Anritsu Advancing beyond

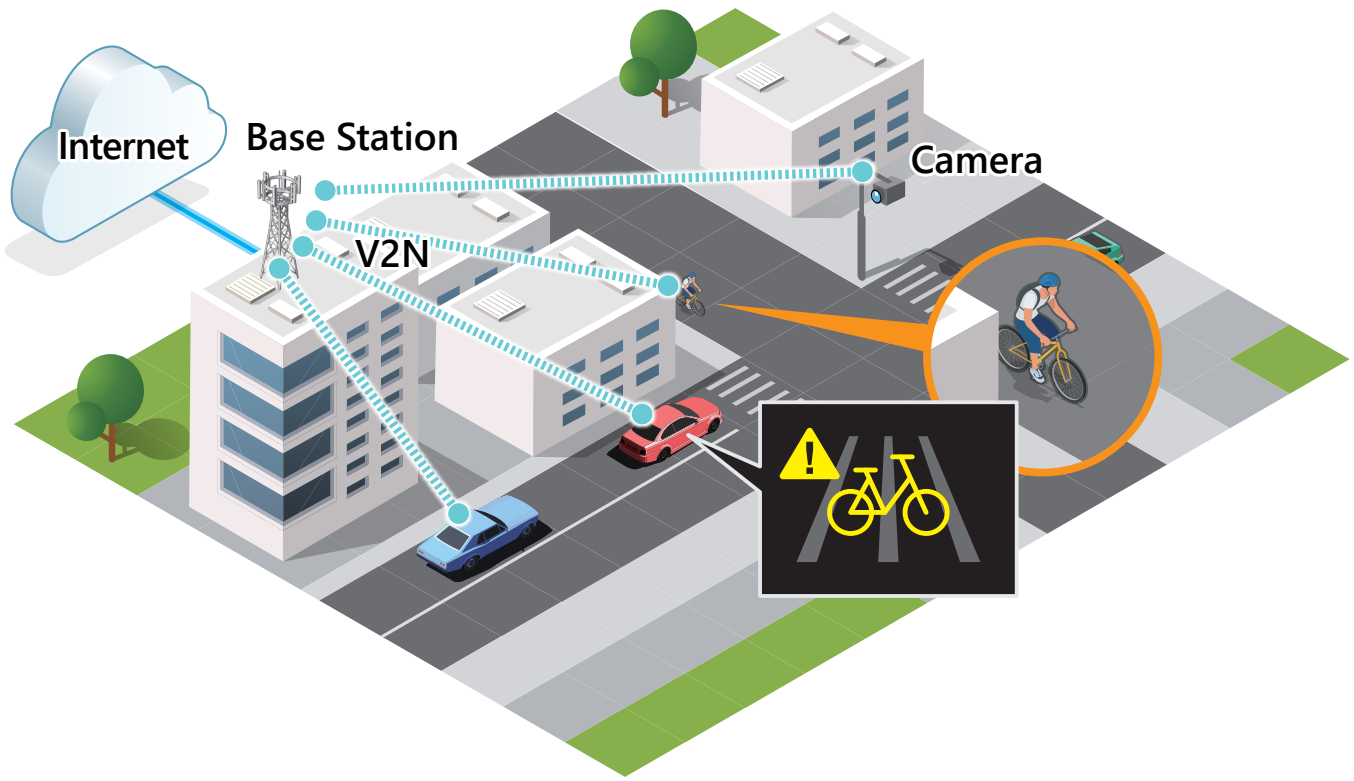
# Early Detection of Hidden Cyclists and Pedestrians

