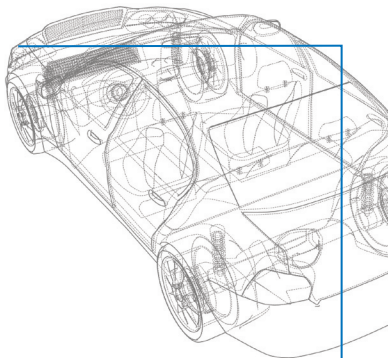


# Conference Program



**Automotive meets Electronics & Control**

16<sup>th</sup> GMM GMA Symposium

# AmEC 2026

Automotive meets Electronics & Control

March 19–20, 2026  
Dortmund, Westfalenhalle

[www.ame-konferenz.de](http://www.ame-konferenz.de)

## Introduction

### **AmEC 2026 – Automotive meets Electronics & Control**

This is the second joint conference, covering various technical aspects of electronics and control in the automotive environment.

Artificial Intelligence and machine learning (AI/ML) have become a core topic of AmEC. Aspects of AI from the automotive perspective are no longer pure image analysis. This topic remains important, but new applications are emerging, including driver monitoring, optimization of fuel consumption, or a smooth, safe and efficient longterm planning of the vehicle trajectory.

With AI taking over a more significant role, it is also important to understand more about the behavior of the AI based systems. The behavior of a deterministic system is clear, but what if the AI starts to hallucinate in a critical situation? Robustness remains essential for safetycritical applications.

The future trend continues to move towards the software-defined vehicle and the development processes that are necessary to accelerate the necessary transition from the classical waterfall model to agile software development for shortening the design cycles.

Nevertheless, despite the continuously evolving technology, classical topics such as path planning, in-vehicle networks, electronic components and power electronics still remain relevant today.

The AmEC aims to bridge the gap between classical methods and AI, featuring scientific papers as well as industrial contributions, exciting talks and keynotes highlighting the future.

Automotive meets Electronics & Control and we are looking forward to meeting you in Dortmund!

*Prof. Anne Stockem Novo, Westfälische Hochschule, Gelsenkirchen*

*Prof. Dr. Georg Schildbach, Universität zu Lübeck*

*Prof. Dr. Michael Wahl, Universität Siegen,  
Digital University Kerala (Past Chair)*

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## Conference Organization

VDE/VDI Gesellschaft Mikroelektronik, Mikrosystem- und  
Feinwerktechnik (GMM)  
Merianstraße 28  
63069 Offenbach am Main  
Phone: +49 (0)69-6308-227  
Fax: +49 (0)69-6308-9828  
E-Mail: gmm@vde.com  
www.ame-konferenz.de

## Scientific conference management

A. Stockem Novo, Westfälische Hochschule,  
Gelsenkirchen  
G. Schildbach, Universität zu Lübeck  
M. Wahl, Universität Siegen & DUK, Kerala

## Organizational conference management

Ronald Schnabel, VDE/VDI GMM, Offenbach am Main

## Program Committee

B. Alt, Robert Bosch GmbH, Renningen  
A. Becciu, Nuraxys GmbH, Overath  
T. Bertram, Technische Universität Dortmund  
V. Fabiunke, Elmos Semiconductor SE, Dortmund  
P. Farber, Robert Bosch GmbH, Reutlingen  
M. Fohlmeister, Cognizant Mobility GmbH, München  
S. Frei, Technische Universität Dortmund  
M. Keller, Fachhochschule Südwestfalen, Hagen  
L. Kiltz, ZF Friedrichshafen AG, Friedrichshafen  
T. Liebetrau, Infineon AG, Nürnberg  
R. Obermaisser, Universität Siegen  
H. Pu, XCMG European Research Center GmbH, Krefeld  
S. Sattler, Friedrich-Alexander-Universität, Erlangen-  
Nürnberg  
A. Schäfer, KYOCERA AVX Components GmbH, Werne  
G. Schildbach, Universität zu Lübeck  
R. Schnabel, VDE/VDI GMM, Offenbach am Main  
D. Schramm, Universität Duisburg-Essen, Duisburg  
M. Schreier, TH Würzburg-Schweinfurt  
M. Schünemann, Otto-von-Guericke-Universität,  
Magdeburg  
F. Svaricec, Universität der Bundeswehr, München  
A. Stockem Novo, Westfälische Hochschule, Gelsenkirchen  
M. Wahl, Universität Siegen & DUK, Thiruvananthapuram  
R. Wille, Consultant, Bönen  
A. Zlocki, fka GmbH, Aachen

