# 5GAA TECH DEMOS: MEDIA KIT

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CONTACT

**Victoria Bech**,
Senior Communications Coordinator

victoria.bech.herrero@5gaa.org

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# DRIVING THE FUTURE OF AUTOMOTIVE CONNECTIVITY

## Welcome to the 5GAA Live Technologies Demonstrations in Paris!

5GAA is bringing together top global players — from automakers to telecom giants — for groundbreaking demonstrations of connected vehicle technology, including an exclusive showcase of:

- **In a global premiere, 5GAA members will demonstrate connected vehicles using non-terrestrial networks (NTN) based on 3GPP, complementing terrestrial 4G and 5G networks.**
- **First on-the-road, live-traffic demonstration of 5G-V2X Direct technology capabilities for advanced connected mobility services.**
- **Ready-to-deploy vehicle-to-network (V2N) technologies improving road safety in real traffic conditions.**

### MAP OF LIVE TECH DEMONSTRATIONS PICK-UP AND DROP-OFF POINTS

## Key Highlights

### NON-TERRESTRIAL NETWORK

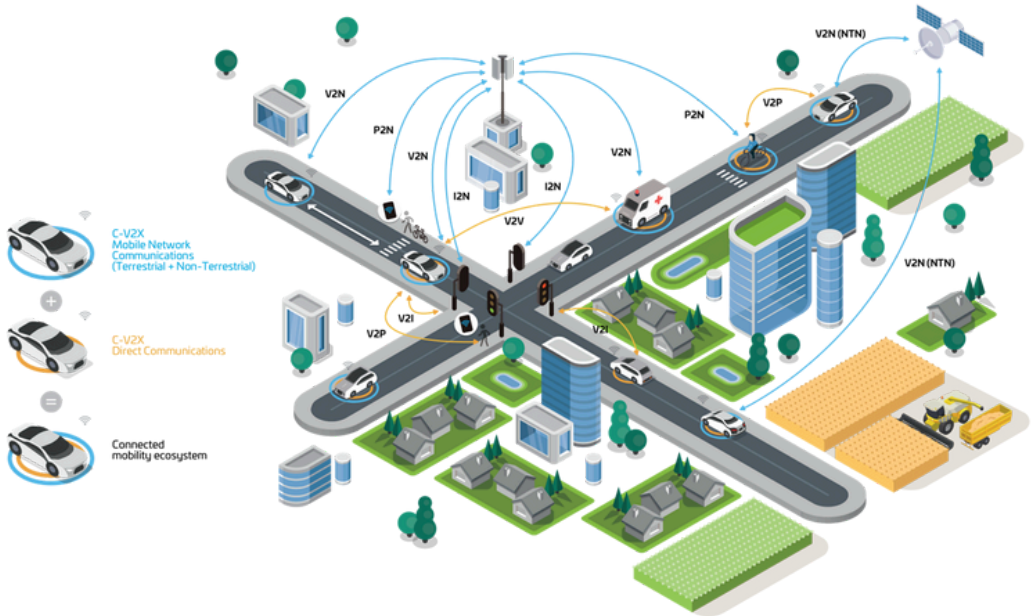
- Four in-vehicle demonstrations will show early NTN solutions realising hazard warnings and emergency messaging use cases via satellite.
- Two demonstrations on public roads highlight the vision of how NTN can support ubiquitous automotive connectivity and switching between NTN and terrestrial networks to enable voice communication.
- First milestone towards initial market deployment of satellite connectivity in vehicles is expected by 2027 (as per 5GAA Roadmap).

### 5G-V2X DIRECT

- 5G-V2X Direct (based on 3GPP Release 16) will enable advanced vulnerable road users protection, leveraging sensors and camera feeds from other vehicles to alert drivers, paving the way for smarter mobility.
- As per 5GAA Visionary 2030 Roadmap, 5G-V2X is expected to be mass-deployed in commercial vehicle models starting from the time horizon 2026-2029.

### VEHICLE-TO-NETWORK

- Smart road intersections equipped with cameras detect vulnerable road users (VRU) and communicate their presence to cars nearby using live public mobile networks and MEC technology based on Quality on Demand technology.
- Using high-precision positioning, vehicles broadcast alerts in emergency, hard braking, and end-of-traffic scenarios.



# WHO MADE IT HAPPEN - 5GAA MEMBERS

## NON-TERRESTRIAL NETWORK

## 5G-V2X DIRECT

## VEHICLE-TO-NETWORK

## STATIC EXIHIBITONS

# PROGRAMME

There will be 13 demonstrations (indoors and outdoors), and this section provides an overview of what will take place on 15th May in Paris.

## NON-TERRESTRIAL NETWORK DEMONSTRATIONS

### Showcase of NTN Safety Use Cases

This demonstration will highlight safety-related use cases by showcasing how hazard warnings and emergency messages are exchanged between the **BMW Group** vehicle and backend systems. Utilising NTN connectivity from **Skylo**, **Viasat**, and **Deutsche Telekom**, the demonstration will show how critical information is transmitted when terrestrial networks are unavailable. Participants will observe the integration of NTN communication in the vehicle, along with network analysis from **Anritsu**.

