PROGRAM

Friday, February 5, 2021, 9:00 am to 1:00 pm

- U·Sim/VMC GeoLDA: Simulating customer usage by models combining vehicle measurements with geographic data
- VMC GeoStatistics: Geographic analysis for vehicle engineering
- VMC Usage Modeler: Simulating complete vehicle lives for thousands of customers
- Load and consumption distribution for a light duty truck in China – a use case
- VMC Simulation: Road profiles and road roughness indicators

Monday, February 8, 2021, 9:00 am to 1:00 pm

- VMC Simulation: Energy demands and drivetrain loads
- Assessing energy demand for E-busses – a use case
- Statistical evaluation of geo-referenced indicators for the design of electric drives – a use case
- VMC Road & Scene Generator

Please register for this webinar under
www.itwm.fraunhofer.de/vmc-technology-day

INFORMATION

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Fraunhofer ITWM

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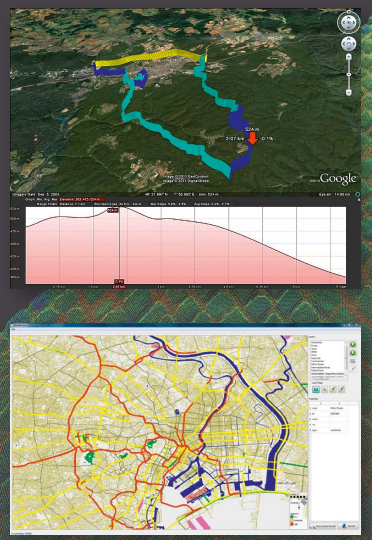
WEBINAR

TECHNOLOGY DAYS – DIGITAL ENVIRONMENTAL DATA FOR VEHICLE ENGINEERING

February 5 and 8, 2021, 9:00 am to 1:00 pm

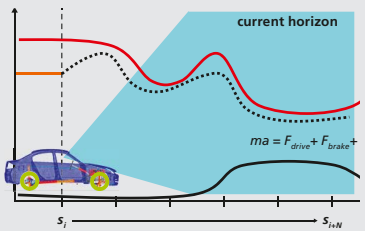
Additional date: February 19 and 22, 2021, 2:00 pm to 6:00 pm

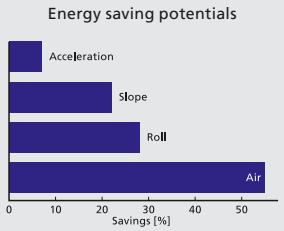


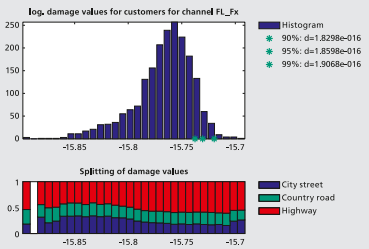
VMC® U·Sim

WEBINAR

TECHNOLOGY DAYS – DIGITAL ENVIRONMENTAL DATA FOR VEHICLE ENGINEERING







In the current vehicle engineering process for global markets, good data of the relevant environmental conditions and models for usage variability are crucial for the derivation of the correct design requirements. This concerns

- classical durability of suspension and drivetrain,
- reliability of the advanced driving assistance systems (ADAS),
- as well as energy consumption.

The software-suite VMC® provides all you need to analyse vehicle usage in different markets and regions, plan measurement campaigns, evaluate data and simulate vehicle loads and performance based on suitable vehicle and driver models embedded in an efficient environmental model. Moreover, high-resolution environmental data enables the efficient development and test of driver assistance systems as well as automated driving functionalities under realistic operating conditions.

Fraunhofer ITWM develops and applies methods for supporting that process and provides tailored services and software solutions:

- **VMC GeoStatistics** enables analysis of different regions or routes. It also supports the planning of measurement campaigns as well as the user group specific generation of thousands of typical routes in any market of the world.
- **VMC Simulation** provides models that feature longitudinal, lateral and vertical dynamics. Those models can be used to predict vehicle loads for different vehicle and driver types, on different routes in the world and, thus, reveal a deeper insight in the effects of locally different conditions.
- **VMC GeoLDA** automatically maps large sets of signals, collected on public roads, to the road network and assigns road properties to signal segments. The analysis of the decomposed data enables a deeper understanding of the important influence quantities and prepares the extrapolation of the data to the entire vehicle life
- **U·Sim** complements the VMC approach by extrapolating measured data to a large number of potential customers. Load distributions for specific populations can be derived and compared to each other. Results are presented in various types of plots and exported to Excel format.
- Combining USim technology with VMC data, the **VMC Usage Modeller** allows to simulate thousands of vehicles driving hundreds of thousand km each in a certain market – providing a complete statistics and sensitivity analysis for customer specific design requirements
- **U·SimOpt** completes the process of design load derivation. It maps the design loads derived using U·Sim onto the proving ground or to standard load cases based on multi-criteria optimization techniques. This is an important step since the latter loads are usually used in VPD.
- **VMC Road and Scene Generator** allows the generation of environmental data and traffic scenarios for interactive simulation and ADAS/AD development and testing in standardized data formats.

Speakers

- Dr. Christine Biedinger
- Dr. Michael Burger
- Dr. Klaus Dreßler
- Dr. Jochen Fiedler
- Dr. Michael Speckert
- Dipl.-Ing. Thorsten Weyh