

ART-04-2016 - Safety and end-user acceptance aspects of road automation in the transition period

H2020-ART-2016-2017



Improved Trustworthiness and Weather-Independence of Conditionally Automated Vehicles in Mixed Traffic Scenarios

Deliverable 3.3

Model repository



This report is part of a project that has received funding from European Union's Horizon 2020 research and innovation programme under grant agreement No 723324.
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Publishable Summary

Verification and validation of vehicle models and automated driving functions are very important at an early stage within the development process. Therefore, detailed models of the functions themselves, as well as vehicle behavior, environment simulation and other models are needed to be able to perform simulations and tests in every one of the development phases.

The main part of this deliverable is formed by the collection of the models used for use cases. In the Ford Otosan use case truck models, trajectory planners and controllers as well as vehicle and environment models are provided. For the Tofaş use case comparable models for light commercial vehicles are given. Finally the Volvo use case provides information about the sensor monitoring system and the related sensor fusion, trajectory planners and controllers, as well as the environment model and vehicle dynamics used in the driving simulator study, which will be performed for the Tofaş and Volvo use in summer 2019.

In order to be able to perform the verification and validation easily and without much additional effort, the co-simulation environments Model.CONNECT™ and SHARC were already introduced earlier in the project. Within this deliverable a more detailed description of the possibilities with respect to the different development stages using co-simulation is given.

Key Words

Automated Driving, Co-simulation, Model Repository, Modular architecture, interfaces, solver settings