

Driving the Future: 5GAA Brings First-Ever Satellite and 5G-V2X Direct Vehicle Connectivity to Life in Paris

- In a global premiere, 5GAA members demonstrated connected vehicles using non-terrestrial networks (NTN), complementing terrestrial 4G and 5G networks
- The event featured the first on-the-road, live-traffic demonstration of 5G-V2X Direct technology capabilities for advanced connected mobility services
- 5GAA members showcased ready-to-deploy vehicle-to-network (V2N) technologies improving road safety in real traffic conditions.

PARIS, 15 May 2025 — For the first time worldwide, the 5G Automotive Association (5GAA) showcased connected vehicles using non-terrestrial networks (NTN) for emergency messaging, as well as 5G-V2X Direct for advanced detection of vulnerable road users (VRU) in real-traffic conditions. 5GAA members also demonstrated the readily available capabilities of Vehicle-to-Network (V2N) services.

"Today, we saw real vehicles on real roads, connected through cutting-edge technologies such as satellite, 5G-V2X Direct and commercial networks. This is the future of automotive connectivity, and it's closer than you think," said 5GAA Chairman Christoph Voigt.

5GAA members, vehicle manufacturers **BMW Group and Stellantis** and technology partners **Anritsu, Cubic³, Deutsche Telekom, HARMAN, Jember, LG Electronics, Qualcomm Technologies, MediaTek, Rohde & Schwarz, Rolling Wireless, Skylo, VEDECOM Institute and Viasat** demonstrated NTN satellite connectivity. Demonstrations focused respectively on realising hazard warning and emergency messaging use cases in the vehicle, as well as illustrating how NTN will complement terrestrial 4G and 5G networks in the future. Demonstrations on public roads emphasised the vision of how NTN can support ubiquitous automotive connectivity for connected services with seamless integration and switching between NTN and terrestrial networks to enable voice communication. In the future, car drivers may not even realise that satellite connectivity is being established instead of using a terrestrial network. According to 5GAA 2030 Roadmap, the initial market deployment of satellite connectivity in vehicles is expected by 2027 (based on IoT NTN 3GPP Release 17).

Anritsu, Keysight Technologies, Rohde & Schwarz, and MediaTek complemented the NTN demonstrations with parallel test equipment measurements for performance verification.

For the first time on the road, 5GAA member **Valeo**, in collaboration with **Marben**, demonstrated 5G-V2X Direct, in which two vehicles shared sensor data, triggering a warning of a pedestrian crossing at an obstructed intersection. This demonstration illustrated how 5G-V2X Direct (based on 3GPP Release 16) will enable vulnerable road users' advanced protection by leveraging sensors and camera feeds from other vehicles to alert drivers, paving the way for smarter mobility. As per the 5GAA Visionary 2030 Roadmap, 5G-V2X is expected to be mass-deployed in commercial vehicle models starting from the time horizon 2026-2029.

The public road demonstrations continued with **V2N technology** for road users' protection. 5GAA members, including **Nokia, Orange, Stellantis, Valeo, and VEDECOM Institute**, showcased interoperable V2X Platforms with vehicles, mobile applications and smart intersections (equipped with cameras and connected via the 5G networks) sharing collective perception to enhance road users' safety. Additionally, **HARMAN and u-blox** showcased Emergency Electronic Brake Light (EEBL) near-real-time alerts to prevent hard braking events, in line with the upcoming 2026 Euro NCAP local hazard requirements, and used precise positioning techniques to prevent false alerts.

5GAA members **Rohde & Schwarz, S.E.A., Keysight and Orange** also exhibited Next Generation Emergency Call (NG eCall) verification and network performance.

The event, hosted by Telecom-Paris, highlighted how 5GAA is developing new standards for safety and innovation in automotive connectivity in Europe and globally.

Please see our brochure about the Paris demonstrations [here](#).

About the 5GAA

The 5G Automotive Association (5GAA) is a global, cross-industry organisation of more than 110 members, including leading global automakers, Tier-1 suppliers, mobile operators, semiconductor companies, and test equipment vendors. 5GAA members work together to develop end-to-end solutions for future mobility and transport services. 5GAA is committed to helping define and develop the next generation of connected mobility, automated vehicles, and intelligent transport solutions based on C-V2X. For more information about 5GAA, please visit www.5gaa.org. Media contact: marcom@5gaa.org

What Our 5GAA Members Are Saying

"At HARMAN, we believe in a future where every vehicle is seamlessly connected. We're proud to join 5GAA in Paris to showcase Ready Connect and Ready Aware—two road-ready products that demonstrate how scalable, interoperable technologies enable safer, smarter mobility experiences today. These live demos underscore how OEMs can meet evolving safety standards and deliver more intuitive connected vehicle experiences for drivers and passengers alike." says **Pascal Peguret**, Senior Vice President, SBU Connectivity, **HARMAN**.

