Title	*Assisted and Automated Driving*
Speaker	**Prof. Dr.-Ing. Jürgen Bortolazzi**, Director Driver Assistance Systems and Highly Automated Driving Dr. Ing. h.c. F. Porsche AG, Weissach

Abstract

Since the introduction of Park Distance Control and Adaptive Cruise Control in the Mid 2000s, PORSCHE follows a systematic strategy to adapt driver assistance and automated driving to their product lines. There is no contradiction to the philosophy of a sports car: customers that enjoy driving on their own in case of appropriate traffic conditions expect significant ease of driving in stressful, time-consuming situations like traffic jams, or heavily occupied parking spaces. Furthermore, new functionalities like the predictive Innodrive system enabling efficient cruise control based on sophisticated planning algorithms provides a perfect contribution to the PORSCHE Intelligent Performance strategy.

Although the common discussion focuses on the higher levels of automation from SAE Level 3 to Level 4, at least for the next decade Level 1 and 2 systems will play a significant role being the technological state-of-the-art for a majority of cars. Therefore, PORSCHE focuses on increasing the performance and functionality of Level1/2 driver assistance system in parallel to participating in development programs to enable Level3/4 automated driving. This offers the opportunity to systematically build the necessary competency both in the technological fields of sensing, sensor fusion, planning and control as well as the necessary processes, methods and tools that are mandatory to develop, approve and release higher level automated systems. Systems Engineering has to be combined with approaches to process very large amounts of data whereas traditional random road-based testing has to be replaced by a combination of virtual and systematic real-world testing. Last but not least, a new end-to-end EE architecture is necessary to provide the seamless integration of the vehicle into an IT based service infrastructure.

The keynote will address the following topics:
Benefits and challenges of assisted and automated driving
Status of L1/2 assisted driving
Challenges and technology assets for L3/4 automated driving
Data driven development methodologies
End-to-End Electronic Architecture (E³)

Biography

Jürgen Bortolazzi serves as head of engineering for advanced driver assistance and automated driving at Porsche. During his 25-year industrial career, Mr. Bortolazzi had several leading positions at Porsche and Mercedes Benz Cars focusing on E/E Architecture, electronic safety and driver assistance systems as well as intelligent lighting. He has initiated and managed several vehicle industry wide activities such as the OSEK/VDX and AUTOSAR software architecture, the FlexRay vehicle communication system, model-based E/E Architecture Development as well as intelligent LED lighting systems.

Since 2007, Mr. Bortolazzi is a honorary professor at the Karlsruhe Institute of Technology and is engaged in teaching Systems Engineering for Automotive Electronics as well as graduating PhD students. Prior to his industrial career, Mr. Bortolazzi headed the Electronic Systems and Microsystems department at the Computer Science Research Institute in Karlsruhe and the Systems Engineering research group at the Fraunhofer Institute/University of Erlangen-Nürnberg. Mr. Bortolazzi received his Dipl.-Ing. in Electronic Engineering as well as his PhD degree from the University of Erlangen-Nürnberg.