

Contribution to OpenSCENARIO

IPG Automotive GmbH

SOLUTIONS FOR VIRTUAL TEST DRIVING

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General Use Case Requirements to OpenSCENARIO

General

- Scenario description should cover all areas of whole vehicle simulation
 - From Ego vehicle simulation (typically vehicle dynamics application)
 - To multi-agent simulation (typically traffic simulation)
- Suitable for simulation with sample rate up to 10kHz
- Continuous & unambiguous road surface required (→ requirement to OpenDRIVE)

Special Requirements to OpenSCENARIO

ADAS & Automated Driving

- Scalable fidelity for dynamics of traffic models
- Detailed environmental conditions description
- Description for environmental sensors

Maneuvers & Actions

- Maneuver-/event-based parametrization of actions
- Suitable for Open and Closed Loop
 - Driver models, e.g. custom driver
 - Time based inputs
 - Distance based speed profile

Current Experiences and Expectation to ASAM

For OpenSCENARIO

Experiences:

- Comparability - Dependency of the implementation tool
- Closed Loop - no clear statement at the moment
- Many ways to get to the same result – complexity needed?
- Tool development and standard development not aligned
- Separation of parameters from the scenario (logical vs. concrete), allowing for additional parameters for road, vehicle under test, etc.

Expectation

- Tool specific extensions (e.g. custom driver, custom vehicle dynamics)
- OpenSCENARIO only usable with OpenDRIVE? Generic interface to road and 3D environment description may be required
- Qualification toolkit?

IPG Automotive will support the interoperability of its tools to ASAM simulation standards

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