging measurements to fixed RSU's to enable enhanced positioning accuracy. The ranges from spatially separated RSUs are fed into Cohda's enhanced V2X-Locate positioning engine to accurately position vehicles equipped with OBU's. Through the advanced processing capabilities of Cohda's software designed radio, the V2X Locate solution is able to calculate a true line-of-sight path regardless of the existence of multipath signals, allowing the vehicle to know its position with accuracy <1m 95% of the time.

*\*Based on recommended deployment set-up*

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