TATA ELXSI

V-DRIVE (AUTONOMOUS DRIVING SIMULATION ENVIRONMENT)

Cost-Effective | Photo-Realistic | Customizable

OPPORTUNITIES ADDRESSED

Reduced dependence on real-world data for validation of autonomous driving/ ADAS algorithms

- Complete physical simulation of environment and sensors
- Photo-realistic, dynamic scene rendering using gaming technology

Reduce development cost & lead-time

- Significantly less expensive than other virtual validation offerings such as IPG Carmaker & VIRES VTD
- Easy-to-use GUI allows for rapid creation and execution of test cases
- Automated generation & execution of test cases (using AI) reduces testing lead-time by up to 40%

Easily customizable

- Sensor parameters, vehicle dynamics models, and simulation objects can be defined by users as required

- Modular and open architecture enables customization of the core simulation engine, sensor output generator, camera simulator and other components

VIRTUAL DRIVE

APPLICATION SCENARIO

Simulation-based testing of autonomous driving and ADAS algorithms, with support for multiple sensors, V2V-V2X communication via ADASIS messaging and HD maps

SCOPE

Virtual validation environment using gaming technology for photo-realistic simulation

- 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.)

Sample Scene Output using Automated Test Case Generation

BENEFITS

- Costs around 60% less than similar from competitors offerings
- Compliance with ADASIS, OSM, ISO 26262, ISO SOTIF
- Easy-to-use GUI enables quick customization of simulation parameters and rapid test case creation
- Automated generation & execution of test cases to reduce testing lead-time by up to 40%