**08:00 Registration**

**09:00 Opening**

*A. Stockem Novo, Westfälische Hochschule,  
Gelsenkirchen  
G. Schildbach, Universität zu Lübeck  
R. Schnabel, VDE/VDI GMM, Offenbach am Main*

**Session 1 – Autonomous Driving**

*Session Chair: G. Schildbach, Universität zu Lübeck*

**09:15 Invited talk**

**End-to-end automated driving and what comes next, an industrial perspective**  
*Kun Zhao, Aptiv Wuppertal*

**10:00 Cloud Distributed Manoeuvre-based Decision System for Autonomous Vehicles**

*X. Xing, M. Flügel, S. Ohl, Ostfalia – Hochschule für angewandte Wissenschaften, Wolfenbüttel*

**10:25 Pitfalls of Metrics in Automated Driving Systems**

*M. Schreier, Technische Hochschule Würzburg-Schweinfurt*

**10:50 Coffee & Discussion**

**Session 2 – Sensors and more**

*Session Chair: A. Schäfer, KYOCERA AVX Components GmbH, Werne*

**11:15 Towards Using a Vehicle as a Sensor: Estimating Occluded Traffic at Intersections Using a Dynamic Game Approach**

*R. Kensbock, G. Schildbach, Universität zu Lübeck*

**11:40 Toward Multimodal Freight Transport: Control Strategy for Automated Road-to-Rail Transitions**

*D. K. Rawert, P. Reinold, H. R. Dieckmann, R. Naumann, Hochschule Bielefeld*

**12:05 Divide, Conquer, Deploy: How OCI Containers Boost Large-Scale Automotive Software Integration and Maintenance**

*V. Rajasekaran, R. Sieber, T. Manz, R. Mader, Schaeffler AG, Regensburg*

**12:30 Lunch Break**

### Session 3 – Keynote & Poster

Session Chair: L. Kiltz, ZF Friedrichshafen AG, Friedrichshafen

#### 13:30 Invited Talk

##### **Globale Zusammenarbeit als Erfolgsfaktor – China, Elektronik und Cyber Security im Automotive Kontext**

Volker Fabiunke, Elmos Semiconductor Technology & Engineering GmbH

#### 14:15 Postersession

##### **1 Multi-drop in-vehicle networking in software defined vehicles: A comparative study of CAN XL and 10BASET1S – two technologies competing for the dominance of the 10Mbit/s domain.**

T. Drexel, K. Koch, S. Michaelsen, P. Steil, HMS Technology Center GmbH, Ravensburg

##### **2 A Modular Inverter Development and Test Platform**

J. Maier, P. Czerwenka, T. Wolfer, E. Hennig, E. Sönmez, G. Schullerus, Reutlingen University, Reutlingen

##### **3 Eco-Driving for Connected and Autonomous Electric Vehicles in Urban and Suburban Environments**

S. Lück, P. Reinold, Hochschule Bielefeld

##### **4 Evaluating Implementation Sophistication in AI-Powered FMEA Generation: A Comparative Study of Three Architectural Approaches**

M. Babu Bhoopal, P. Vellingiri, A. Chinnaswamy, J. Thomas, Bosch Global Software Technologies Limited, Coimbatore, India; B. Alt, Corporate Sector Research and Advance Engineering, Robert Bosch GmbH

##### **5 Performance Characterization of 6-DOF Motion Systems for High-Fidelity Autonomous Driving Simulation**

M. Meiners, O. Günther, E. Kamau, University of Applied Sciences Cologne

##### **6 When Autonomous Vehicles hit their limits**

R. Subramanian, U. Bükler, University of Applied Sciences and Arts Ostwestfalen-Lippe

##### **7 Control Design Challenges in Thermal Systems of Battery Electric Vehicles**

S. Buck<sup>1</sup>, B. Alt<sup>1</sup>, F. Heber<sup>1</sup>, L. Mikelsons<sup>2</sup>

<sup>1</sup>Robert Bosch GmbH

<sup>2</sup>Universität Augsburg

##### **8 Intelligent Power Management in Modern Automotive Power Distribution Systems Based on Reinforcement Learning**

M. Gerten, K. Medger, S. Stephan Frei, TU Dortmund

##### **9 Enhancing Vehicle Safety through Camera-Based Vital Data Recognition**

J. Ruskowski, H. Önel, Ch. Wiede, Fraunhofer IMS

##### **10 Intelligent Vehicular Steering Behavior Reporting Using LLM, SLM and Sensor Data**

M. Babu Bhoopal, P. Vellingiri, A. Chinnaswamy, J. Thomas, Bosch Global Software Technologies Limited, Coimbatore, India;

