

Trending

Autonomous driving is seen as one of the key technological advancements influencing and shaping our future mobility and quality of life.

Most automotive OEMs, Tier-1 suppliers and start-ups are aiming to launch vehicles capable of SAE Level 4 autonomous driving within the next few years.

Research indicates that for consumers to accept driverless vehicles, tests will need to prove that they are 90% safer than human drivers. Given that autonomous vehicles would need to cover around 5 billion miles in order to demonstrate a 20% improvement in fatality rates, virtual validation is vital to rapid development of real-world capable autonomous driving systems.

Opportunities & Challenges

Autonomous driving and ADAS systems require huge data-sets of real-world equivalent driving data, for testing & refinement of algorithms. Most conventional simulation tools do not allow for creation of high-resolution scene data, or the inclusion of real-world effects like rain or snow. Thus, system developers are forced to rely more on real-world data, increasing testing lead-times and costs.

Additionally, existing simulation tools typically require significant manual effort for the generation of test scenarios. Given the sheer number of scenarios required to validate autonomous driving or ADAS systems, the time and expense required to generate error-free scenario-sets is quite considerable.



Benefits of using V-DRIVE

Our licensable, photo-realistic simulation environment can help you validate your autonomous driving or ADAS systems up to 40% faster, and reduce your dependence on real-world data.

Thus, you can identify and resolve potential issues much earlier, and provide end-users with safer and more reliable autonomous driving solutions.

V-DRIVE

Product Description

- V-DRIVE is a MATLAB-independent validation environment for ADAS & Autonomous Driving algorithms, providing complete physical simulation of environment and sensors.
- Fully configurable sensor models (cameras, radar, LIDAR and ultrasonic sensors)
- Fully customizable vehicle dynamics models (powertrain, steering, tires, brakes, chassis and suspension)
- Supports import of user-defined static and dynamic objects (vehicles, pedestrians, buildings, trees, animals, etc.)
- AI-based auto-generation of autonomous driving scenarios
- Compliance with ADASIS, OSM, ISO 26262, ISO SOTIF



LIDAR sensor simulation



Collisions with real-world physics

Differentiators

- Photo-realistic simulation using unreal engine
- Easy-to-use GUI for quick customization of simulation parameters and rapid test case creation
- Modular and open architecture enables customization of the core simulation engine, sensor output generator, camera simulator and other components
- Costs around 60% less than similar competitor offerings
- Automated generation & execution of test cases to reduce testing lead-time by up to 40%, and with reduced errors compared to manual test creation

Case

- Use V-DRIVE to reduce your software-in-loop testing lead-times, and to reduce dependence on real-world testing/ data
- We can integrate V-DRIVE with test equipment of your choice, for hardware-in-loop validation of autonomous driving and ADAS ECUs