"For the very first time, 5GAA member LG Electronics, in collaboration with Cubic³, showcased an IoT NTN-based voice communication service that seamlessly switches between TN and NTN coverage. The demonstration underscored how voice messaging over IoT NTN can enhance emergency communications beyond conventional text-based alerts, offering improved user experience in critical situations.", says **Yeong-ho Je**, VP and Head of C&M Standard R&D Lab, **LG Electronics**.

"Our collaboration with 5GAA, Orange, and the other partners once again demonstrates how Nokia's Network as Code platform continues to be integrated into networks and developer ecosystems to deliver new application use cases with flexibility, reliability, and security. We are very pleased that our platform successfully met the traffic safety application's request to execute network Quality on Demand in a highly congested geofenced area while adhering to all required safety conditions," said **Shkumbin Hamiti**, Head of Network Monetization Platform, Cloud and Network Services at **Nokia**.

"Accurate and reliable field measurements are fundamental to validating performance and supporting the deployment of Non-Terrestrial Networks (NTN). Our advanced test and measurement solutions have been instrumental in capturing critical KPIs of various automotive use cases across real-world NTN environments —empowering industry stakeholders with actionable insights to drive innovation and advance the future of NTN connectivity", says **Adnan Khan**, Director of Advanced Technology Marketing (CTO Office), **Anritsu**.

"Cubic³ is proud to be forefront of global innovation for connected vehicles. At the 5GAA event in Paris, alongside Skylo and other partners, we're excited to unveil the world's first automotive-grade eSIM that delivers seamless connectivity across both terrestrial cellular and non-terrestrial networks (NTN)—marking a major milestone in enabling a truly ubiquitous network for connected cars. In addition to data, our eSIM also supports voice

*communication, setting a new global standard for in-vehicle connectivity.” **André Schluffer**, Director of Automotive Connectivity Innovation, **Cubic³**.*

*“Keysight plans to demonstrate how a single device can use a terrestrial or non-terrestrial 4G network to establish an NGeCall in the event of an emergency. The demonstration will use the Keysight E7515B UXM Network Emulator to emulate a standard 4G terrestrial cellular network, and use an [MTK] NGeCall DUT to establish an NGeCall and transfer the minimum set of data (MSD) successfully.”, says **Bill McKinley**, Automotive/Connected Car Business Lead, **Keysight Technologies**.*

*“Rolling Wireless is proud to be pioneering the integration of NTN into 5G cellular NAD platform, enabling resilient automotive connectivity beyond terrestrial coverage. Our live demo with 5GAA showcases NTN’s critical role in emergency response, hazard warnings, and advancing safer, more connected mobility.”, says **Olivier Helleux**, Senior Director, Product Marketing, **Rolling Wireless**.*

*“We are honored to join the 5GAA and take a leadership role as the Association works to build a standards-based foundation for satellite connectivity that the automotive industry can adopt,” said **Parth Trivedi**, CEO and Co-Founder of **Skylo Technologies**.*

*“The VEDECOM Institute is proud to actively contribute to the 5GAA event, in line with its mission and its research and development programs. The institute leads R&D projects in partnership with industry, local authorities and academic institutions, with the aim of accelerating the transition to sustainable terrestrial mobility, by acting on both uses and systems. Through these developments and demonstrations, VEDECOM confirms its ability to implement innovative technologies in the service of road user safety, for the benefit of the entire mobility ecosystem.” says **Mohamed-Cherif Rahal**, Automated and Connected Mobilities Department Manager, **VEDECOM Institute**.*

*“The future of satellite-connected cars means real-life benefits. Passengers could make emergency calls from areas outside of cellular coverage. Vehicles could send automated alerts and provide their location after a collision. Calls could stay connected, wherever drivers go. Businesses could track fleets in real time. By bringing our L-band satellite coverage and licensed spectrum and working across the automotive ecosystem, connected transport can help everyone operate more safely and efficiently.”, says **Kevin Cohen**, VP, Direct to Device Partnerships, **Viasat**.*