

# AUTOMOTIVE SOFTWARE DEVELOPMENT

## TOPICS 2016:

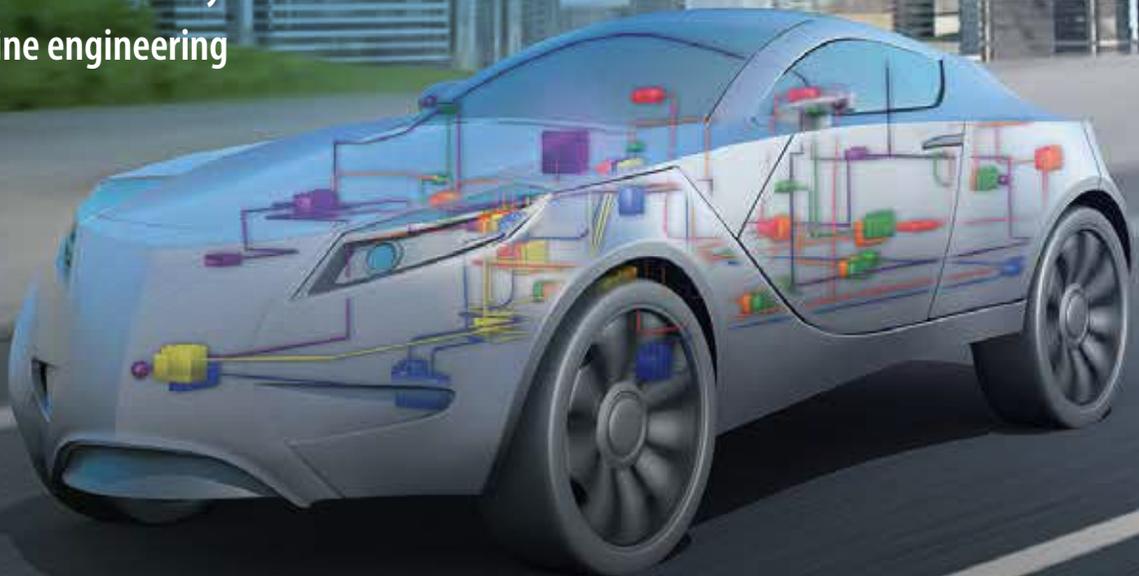
- > Continuous Integration
- > Automotive is using open platforms
- > Integration experience of an OEM
- > Architectures for ADAS and automated driving
- > Process variants
- > Open source software: risks, integration and requirements
- > Software tools in a disruptive scenarios
- > Testing of variant-rich systems
- > Product line engineering

> „A must!“

J. Peters, Robert Bosch GmbH

> „Very good event  
and worth to visit!“

C. Eichler, Volkswagen AG



## LISTEN TO PRESENTATIONS FROM:



# > FIRST CONFERENCE DAY

MONDAY, 5<sup>TH</sup> SEPTEMBER, 2016

9.00

## Registration and handing out the digital conference documents

9.30

## Welcome address and introduction by EUROFORUM and the Chairman



**Ralph Müller,**  
Director Ecosystem-Europe,  
Eclipse Foundation

9.45 Keynote

## Automotive on the way of using open platforms

- Open source use in product development
- How to share and use community platforms for collaboration
- Technology radar of software assets – which could be in scope of collaboration



**Dr Michael Würtenberger,**  
Managing Director,  
BMW Car IT GmbH

10.15

## Licensing of open source software – risk, integration and requirements for the implementation of 3<sup>rd</sup> party software

- Legal aspects and risks of integration of third party software
- Complying with applicable open source licenses and the consequences of non-compliance
- Identifying possible risks and close the open source compliance gap for the players involved

### Hüseyin Dağlioğlu,

Patent Professional Intellectual Property,  
Continental Automotive GmbH

10.45

## Bridging the specification gap – behavior-driven development of automotive systems

- A survey on automotive software development
- Taking behavior-driven development to the automotive domain
- Building living specifications with seamless continuous integration
- A safety-critical model-driven example



**Dominik Holling,** Researcher,  
Technical University of Munich and  
Testmethodology & Development Processes,  
ITK Engineering AG

11.15 Questions and discussion with the speakers

11.45 Networking break

12.15

## Software development integration experience at Honda Research Institute Europe

- Model driven software integration environments
- Design and development of large, complex, parallel, modular, distributed and real-time systems
- CBSE architecture. How far can we go?
- Managing higher complexity by keeping system semantic visible



**Antonello Ceravola,**  
Principal Scientist,  
Honda Research Institute Europe GmbH

12.45

## Scalable, platform-independent software architectures for ADAS and automated driving

- Replacing the driver by ADAS software requires a clear software interface for vehicle motion control
- The recent advances in hardware platforms lead to disruptive changes in the software development processes
- Higher software abstraction calls for decoupling system-level software requirements from implementation-level hardware behavior
- Future automotive software standard must have the standard APIs at the right place



**Dr Kai Richter,** CTO, Symtvision GmbH (in the future Director of Engineering, Luxoft Automotive Under-the-Hood Practice)  
**Georg Doll,** Managing Director Automotive, Luxoft GmbH

1.15 Questions and discussion with the speakers

1.30 Networking lunch

2.45

## WORKSHOP SESSION

Join in the discussions at hosted theme-tables. Write, draw or sketch your thoughts and ideas. Switch between theme-tables – take your ideas forward!