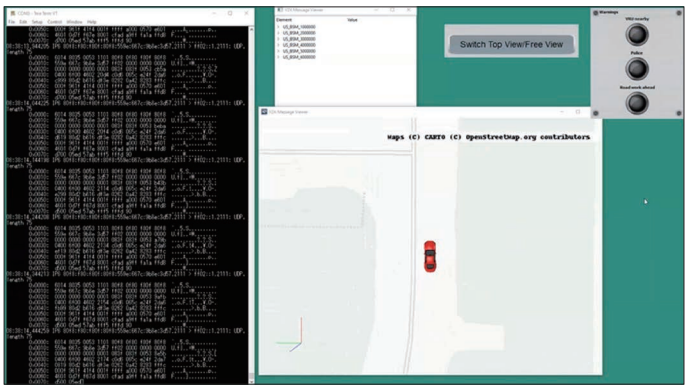
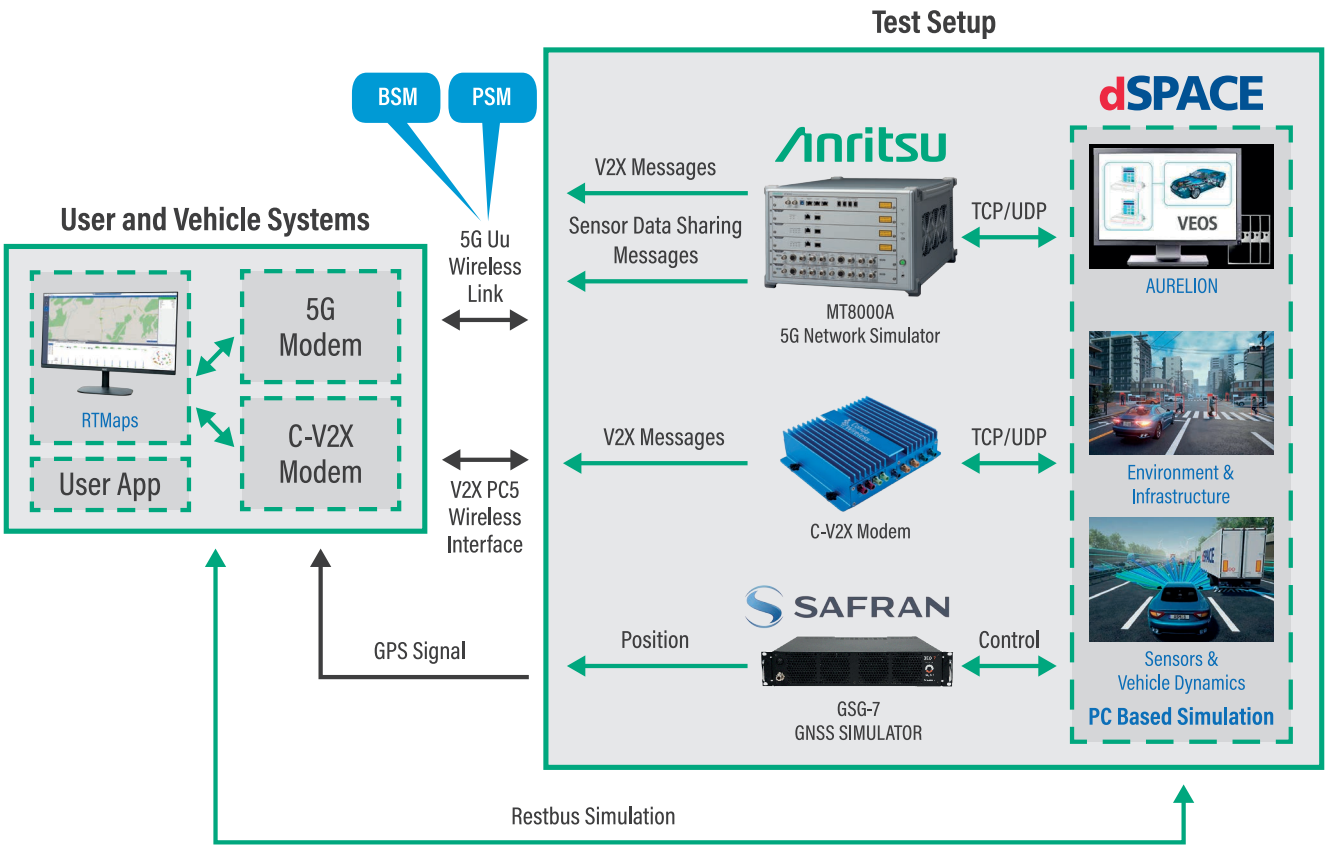
## Vulnerable Road User (VRU) Protection Simulator

dSPACE & Anritsu

Accident collisions between automobiles and vulnerable road users (VRUs), such as pedestrians and cyclists, account for more than half of all fatal traffic accidents, making them a serious problem. To prevent these accidents, systems are being developed to alert vehicles to the presence of VRUs in blind spots. These VRU protection systems provide warnings to drivers by sending data either from devices carried by VRUs or from roadside cameras to vehicles via high-speed, low-latency communications, such as 5G cellular or V2X.

dSPACE and Anritsu are developing a solution to simulate actual traffic conditions to streamline development of VRU protection systems.



Conditions on real roads, such as people, buildings, automobiles, and traffic, change from moment-to-moment. However, traffic conditions in a simulated environment can be reproduced any number of times without causing any damage, allowing repeated efficient verification of VRU protection systems for improved performance.

dSPACE's AURELION and RTMaps simulators offer users a flexible simulation environment that can be configured easily with different objects, such as multiple automobiles, people, bicycles, and roadside cameras for various situations. These objects exchange data such as Basic Safety Messages (BSM) and Personal Safety Messages (PSM) via high-speed, low-latency communications, like 5G cellular and V2X called PC5, using Anritsu's Base Station Simulator MT8000A to warn drivers of approaching VRU hazards.