

REGISTRATION

Please send this registration via E-mail to mdf.seminare@itwm.fraunhofer.de or via fax to +49(0)631/3 1600-1099 until January 21, 2019. Please note that the number of participants is limited.

Technology Day on Digital environmental data for drivetrain applications and ADAS/AD development Thursday, February 7, 2019, 11:00 a.m. to 5:00 p.m. Fraunhofer-Zentrum, Fraunhofer-Platz 1, Kaiserslautern

- Yes, I plan to attend.
- No, I cannot attend, but I am interested in receiving further information.

Title, First name, Family name

Company/Institution, Department

Street, Number

Zip code, City

Phone

E-Mail

Date, Signature

INFORMATION

Contact with regard to content

Dr. Klaus Dreßler
Head of the department »Mathematical Methods in Dynamics and Durability«, Fraunhofer ITWM
Phone: +49 631 31600-4466
E-mail: klaus.dressler@itwm.fraunhofer.de

Contact with regard to organisation

Caroline Wasser/Christine Rauch
Office of the department »Mathematical Methods in Dynamics and Durability«, Fraunhofer ITWM
Phone: +49 631 31600-1350
E-mail: mdf.seminare@itwm.fraunhofer.de

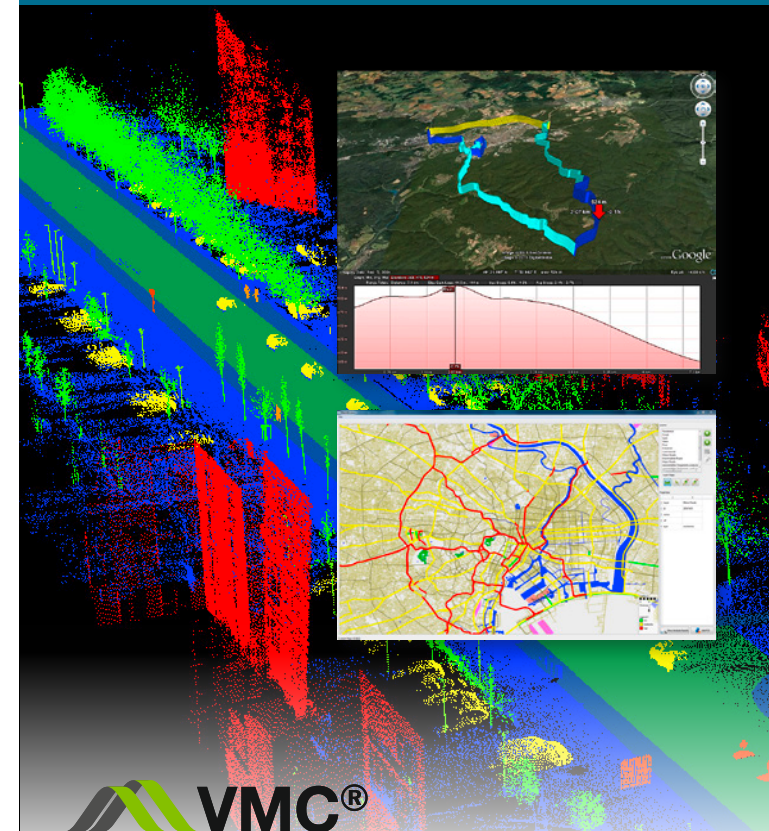
Location

Fraunhofer-Institut für Techno- und
Wirtschaftsmathematik ITWM
Fraunhofer-Platz 1, 67663 Kaiserslautern
www.itwm.fraunhofer.de

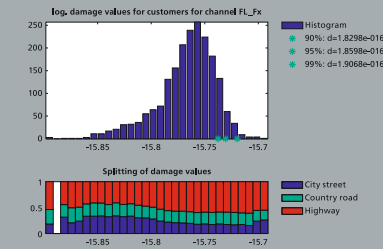
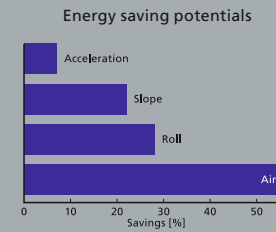
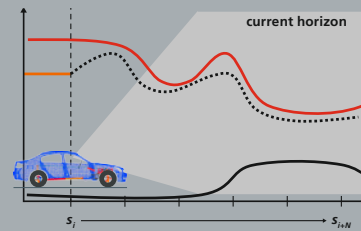
Directions: www.itwm.fraunhofer.de/en/contact

DIGITAL ENVIRONMENTAL DATA FOR DRIVETRAIN APPLICATIONS AND ADAS/AD DEVELOPMENT

Technology Day on Thursday, February 7, 2019,
11:00 a.m. to 5:00 p.m., Fraunhofer-Zentrum Kaiserslautern



DIGITAL ENVIRONMENTAL DATA FOR DRIVETRAIN APPLICATIONS AND ADAS/AD DEVELOPMENT



In the modern vehicle development process for global markets, sufficient information and knowledge of the corresponding environmental conditions are crucial for targeted design requirements. This concerns both durability of drivetrain and other components as well as consumption and energy efficiency. Thus, global geo-referenced data plays an important role in the statistical assessment of usage variability and in the derivation of design targets. The software-suite VMC® provides the possibility to 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 vehicle independent 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 contains 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 maps signals, collected on public roads, to the road network and assigns road properties to signal segments. It handles large data sets automatically and considerably releases the engineer from manual routine work. 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.
- REDAR is a device for acquiring high quality 3D road surface and environmental data. This is of particular interest for company specific reference tracks or proving grounds.
- SmartPointCloud: High-resolution environmental data, in form of 3D point clouds, are preprocessed, classified and segmented to provide a visual scene for driving simulators as well as a framework to develop and to test automotive sensors (for instance, in the context of autonomous driving and driver assistance systems)

Program (11:00 a.m. – 5:00 p.m.)

- Introduction to software and services: VMC (GeoStatistics, Usage Modeler, GeoLDA, Simulation), USim, REDAR, SmartPointCloud
- Use cases
 - Digital environmental data for vehicle engineering
 - Vehicle-independent market analysis and comparison
 - Route- and traffic-specific prediction of energy demands and drivetrain loads
 - Measuring high-resolution environmental data for driving simulators and ADAS-development
- Examples from industry projects

Speakers

- Dr. Michael Burger, Fraunhofer ITWM
- Dr. Klaus Dreßler, Fraunhofer ITWM
- Dr. Sascha Feth, Fraunhofer ITWM
- M.Sc. Eduardo Pena Vina, Fraunhofer ITWM
- Dr. Michael Speckert, Fraunhofer ITWM
- M. Eng. Tim Rothmann, Fraunhofer ITWM
- Dipl.-Ing. Thorsten Weyh, Fraunhofer ITWM