



Enabling the vehicle of the future

Solution brief

Introducing Vehicle Lab

As the connected and autonomous vehicle industry continues to evolve, it's becoming increasingly dependent on technologies that can help improve safety, security, efficiency and costs.

The increased integration of emerging wireless communication and network technologies is already enabling connectivity services in the current generation of vehicles. As a result, many new vehicles now come equipped with semiautonomous features, such as onboard diagnostics, infotainment systems, vehicle tracking, roadside assistance agents and more. Looking to the future, new connected car services and automation are expected to help increase vehicle efficiency, comfort and safety even further, but in doing so will also place additional demands on vehicle testing.

Next-generation vehicles will rely on an array of technology to help bring them to market. Making the move to autonomous vehicles will require reliable network connectivity, edge computing and new platforms to support autonomy, and a host of security solutions. Not to mention the compatibility needed to test new hardware and software to move connected vehicle technology development forward.

A whole new testing experience, powered by 5G

Verizon now offers Vehicle Lab, which allows automotive original equipment manufacturers (OEMs) and partners to do real-time testing of all connected-vehicle solution components—device, network, management and applications—in a safe and flexible Verizon 5G lab environment. Features include radio frequency (RF)-shielded private parking-garage labs¹ and remote secure connections to Verizon's test track sites.

Customer-driven focus

The Vehicle Lab provides real-life conditions, state-of-the-art infrastructure, interference-free and continuous wireless connectivity, and much more—all part of a lab environment that can be tailored to meet your specific needs.

Key capabilities include mobility testing, multivendor interoperability, functional call testing and SIM/user-profile troubleshooting. The Vehicle Lab has three RF-shielded rooms that have independent 4G LTE- and 5G-emulated production network environments. These are exact replicas of the Verizon commercial network elements, supported by experienced Verizon engineers and innovators.

Verizon offers the flexibility of a physical onsite lab and a remote test environment to meet your testing needs for the connected car—now and in the future.

Real-life conditions. Secure testing environment. State of the art.



Quality assurance

Testing capabilities are available for connected cars and apps over Verizon's Private Wireless Network, which replicates our commercial environment to enable connectivity testing during the development and production life cycle.



Beyond connectivity

Our lab comes with full internet, cloud and mobile edge computing (MEC) access to test 5G device and network capabilities, as well as a connectivity platform for connected cars and apps.



BYOx

Bring your head units, test devices or actual vehicles to our lab or garages¹, and/or use remote access to the Vehicle Lab to conduct driving tests at a Verizon test-track location.



Onsite support

Partner with Verizon engineers to design your connected car solution to best leverage 5G network technology.

Benefits

- No device approvals or certifications are required before accessing Vehicle Lab's network environments
- Connected-vehicle network infrastructure and equipment are available to perform tests at no cost to the user
- Highly skilled staff who can help you test a variety of complex scenarios
- Purpose-built for testing the performance and safety of connected and automated vehicles and technologies under controlled and realistic conditions
- The ability to verify real network performance of your devices in the early stages of the design cycle

About the Vehicle Lab

The Vehicle Lab aims to accelerate connected vehicle testing by collaborating with best-in-class automotive OEMs and partners. Together, we will collaborate on how we test and demonstrate advances in network connectivity for next-gen automobiles – potentially saving time and costs, while accelerating product development.

The physical lab is located in Boston, MA, in the Verizon Innovation Center. In Ann Arbor, MI, Verizon and Mcity are working at University of Michigan's technology playground to test 5G solutions for autonomous and connected vehicles. This purpose-built proving ground sits on a 32-acre site on the University of Michigan's North Campus, with more than 16 acres of roads and traffic infrastructure.

Why Verizon



Superior coverage

Our 4G LTE network covers 327 million people. That's over 99% of the U.S. population.



5G innovation

Verizon 5G Ultra Wideband offers ultrafast speeds, with low lag and massive capacity.



Trusted security

Managing over 500,000 security network and hosting devices gives us valuable insights into the digital landscape.



Expansive focus

We obsess over the details, analyzing millions of gigabytes of data every day.



Easy integration

We've certified 900+ Internet of Things (IoT) chipsets, modules and devices.

Learn more:

To learn more about how Verizon Vehicle Lab can help enable the vehicle of the future and drive innovation for auto OEMs, contact your Verizon Wireless Business Account Manager or visit [verizon.com/business/contact-us/](https://www.verizon.com/business/contact-us/)