B. Alt, Corporate Sector Research and Advance Engineering, Robert Bosch GmbH

##### **11 An LLM-Based Approach for Semantic Clustering of Vehicle Production Error Messages**

A. El Asad<sup>1</sup>, M. Hahn<sup>1</sup>, H.-Ch. Reuss<sup>2</sup>, E. Daub<sup>1</sup>

<sup>1</sup>Mercedes Benz AG, Sindelfingen

<sup>2</sup>Institute of Automotive Engineering (IFS), University of Stuttgart

##### **12 Comparative Study of Three Asynchronous Pipeline Styles on FPGA**

X. Chen, F. Deeg, S. M. Sattler, Friedrich-Alexander-University Erlangen-Nuremberg

## Session 4 – Software-defined Vehicle and modelling

*Session Chair: B. Alt, Robert Bosch GmbH, Renningen*

### 16:00 Why Software-Defined Vehicle Hypotheses Fall Short in Industrial Technology: A Case Study of ZF Friedrichshafen AG

*L. Kiltz, J. Geis, ZF Friedrichshafen AG*

### 16:25 Implementation of an Electric Drive Digital Twin in a Networked Test Lab Environment

*F. Liebich, S. Pahnke, M. Stamann, R. Leidhold, A. Scholz, Otto-von-Guericke-Universität, Magdeburg*

### 17:30 Get-Together

*Foyer Westfalenhallen  
Musik: Matthias Strucken und Freunde*

## 08:00 Registration

## Session 5 – Driver-centric technologies

*Session Chair: A. Becciu, Nuraxys GmbH, Overath*

### 08:30 Driver drowsiness detection with LLMs

*K. Gollan, K. Aydin, R. Baumann, A. Stockem Novo, Westfälische Hochschule, Gelsenkirchen*

### 08:55 Learning Driver Skills for Improved Driver Assistance

*P. Speidel<sup>1</sup>, B. Alt<sup>1</sup>, M. Hilsch<sup>1</sup>, G. Schildbach<sup>2</sup>  
<sup>1</sup>Robert Bosch GmbH  
<sup>2</sup>Universität zu Lübeck*

### 09:20 Monitoring Driver Attention in Automated Driving and Conventional Driving using Eye-Tracking

*B. Isken, M. Meiners, E. Kamau, University of Applied Sciences Cologne*

## 09:45 Coffee & Discussion

**Session 6 – AI and Robustness**

*Session Chair: E. Kamau, University of Applied Sciences Cologne*

**10:15 Invited Talk****Automotive Microcontrollers: Balancing efforts for safety, quality and reliability**

*J. Alt, Infineon AG, München*

**11:00 Investigating generalization of CNNs on road condition classification datasets for robust detection of Operational Design Domain exits due to reduced road friction**

*R. Subramanian, M. Shrestha, U. Bölker, University of Applied Sciences and Arts Ostwestfalen-Lippe*

**11:25 On the SOTIF Analysis of an MPC-based Trajectory Planner**

*G. Schildbach, Universität zu Lübeck;  
M. Conrad, samoconsult GmbH, Berlin*

**11:50 Methodology for automated hardware and software validation using the example of an electronic parking lock**

*L. Ergün, R. Müller-Hainbach, S. Butzmann, University of Wuppertal;  
K. Pender, K. Roth, D. Münch, Küster Holding GmbH*

**12:15 Lunch Break****Session 7 – AI-based and Advanced Automotive Control Algorithms****13:10 Open Discussion  
AI in Automotive**

