

8th OpenDRIVE[®] and 1st OpenSCENARIO User Meeting–Further Steps Towards Highly Automated Driving



Stuttgart, 15 October 2015. The Automotive Simulation Center Stuttgart e.V. and VIRES Simulationstechnologie GmbH had issued an invitation to Stuttgart for the 8th OpenDRIVE[®] and 1st OpenSCENARIO User Meeting. This event was divided into two parts: in the morning the current developments of OpenDRIVE[®] and its future challenges were discussed, whilst in the afternoon the standardization measure OpenSCENARIO was presented and specified.

Not only automotive groups, but also media giants are investing billions in a vision that will change the mobility and lives of the world population: highly automated driving. Although this vision appears to be within reach today, there are considerable technological and legal barriers, which have to be overcome. New and, above all, virtual development and test environments are needed to bring the enormous complexity of the interacting system components and the high integration efforts for OEMs and suppliers alike, in line with the requirements for safety, efficiency, performance, comfort, user friendliness and customer acceptance. This will lead to new development and validation tasks in the future.

8th OpenDRIVE® Meeting and Launch of the 1st OpenSCENARIO Meeting

This user meeting, designed to tackle the new challenges, was organized by the asc(s) together with the software company VIRES, a key partner in the standardization projects OpenDRIVE® and OpenSCENARIO. The international audience included representatives of e.g. Daimler, Opel, Porsche, BMW, Audi, Toyota and Valeo, as well as those of other reputable suppliers, service providers and scientific institutions. The lectures presented by the OpenDRIVE® user community encouraged an intense exchange among the experts. After the presentation of the OpenSCENARIO project in the afternoon, the participants immediately started a discussion about further project partners. One of the aims of this meeting was to expand the circle of current and prospective OpenSCENARIO users.

Software and Cross-application Standard

The requirements have become so complex that they can no longer be handled without the seamless use of system simulation. This tendency will be further intensified by future developments, such as Car2X communication or partially and highly automated driving. The virtual test drive in particular is increasingly gaining importance for OEMs and suppliers, as it offers an effective and cost-efficient tool for the development of vehicles to designers, engineers and function developers alike.

Using OpenDRIVE®, and originating in a cooperation between the Daimler AG and VIRES Simulationstechnologie GmbH, a de facto standard has already been created, for cross-application and platform use, to describe the logic elements of a road network (version 1.4 of OpenDRIVE® has been available since 4 November 2015). Unfortunately, the OpenDRIVE® standard does neither allow for the definition of data presentation (e.g. road sign shapes, etc) nor of dynamic components (e.g. third-party vehicles, pedestrians, etc)–currently there is no descriptive, standardized format for generating such objects. The goal, therefore, is to create a software-independent standard in addition to OpenDRIVE®. And this is where the OpenSCENARIO project comes in, which starts where the OpenDRIVE® standard ends.

OpenSCENARIO aims at establishing a software independent format in order to facilitate the exchange of simulation contents between various simulation platforms. A first mind map is already available, describing parameters necessary to describe e.g. vehicles, pedestrians, environmental conditions,

maneuvers and routes, as well as the driver's attitude and behavior. The property values have been gathered in accordance with the requirements of the automobile manufacturers and OpenDRIVE® users. Drawing on previous projects the asc(s) is able to contribute country-specific peculiarities to the set-up of scenarios and evaluates the adjustment of parameter variables that can be derived from e.g. country-specific driving behavior.

Thanks to the impulses gained from the event the participants can pursue the project together, now on a much wider scale. Thus motivated there is every chance for a considerable development leap in time for the next user meeting in Berlin, scheduled for summer 2016, which is going to be the opening event of the *2. Fachtagung Fahrsimulatoren* (2nd Driving Simulators Symposium), with the asc(s), VDC and TU Berlin as cooperation partners.

Please contact us, if you have any further questions.

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