### Enhancing Automotive Safety with Satellite Connectivity

This demonstration will show how satellite connectivity extends automotive coverage and enhances safety through two primary use cases. First, how an emergency alert from a vehicle using NTN ensures access to emergency services even in coverage-limited areas. Second, how weather alerts are sent from a backend server to vehicles in specific regions, providing early warnings of hazardous conditions.

## Seamless In-Vehicle TN/NTN Switching

This demonstration will showcase the integration of satellite-based and terrestrial networks within an automotive telematics control unit. It will highlight how the vehicle seamlessly switches between satellite and ground-based networks while driving on public roads in Paris. Practical use cases, including voice and assistant services over satellite connectivity, will be demonstrated, along with real-time performance metrics to ensure reliable connectivity across diverse environments.

## Reliable Emergency Messaging via Satellite in Automotive Telematics

This demonstration will demonstrate bi-directional emergency messaging under 3GPP R.17 NB-NTN compliant satellite network. The demonstration will feature a market ready **HARMAN** 'Ready Connect' Telematics Control Unit (TCU) product integrated into a vehicle, highlighting its ability to send emergency messages using satellite-based connectivity. Participants will witness how NTN technology ensures reliable communication in emergency situations, even in areas with no terrestrial/cellular network coverage. This demonstration is made possible through collaboration with partners **Qualcomm**, **Skylo**, and **Rohde & Schwarz**.

## Static Exhibitions

### NTN Insights into Field Measurements and KPIs

This demonstration will highlight a series of real-world use cases supported by **Anritsu** across two field demos in collaboration with **BMW Group** and **LG Electronics**. It will provide a comprehensive overview of KPIs gathered across varying network setups, roaming architectures, and device types — offering valuable insights into NTN performance in diverse operational environments.

### Next Generation Emergency Call (NG eCall) over NTN

This demonstration will show that in the advent of ubiquitous network coverage via NTN enables vehicles to send emergency calls even when out of terrestrial coverage, thereby enhancing passenger safety in the event of an accident. During this demonstration, **Keysight** will test the ability of a NG eCall device to establish a connection to an emulated Public Safety Answering Point over both NTN and TN and transfer relevant information.

### New Radio Non-Terrestrial Network Device Testing

This demonstration will showcase seamless handovers between NTN and TN using the CMX500 radio communication tester and MediaTek's NR-NTN-capable user equipment. The setup will demonstrate the support of video calls within an in-car infotainment system, verifying performance with additional fading. The demonstration will validate the technology's potential to enhance automotive connectivity and user experience.

# 5G-V2X DIRECT DEMONSTRATIONS

## VRU Protection through V2V Sensor Sharing

This demonstration will showcase 5G-V2X Direct (Release 16) connectivity between a connected ADAS **Valeo** vehicle and the Drive4U Valeo vehicle crossing an intersection. A vulnerable road user (VRU) crosses the street and cannot be detected by local sensors due to visual occlusion. The connected ADAS Valeo vehicle will capture the scene, process the sensor data to detect the VRUs, and send the information in the form of CPM using 5G-V2X Direct to the Drive4U™ vehicle. **Marben** will provide the V2X Stack to interface with the 5G V2X Direct access layer. The Drive4U™ vehicle receives the information to adapt its behaviour thanks to the V2V sensor sharing.

## 5G-V2X Direct Conformance and Performance Validation

This demonstration will demonstrate a 5G-V2X test system to validate the performance and communication conformance of devices, software, and vehicles in Intelligent Transport Systems (ITS). This test system simulates real-world traffic scenarios to ensure proper interoperability and secure data exchange between devices. It supports LTE-V2X and 5G-V2X communications and facilitates protocol and functional validation according to EU, US, and Chinese standards. The system is designed for automotive OEMs, suppliers, and manufacturers, enabling the development and testing of solutions for both direct and mobile network communications.

# VEHICLE-TO-NETWORK DEMONSTRATIONS

## V2N2X for VRU Protection and enhanced Driver Awareness

This demonstration will showcase the use of network communication between infrastructure, vehicles and connected VRUs to improve road safety and driver awareness. By employing the Vehicle-to-Network-to-Everything (V2N2X) architecture, this demonstration will also present the collaboration between different service providers, and public & private networks.

**Nokia, Stellantis, Valeo and VEDECOM Institute** will showcase VRU protection use cases and traffic management scenarios using Dynamic Geofencing with on-demand quality of service. **Orange** and its partners at Software République will broadcast School Zone and Collision Risk Ahead Alerts using a smartphone application.

The combined efforts of the participating companies resulted in a successful bidirectional data exchange, which will enable alerts to be displayed in all vehicles, showcasing the interconnection between private and public networks.