**INTERACTIVE:** get involved and discuss topical issues with industry colleagues

**CREATIVE:** new ideas and approaches – shared knowledge for a wider perspective

**INNOVATIVE:** the future at a glance – developing ideas with other experts



3.30 Presentation of the results in the plenum

## SECOND CONFERENCE DAY

TUESDAY, 6<sup>TH</sup> SEPTEMBER, 2016

3.45

### Continuous Integration: How to the complexitiy and reduce the risks

- New automotive functions are distributed across several domains including IT backends
- The mastering of this complexity requires several approaches
- The decoupling of effect chains via software layers is the key



**Dr Maximilian Miegler,**  
Leader Hardware-in-the-Loop Functional Integration and for Functional Virtual Development, AUDI AG

4.15

### Continuous Integration: a lever for standardization and agile transformation

- Continuous Integration to support development strategies implementation
- Continuous Integration for embedded systems development: what is different?
- Challenges facing continuous integration developments in software teams



**Bassirou Niang,**  
Software Expertise Engineer – Software Expert, Valeo

4.45 Questions and discussion with the speakers

5.00 Networking break

5.30

### Use case of management of automotive standard software components at Idneo (Ficosa)

- Overview of infrastructure
- Development of a component
- Deployment
- Re-use in projects



**David Tuset,**  
Software Engineering Master, Idneo (Ficosa)

6.00 Questions and discussion with the speakers

6.30 End of the first conference day

7.00 Get together



8.50

### Opening of the second conference day by the chairman



**Prof. Dr Dr h.c. Manfred Broy,**  
Chair Software & Systems Engineering,  
Department of Informatics, Technical University of Munich

9.00

### Fail-operational in-vehicle e/e-architectures – dependable basis for automated driving

- Challenges and solutions for future adaptive e/e-architectures
- Generic enhanced software-driven dependability and flexibility for future vehicles
- Methods and architectures for fail-operational in-vehicle safety
- Supplier independent solution through exploitation of AUTOSAR standard allowing for incorporating heterogeneous platforms



**Dr Cornel Klein,** Corporate Technology, Siemens AG  
**Gereon Weiß,** Group Manager Automotive Software, Fraunhofer ESK

9.30

### AUTOSAR – a standard in the course of time

- Standards within AUTOSAR
  - Future challenges in the automotive market and how
  - AUTOSAR can enable innovations
  - New organization to enable new cooperation models
- Michael Niklas,**  
Project Leader AUTOSAR Partnership, Continental Automotive GmbH

10.00

### Challenges to software tool development in the world of disruptive business scenarios

- Roles and importance of software tools for future business
- Challenges in reusing of software tools
- Agile for software tool development
- Methods and framework solutions to improve tool development productivity



**Shanmuganath Murugan,** Project Manager, Robert Bosch Engineering and Business Solutions  
**Azarudeen M J,** Group Manager, Robert Bosch Engineering and Business Solutions

10.30

### Why consider GNU/Linux for safety-related systems?

- Growing system complexity and safety demands
- Broad introduction of multi-core CPUs

- Significant change in the development dynamics
  - Dramatically increasing algorithmic complexity
  - Security demands of connected systems
- Prof. Nicholas Mc Guire,**  
OSADL, Safety Coordinator, Safety Critical Linux Working Group

11.00 Questions and discussion with the speakers

11.30 Networking break

12.00

### Software is the new Fuel - Applying GitHub's development, collaboration and deployment practices in the automotive industry

- See how automotive initiatives like the Genivi Alliance develop software using the GitHub Flow
- Find out how to attract and sustain developers, reuse code and foster collaboration across teams
- Explore how continuous integration and deployment technologies can easily be integrated in the developers' work-flow

**Johannes Nicolai,**  
Enterprise Solutions Engineer, GitHub

12.30

### Process variants for the development of product variants

- Prerequisites for the development processes
- Creating process variants
- Process landscape for developing product variants



**Dr Thorsten Molt,**  
Head of Process Methods Tools Electronics,  
Hella KGaA Hueck & Co

1.00 Questions and discussion with the speakers

1.15 Networking lunch

2.15

### Testing variant-rich systems

- Systematic reuse and testing of variant-rich systems
- Generating representative sets for testing purposes
- Fostering traceability along the entire development process



