

# Keynote Talk

## Embedded System Development for Automotive Applications: Trends and Challenges

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### Abstract

This talk reports on findings gained during roadmapping activities for automotive embedded systems development, conducted in the broader environment of the Artemis Technology Platform (<http://www.artemis-office.org/>). It discusses key trends in the distributed development of embedded automotive applications, and the challenges arising towards implementing such new development processes. Topics covered range from impact on real-time analysis, safety analysis, distributed control, and human-in-the-loop analysis. The talk will point out resulting research directions and research priorities.

**Categories & Subject Descriptors:** C.3, D.2.2, D.2.4, D.2.5, D.2.12

**General Terms:** Performance, Design, Reliability, Human Factors, Verification.

### Bio

The speaker holds the Chair for Safety Critical Embedded Systems (<http://ses.informatik.uni-oldenburg.de>) and is the Director of the Interdisciplinary Research Center for Safety Critical Systems (<http://fzsks.uni-oldenburg.de/>) of the Carl von Ossietzky Universität Oldenburg. He is the Scientific Coordinator of the Transregional Collaborative Research Center AVACS (Automatic Verification and Analysis of Complex Systems, <http://www.avacs.org>), and a Member of the Board of Directors of the research institute OFFIS (<http://www.offis.de>), where he has been guiding research collaborations with key industries in automotive, avionics and rail. He is the Coordinator of the competence cluster SafeTRANS (Safety in Transportation Systems, <http://www.safetrans-de.org>) maintaining and implementing a strategic roadmap with a focus on human centered engineering, system and software-development processes, and safety and certification processes. He is a member of the Network of Excellence Artist (<http://www.artist-embedded.org>), and a member of the Artemis Innovation Working Group (<http://www.artemis-office.org>).