## EEBL and Situational Awareness over V2N

This demonstration will showcase the capability of **HARMAN** Ready Aware, a V2N SaaS solution designed for connected vehicles. This technology enhances driver situational awareness and promotes safer driving decisions by alerting drivers (Emergency Electronic Brake Light (EEBL)) of sudden and dangerous congestion caused by vehicles braking hard on the road ahead, in line with the upcoming 2026 Euro-NCAP requirements. Accurate positioning information is provided by **u-blox**, which enhances seamless consumer experience.

## Static Exhibitions

### Next Generation Emergency Call (NG eCall) Test System

This demonstration will demonstrate the CMX500 radio communication tester, designed to validate the functionality and performance of NG eCall devices in emergency situations. The test scenario simulates an accident, where the in-vehicle system (IVS) automatically establishes voice and data connections with a Public Safety Answering Point (PSAP).

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### Network Performance Monitoring During Traffic Load Test

This demonstration will connect a 5GSA router (UE) to the **Orange** network, using the **Keysight** Hawkeye tool to generate various traffic profiles, including first-person video (FPV), sensor data, infotainment video, and command & control. These data will be directed to a test server provided by Orange to meet the requirements of autonomous driving. The 5GSA router will function as a probe, collecting key network metrics such as packet loss, jitter, and latency throughout the Hawkeye testing tool. Simultaneously, the test case gradually attaches UEs to the network using Keysight UeSIM Solutions, generating live traffic under a high-density UEs scenario.

KEYSIGHT TECHNOLOGIES

orange™

# CONTACTS

| | |
|---|---|
| **Anritsu** | **Adnan Khan**, Director of Advanced Technology Marketing:<br>Email: adnan.khan@anritsu.com |
| **BMW Group** | **Julia Jung**, Public Affairs<br>Email: Julia.jung@bmw.de<br>**Olaf Eckart**, Senior Expert Cooperations R&D, Industry Customers<br>Email: olaf.eckart@bmw.de |
| **Cubic³** | **Matt Simmons,** Head of Global Marketing<br>Email: mattS@cubictelecom.com |
| **Deutsche Telekom** | **Anne Geelen**, Corporate Communications<br>Email: anne.Geelen@telekom.de |
| **HARMAN** | **Jessica Sader**, Communications Manager<br>Email: jessica.Sader@harman.com |
| **Jember** | Contact information under demand |
| **Keysight Technologies** | **Henry McDonnell**, Strategic Planning<br>Email: henry.mcdonnell@keysight.com |
| **LG Electronics** | **Sun-Young Ahn**, VS Marketing Team<br>Email: sun.ahn@lge.com |
| **Mediatek** | **Sharique Khan**, Marketing Director<br>Email: sharique.Khan@mediatek.com |
| **Nokia** | **Rick Foote**, Head of External Communication & Marketing, Strategy & Technology<br>Email: rick.foote@nokia.com |

| | |
|---|---|
| **Orange** | **Nicolas Freville**, Communication Director Orange<br>Email: nicolas.freville@orange.com |
| **Qualcomm** | Contact information under demand |
| **Rohde & Schwarz** | **Jeremy Carpenter,** Automotive Market Program Manager<br>Email: jeremy.carpenter.ext@rohde-schwarz.com |
| **Rolling Wireless** | **Vanessa Jade Parr,** Marketing Communication Manager<br>Email: vanessa.parr@rollingwireless.com |
| **S.E.A. Datentechnik** | **Gerd Schmitz,** CEO<br>Email: gerd.schmitz@sea-gmbh.com |
| **Skylo** | **Pete Saladino,** Global Head of Marketing<br>Email: pete@skylo.tech |
| **Stellantis** | **Stephanie Schneider,** Tech Communication<br>Email: stephanie.schneider@stellantis.com |
| **u-Blox** | Contact information under demand |
| **Valeo** | **Dora Khosrof,** Group Head of Media Relations<br>Email: press-contact.mailbox@valeo.com |
| **VEDECOM Institute** | **Elisa Diogo,** Responsable Marketing & Communication<br>Email: elisa.diogo@vedecom.fr |
| **Viasat** | **Richard Jones,** Communications Manager<br>Email: richard.jones@viasat.com |

# CONNECTED MOBILITY FOR PEOPLE, VEHICLES, AND TRANSPORT INFRASTRUCTURE

**The 5G Automotive Association (5GAA) is a global coalition of automotive, technology and telecommunications companies driving the deployment of smarter, safer, and more sustainable mobility and transportation services.**

5GAA actively promotes the adoption of C-V2X (or cellular vehicle-to-everything) as the critical technology to deliver full connectivity and be a disruptive force in the automotive market.

Quickly evolving in Europe, the US, China and Japan, C-V2X is already revolutionising the mobility ecosystem and how drivers interact with the world.

It provides real-time, highly reliable, and actionable information flows to improve the overall transport experience for vehicles, road users, and the surrounding infrastructure.

110+
Members in 2025

10
of the top 15 automakers

8
of the top 10 mobile operators

2
2 top smartphone vendors


**CONTACT**

marcom@5gaa.org

**WEBSITE**

www.5gaa.org

**ADDRESS**

Neumarkter Str. 21
81673, Munich, Germany