



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

D2.3

Identification of Transition and Precise Driving Scenarios for Use-Cases



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

Deliverable 2.3 aims to: i.) identify, and describe the process of establishing transition and precise scenarios, ii.) define the TrustVehicle scenarios for use-cases, iii.) identify the assessment criteria that allow the automotive industry supply chain (OEMs, Tier x suppliers) and certifying authorities to evaluate four different Level 3 automated vehicle classes (passenger vehicle, light commercial vehicle, bus, and truck) from a vehicle and component (hardware, software) perspective, iv.) identify the technical, and non-technical Key Performance Indicators (KPIs) for measuring and monitoring the performance of the TrustVehicle objectives.

In this context, research effort has proceeded mainly in five directions: i.) determining and defining the steps of the TrustVehicle scenario based testing method, ii.) analysis of the collected data via Questionnaire-I to investigate the user requirements, expectations, and concerns for automated vehicles (over 120 responses from across Europe and the United States), iii.) looking at the literature on user acceptance, driver work load, and take over-process, iv.) developing a powerful planning tool (use case template) to define the actors, set of actions, and functions that the system needs to perform in the view of TrustVehicle missions (applicable to four vehicle classes), v.) defining the KPIs based on views by experts in the industry and academia (over 100 KPIs specific to L3AD have been identified).

The report starts with the discussion of the targeted ART-04-2016 impact areas related to the aims of the D2.3. The following chapter summarizes the specification and development processes of the TrustVehicle scenarios. The fourth chapter deals with the investigation of the user requirements, expectations, and concerns regarding AVs. The following chapter defines the TrustVehicle clusters (5 clusters) and its relevant use cases. The sixth chapter reviews the technical and non-technical assessment criteria (KPIs) for AVs to measure and monitor the performance of the proposed solutions and user acceptance of the Level 3 Automated Vehicles (L3AD), respectively. The report concludes with the findings of the research activities carried out throughout Task 2.3 and Task 2.2.

Key Words

Level 3 Automated Driving, user acceptance, specification, scenario-based testing, key performance indicators, use case, human-centric approach



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