*Moderation:*

*A. Stockem Novo, Westfälische Hochschule, Gelsenkirchen;*

*G. Schildbach, Universität zu Lübeck*

**13:55 From Guesswork to Precision: Learning-based robust optimization for Controllers and Actuators**

*J. Stecher<sup>1</sup>, L. Kiltz<sup>1</sup>, K. Graichen<sup>2</sup>*

*<sup>1</sup>ZF Friedrichshafen AG*

*<sup>2</sup>Friedrich-Alexander-University Erlangen-Nürnberg*

**14:20 Midsession break**

**Session 8 – AI und Machine Learning**

*Session Chair: M. Wahl, Universität Siegen & DUK, Kerala*

**14:45 Federated Learning in Automotive Control Systems**

*B. Alt<sup>1</sup>, A. Trachte<sup>1</sup>, J. Weber<sup>2</sup>, M. Gurtner<sup>2</sup>,  
A. Lobeg<sup>2</sup>*

*<sup>1</sup>Robert Bosch GmbH*

*<sup>2</sup>Austrian Institute of Technology*

**15:10 D2D-Rescore:  
Learned Non-Maximum Suppression  
for 3D Dense Object Detections via  
Detection-to-Detection Attention**

*T. Osterburg, S. Schütte, T. Bertram,  
Institute of Control Theory and Systems  
Engineering, TU Dortmund University*

**15:45 Best Contribution  
Closing**

*A. Stockem Novo, Westfälische Hochschule,  
Gelsenkirchen*

*G. Schildbach, Universität zu Lübeck*

*R. Schnabel, VDE/VDI/GMM, Offenbach am  
Main*

## General Information

**Conference Organization / Registration**

If you have any questions about registration, please contact:

VDE Conference Service

Ms. Judith Sanders

Merianstraße 28

63069 Offenbach am Main

Phone: +49 (0)69-6308-229

Fax: +49 (0)69-6308-144

E-Mail: [judith.sanders@vde.com](mailto:judith.sanders@vde.com)

URL: [www.vde.com](http://www.vde.com)

**Registration**

Please register for the Automotive meets Electronics and Control Conference via the VDE Conference Service. As to the registration link, please visit the event homepage [www.ame-konferenz.de](http://www.ame-konferenz.de)

You will receive your conference badge at the conference office on site before the start of the event.

The conference fee includes the proceedings.

## Payment of Registration Fees

Please do not transfer the registration fee to the specified account until having received confirmation of registration. The participant's name and invoice number must be indicated on the bank transfer.

For registration at short notice, the registration fee has to be paid in cash at the conference office at the venue. Participants who register on site must be aware that no conference badge can be issued.

Please note: A definite reservation for the conference will only be made after receipt of payment.

## Cancellation

Cancellations by January 9th, 2026 will be refunded minus € 90.00 processing costs; cancellations after this date cannot be refunded. However, it is possible to nominate a substitute participant.

## Phone contact person during the conference

The conference office can be reached via  
Phone: 0171 / 4695 118 (Ronald Schnabel)

## Venue

Kongress Dortmund GmbH  
Strobelallee 45, 44139 Dortmund

Contact: Danny Kuhne  
Phone: +49 (0)231 1204-1148  
E-Mail: danny.kuhne@kongress-dortmund.de

## Directions to Dortmund

### *Via Train*

Please book your journey to Dortmund main station (Hauptbahnhof). At the main station you take the subway line U 45 direction 'Westfalahallen'.

### *Public transportation*

The subway line 45 (direction Westfalahallen) takes you comfortably from Dortmund main station to the „Westfalahallen“ stop in 10 minutes.

From Dortmund City Center (U-Bahn stations Reinoldikirche or Stadtgarten), the U 46 (direction Westfalahallen) will also take you to the „Westfalahallen“ stop in about 5 minutes.

Alternatively, take the U 42 line (direction Hombruch) to the „Theodor-Fliehdner-Heim“ stop. From here it is only a few minutes' walk to the conference site.

For information call: 01803 50 40 30

### *By car*

Direct connection to the highways via the B 1 (A 40):

- A 1     Hansalinie
- A 45    Sauerlandlinie
- A 2     Berlin - Hannover - Dortmund - Oberhausen
- A 42    Duisburg - Dortmund
- A 44    Dortmund - Kassel

If you are traveling on the B1/A 40, take the exit to the B54 towards Hagen (not City Center). Turn right again immediately and cross the traffic circle to parking lot P5 which is reserved exclusively for AmEC participants.

If you are approaching via the B54, follow the signs to ‚Stadtkrone‘. The exit also leads you to parking lot P5 via the traffic circle.

If you use a GPS, please enter "Strobelallee" or the special destination „Westfalahallen“ as destination address.



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