

# SCENARIO-BASED TESTING WITH MODULAR CO-SIMULATION OF OPEN-SOURCE TOOLS

An approach of the working group AG Co-Simulation of TP 7.3

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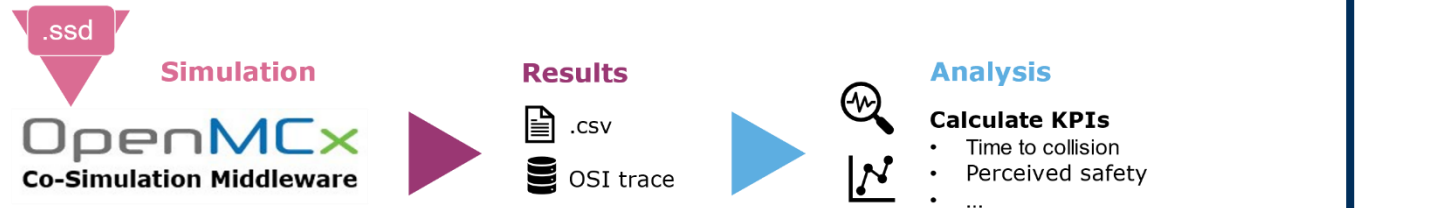
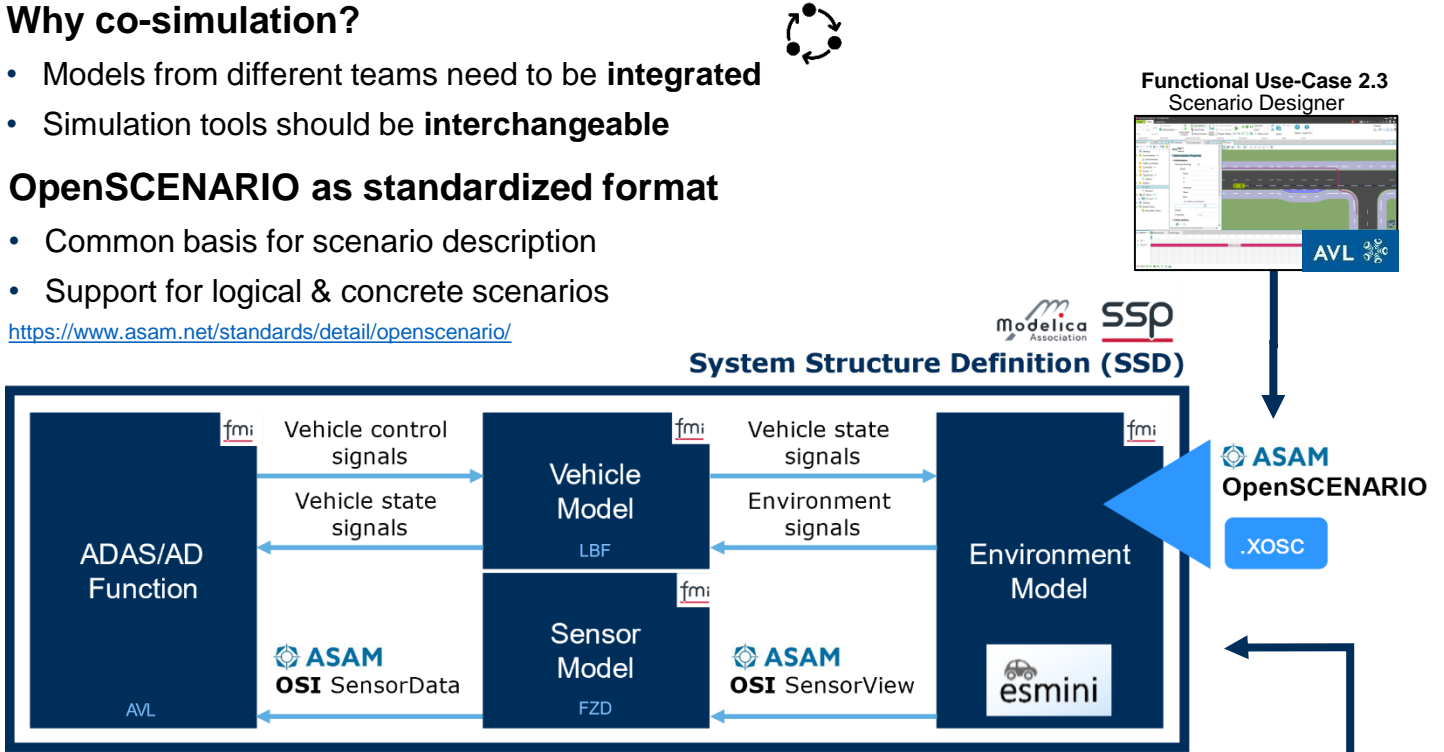
## Why co-simulation?

- Models from different teams need to be **integrated**
- Simulation tools should be **interchangeable**

## OpenSCENARIO as standardized format

- Common basis for scenario description
- Support for logical & concrete scenarios

<https://www.asam.net/standards/detail/openscenario/>



## What is OpenMCx?

- High-performance co-simulation engine
- Open-source and free kernel of Model.CONNECT™ by AVL
- Lightweight and portable
- Standardized interfaces (FMI, DCP, SSP, ...)
- Batch automation support

<https://github.com/eclipse/openmcx>

## What is esmini?

- Performance environment simulation tool & scenario engine
- Support for OpenSCENARIO 1.1, esmini, OpenDRIVE & OSI
- Open-source and free
- Lightweight and portable

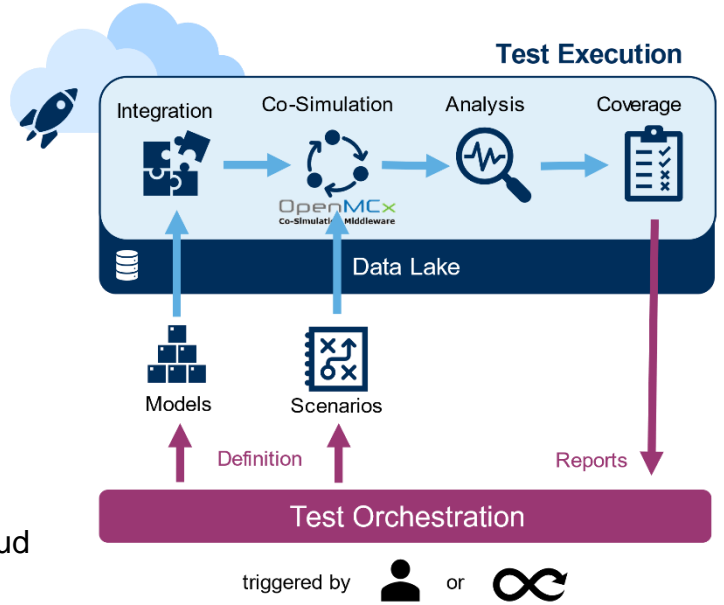
<https://github.com/esmini/esmini>

## How to automate the test process?

- The test orchestration defines concrete scenarios (parameter variation) for test execution
- Process can be triggered by test engineer or automated by CI/CD pipelines

## How to scale test process?

Setup can be containerized and deployed to cloud for highly-parallelized test execution



[www.vvm-projekt.de](http://www.vvm-projekt.de)    Twitter @vvm-project    LinkedIn VVM Project

## Projektpartner



A project developed by the  
**VDA Leitinitiative**  
autonomous and connected driving

Supported by:  
Federal Ministry for Economic Affairs and Climate Action

on the basis of a decision by the German Bundestag