

Connected vehicles

Solution brief

Enable the vehicle of the future and deliver truly immersive digital experiences.

In the vehicles industry, customer demand is increasingly shifting toward connected, semi- or fully autonomous vehicles and more advanced electric vehicles. Customers expect the same innovative, immersive experiences in their vehicles as they enjoy in other parts of their lives. To provide such experiences, original equipment manufacturers (OEMs) must offer reliably fast in-vehicle connectivity.

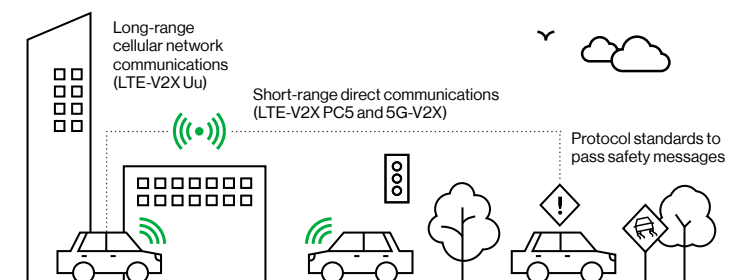
Verizon's 5G network can help OEMs deliver the many benefits of connected vehicles to customers with passenger vehicles, construction vehicles, off-road vehicles, RVs and more. We offer in-vehicle Wi-Fi backed by the high speeds and ultralow latency of 5G, enabling more immersive driving experiences and empowering semi-autonomous and autonomous vehicles. Plus, the use of 5G and MEC can help increase in-vehicle capabilities, such as 3D mapping, vehicle-to-everything (V2X) communications, enhanced entertainment and more.

How it works

5G-capable cellular modems are the keys to enabling connected/autonomous vehicles. They're already available in many new connected vehicles and can support the same kinds of apps that customers use and enjoy on their smartphones. Plus, the V2X and cellular V2X (C-V2X) standards are globally compatible with 5G.

Why using 5G and mobile edge computing (MEC) technologies is important in connected vehicles:

- C-V2X apps depend on ultralow latencies to operate effectively. A centralized cloud isn't adequate to deliver the latency needed for these apps
- MEC brings computing resources and infrastructure closer to devices that generate or consume data, which significantly reduces latency. This technology processes and stores data within the radio access network (RAN) and only delivers certain key information to centralized data clouds
- 5G cellular networks serve as the primary connectivity for MEC, with data delivery rates up to 10x of 4G and ultralow latency
- MEC can enable near real-time data transfers, while 5G provides the broadband capabilities needed to transmit the large amounts of data generated by connected/autonomous vehicles and their infrastructure



The benefits of in-vehicle connectivity



Opportunities for streaming entertainment so passengers can use the same kinds of apps and services that they enjoy elsewhere



Monetization opportunities for OEMs and partners as they deliver entertainment and advertising in vehicles



Opportunities to offer features on demand (FoD), which will allow drivers to access travel assist, lane assist and adaptive cruise control when they need it



The ability to quickly push out updates throughout the life of the vehicle and send proactive repair alerts and vehicle diagnostics, along with directions to dealer and incentives



The ability to gamify usage-based insurance offers



For OEMs, moving processing and other functions that reside within the vehicle's systems to MEC devices could help reduce the complexity and cost of in-vehicle hardware and reduce the cost of the vehicle itself



Learn more:

For more information about how Verizon 5G and MEC can help enable connected vehicles and technology, contact your Verizon Business Account Manager or visit [verizon.com/business/solutions/industry/automotive/autonomous-connected-vehicles/](https://www.verizon.com/business/solutions/industry/automotive/autonomous-connected-vehicles/)

Why Verizon

Verizon is enabling the vehicle of the future by leveraging our 5G network coverage, reliability, speed and ultralow latency, combined with enhanced performance powered by MEC. We offer service on America's most reliable 5G network,¹ and Verizon has earned more awards than any other provider for Wireless Network Quality according to J.D. Power.² And with the deployment of C-Band spectrum, our network is becoming more advanced and delivers some of the fastest speeds available.



¹ Most reliable 5G network based on more first-place rankings in RootMetrics® 5G data reliability assessments of 125 metro markets conducted in 2H 2022. Tested with best commercially available smartphones on three national mobile networks across all available network types. Your experiences may vary. RootMetrics rankings are not an endorsement of Verizon.

² Verizon is #1 for Network Quality in the Northeast (tied), Mid-Atlantic, Southeast, North Central, West regions. Verizon has also received the highest number of awards in network quality for the 30th time as compared to all other brands in the J.D. Power 2003-2022 Volume 1 and 2 and 2023 Volume 1 U.S. Wireless Network Quality Performance Studies. Network Quality measures customers' satisfaction with their network performance with wireless carriers. For J.D. Power 2023 award information, visit [jdpower.com/awards](https://www.jdpower.com/awards) for more details.