**Dr Sebastian Oster,**  
Regional Manager,  
Method Park

2.45

### Product line engineering

- Feature oriented domain analysis and feature models
- Library and building set strategies
- Reuse strategies for functions, software and hardware components
- Seamless variant management from requirements to test cases
- Experiences in series production projects in the automotive industry

**Jörg Schäuuffele,**  
Product Manager, Vector Informatik GmbH

3.15 Questions and discussion with the speakers

3.30 End of the conference "Automotive Software Development"

The following partners and exhibitors have already signed up:

4

## ASSOCIATE PARTNER

# GitHub

GitHub is how people build software. Millions of individuals and organizations around the world use GitHub to discover, share, and contribute to software—from games and experiments to popular frameworks and leading applications. Together, we're defining how software is built today.

**GitHub B.V.**  
Prins Bernhardplein 200, NL-1097 JB Amsterdam  
[www.github.com](http://www.github.com)

## EXHIBITORS

# ETAS

ETAS provides innovative solutions for the development of embedded systems for the automotive industry and other sectors of the embedded industry. As a systems provider, ETAS supplies a multifaceted portfolio that covers the range from integrated tools and tool solutions to engineering services, consulting, training, and support. Security solutions in the area of embedded systems are offered by the ETAS subsidiary ESCRYP.

**ETAS GmbH**  
Borsigstr. 14, D-70469 Stuttgart  
[www.etas.com](http://www.etas.com)

# IBM

IBM is clearly dedicated to Automotive as cars are developing into computers and software on wheels. With progressive solutions IBM helps OEMs and Suppliers to master actual challenges and get prepared for even more disruption. Those are now strategized out of IBMs just established Munich global headquarters for the new Watson IoT unit, underlining its commitment to solve automotive complexity.

**IBM Deutschland**  
Hollerithstr. 1, 81929 München  
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# methodpark

**Method Park** is a specialist for software & system development in the safety and security-critical environment of medical devices and automotive technology. Method Park offers consultation and engineering services, a wide range of trainings and seminars, and the process management tool "Stages". The Method Park Group is represented at sites in Erlangen, Munich and Stuttgart as well as in Miami and Detroit in the USA.

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# AUTOMOTIVE SOFTWARE DEVELOPMENT

## MAIN TOPICS

- > **Software Project Management**
  - > Reuse
  - > Variant Management
  - > Code Management
- > **Continuous Integration**
  - > Variant Management
  - > Rehosting
  - > Software Integration
  - > Agile Development
- > **Software Technology for Automated Driving**
  - > Software Architecture
  - > Environment Model
  - > Artificial Intelligence
  - > Machine Learning
- > **Open Source**

## ADVISORY BOARD



**Prof. Dr Dr h.c. Manfred Broy**  
Chair Software & Systems Engineering,  
Department of Informatics,  
Technical University of Munich



**Dr Stefan Bunzel**  
Principal Technical Expert Embedded  
Real-time Software Architectures,  
Continental Teves AG & Co. oHG



**Simon Fürst**  
Head of Department Software  
Architecture and Platform Software,  
BMW Group



**Steffen Lupp**  
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Automotive Systems Integration,  
Robert Bosch GmbH



**Dr Maximilian Miegler**  
Leader Hardware-in-the-Loop Functional  
Integration & responsible for Functional  
Virtual Development, AUDI AG



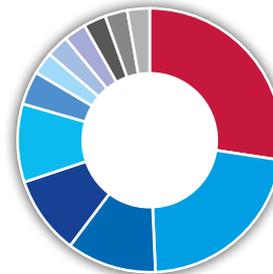
**Ralph Müller**  
Director Ecosystem-Europe,  
Eclipse Foundation

## WHO WILL YOU MEET?



Participant structure 2015 by sector

21 %	Electronics
20 %	Software development
16 %	Automobile manufacturer
15 %	Consultancies
13 %	Automotive suppliers
9 %	Universities
4 %	Automotive engineering
2 %	Trade



Participant structure 2015 by function

27 %	Software development
22 %	Production / Technology
11 %	R & D
10 %	Management board
10 %	Project management
4 %	Electronics
3 %	Business development
3 %	Finance / Controlling
3 %	Communications
3 %	Marketing / Sales
3 %	Professor
1 %	Others

## EVENING EVENT

EUROFORUM invites you to get together in Munich to deepen your conversations, get new contacts or just enjoy the evening in a relaxed atmosphere.



Your personal registration code

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For further information please contact:

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# AUTOMOTIVE SOFTWARE DEVELOPMENT

International Conference, 5 and 6 September 2016, Munich / Germany



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**VENUE**

**angelo Hotel Munich Westpark**  
Albert-Rosshaupter-Strasse 45  
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At the first evening of the conference, the angelo Hotel Munich Westpark invites you to a welcome drink.



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