

Press Release

CarMaker and Functional Mock-up Interface - Standardized Exchange of Models for Greater Consistency in Simulation-Based Vehicle Development

To Be Experienced at the Open House of IPG Automotive on March 11, 2014

Karlsruhe, February 26th, 2014 - The lack of standardization in the field of simulation software often results in significant additional work in vehicle development and hampers the collaboration between OEMs and suppliers. The cross-industry Functional Mock-up Interface (FMI) standard remedies this situation. This standardized interface description allows models from various author tools to be quickly generated, easily integrated and consistently used in a standardized form as so-called Functional Mock-Up Units (FMU). The Functional Mock-up Interface provides CarMaker with an integration technology that allows the development of systems and vehicle components to be supported better than ever, in a seamless process from Model-in-the-Loop to Software-in-the-Loop and through to testing on the Hardware-in-the-Loop test rig.

The X-in-the-Loop approach has been implemented in the CarMaker open integration and test platform for this purpose. Using the method of virtual integration, the various FMUs can be integrated into a digital prototype by mouse click in a very early process stage, as models, ECU software or real-world vehicle components. The digital prototypes are subsequently deployed for virtual test driving as total systems. As CarMaker, in addition to a vehicle and driver model, features a complete environment simulation consisting of roads, traffic, sensors and digital maps (e.g. NAVTEQ, Google Earth), the real-world testing environment is modeled with sufficient realism. As a result, the effects which the new component has on the properties of the whole vehicle can be comprehensively tested at any stage of the development. Functional faults are detected earlier and the verification and validation efforts can be reduced.

This and other innovation topics will be presented at the Open House hosted by IPG Automotive in Karlsruhe on March 11, 2014. The event is fully focused on new methods, applications and functions of seamless vehicle development and virtual test driving. Based on application examples from the fields of driver assistance systems, chassis control systems, vehicle dynamics as well as consumption efficiency and electric mobility, visitors will find out how they can evaluate components and systems in virtual test driving. CarMaker can additionally be experienced in action in numerous live demos. IPG experts will provide insights into the latest developments and be available to answer questions. The event targets users and other interested parties from the automotive OEM and supplier industry as well as research institutions and universities. Further information and registration at www.ipg.de/open_house_2014.html

IPG Automotive GmbH

IPG Automotive GmbH is a worldwide leading provider of simulation solutions, test systems and engineering services for OEMs and suppliers in the automotive industry. IPG supports its customers in mastering the technological challenges relating to safety, comfort, agility and fuel economy/energy consumption – with forward-thinking solutions for the entire development process. In addition to conventional vehicle dynamics simulation, the IPG CarMaker, TruckMaker and MotorcycleMaker simulation tools open up a wide range of Model-, Software- and Hardware-in-the-Loop simulation. It encompasses the development and testing of chassis control systems, driver assistance systems as well as systems combining chassis, powertrain and steering. Also included are holistic fuel economy/energy consumption analyses, hybrid technology and electric mobility.

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