Learn from these experts among others:

Dr. –Ing. Robert Inderka,
Manager Advanced Development E-Motor System,
Daimler AG, Germany

Dr. –Ing. Kai Brune,
Development Engineer, Development Electric Motor,
AUDI AG, Germany

Dr-Ing. Philippe Farah, Engineering,
Director, R&D,
Valeo Electric Systems, France

Pär Ingelström,
Research Engineer, Electromobility Sub-Systems,
Volvo Group Trucks Technology, Sweden

2016 featured topics:

• Gain insight into the current global market trends of e-motors as well as how current and future EU legislation is affecting the EV and HEV industry
• Learn how to incorporate the latest e-motor materials to reduce costs and free yourself from rare-earth magnet dependence
• Evaluate innovative e-motor design, including how to most effectively benefit from the move towards 48V systems
• Learn how modularised design and an automated assembly process can reduce manufacturing costs and optimize the production process
• Benefit from a range of case study insights from leading OEMs such as AUDI AG, Daimler AG and Volvo Group Trucks Technology and learn how to apply best practice learnings to your own e-motor projects

Meet with experts from the following companies and institutions:

• AUDI AG
• Daimler AG
• McLaren Automotive
• Volvo Group Trucks Technology
• Jaguar Land Rover Limited
• European Commission
• Frost & Sullivan Limited

• Mitsubishi Motor R&D Europe GmbH
• Robert Bosch GmbH
• Fraunhofer LBF
• ThyssenKrupp Systems Engineering
• Bundeswehr University Munich

• Bristol University
• Valeo Electric Systems
• Newcastle University
• University of Oxford
• FEAAM GmbH
The belief is growing amongst politicians, society and industry that the era of regular combustion vehicles will sooner or later come to an end. Mobility is increasing at the same time as pressure from government bodies, environmental groups and consumers to reduce CO₂ levels continues to rise. Electric vehicles meet many of the future demands being faced by the automotive industry.

The current challenge for e-motors is how to develop light, small and powerful versions in order to make them feasible for the mass market. Here we encounter the catch 22: Only mass production will lower the costs encountered, but currently EVs are too expensive to create a mass market. The driving question remains: How can we produce high-quality, cost effective e-motors without reaching high volumes?

We look forward to meeting you in February 2016!
08:15 Registration and welcome coffee

09:00 Chairman’s welcome & opening address:
Prof. Phil Mellor,
Professor of Electrical Engineering,
Bristol University, UK

Considering context: Trends and drivers behind electric powertrains

09:10 Status and understanding of Euro 6 legislation
- Current status and understanding of legislation
- OEM specific CO2 emission targets in Europe
- The role of EV and HEVs in achieving these targets
Jan Cortvriend,
Policy Officer, DG Environment,
European Commission, Belgium

09:50 Speed Networking
Get in touch with the other conference guests in quick paced 1-1 meetings – make sure you bring a tack of business cards. The session is followed by a short break.

10:30 Networking coffee break

11:00 Overview of global market for hybrid and electric vehicles
- Mobility trends and its impact on hybrid and electric vehicles
- Overview of global market for hybrid and electric vehicles – passenger car and commercial vehicles perspective
- Role of 48V systems for emission compliance – what can we expect?
- Electric traction drive forecasts for hybrid and electric vehicles
Ananth Srinivasan,
Consultant Mobility,
Frost & Sullivan, Germany

11:40 Trends in the development of e-motors for alternative powertrains
- Which type e-motor for which application
- Benefit of the different e-motor technologies
- Increasing power density – is this the right way
- What’s the next deal on e-motor technologies
Dr.-Ing Robert Inderka,
Manager Advanced Development E-Motor System,
Daimler AG, Germany

12:20 Networking luncheon

Optimising the process: From e-motor design to integration

13:50 Cost reduction of electrical drives by highly modularized design
- Cost reduction by economy of scale due to increased modularity
- High number of phases leads to high number of equal power electronic modules
- Usage of drives across different application areas by modular design
Florian Bachheibl,
Scientist,
FEAAM GmbH, Germany

14:30 A novel topology of high speed switched reluctance machine
- Description of machine topology and selection process
- Coupled electromagnetic-thermal design and optimisation
- Mechanical considerations for high speed operation
- Initial test results
Dr. Francisco Marquez-Fernandez,
Post-Doctoral Research Assistant,
Energy and Power Group,
University of Oxford, UK

15:10 Panel Discussion
Advanced e-motor design
Are there any questions about e-motor design and integration which have not yet been answered? Use this time to gain further understanding from the conference’s expert speakers.
Participants:
- Dr.-Ing. Philippe Farah, Engineering Director, R&D,
Valeo Electric Systems, France
- Ulwe Likar, Manager Advanced Engineering Planning,
Mitsubishi Motor R&D Europe GmbH, Germany
- Pär Ingelström, Research Engineer, Electromobility Sub-Systems,
Volvo Powertrain Corporation, Sweden

15:50 Networking coffee break

Innovative developments and future outlook

16:20 The powertrain of the new Audi Q7 e-tron 3.0 TDI Quattro
- Presenting AUDI’s first plug-in hybrid vehicle with a TDI engine and quattro powertrain
- Integrating a hybrid module with a high-torque electric machine between the internal combustion engine and the automatic transmission torque converter for impressive performance and consumption
- Optimisation of a plug-in hybrid vehicle with special consideration of thermal management, power electronics and the lithium-ion battery
Dr. –Ing. Kai Brune,
Development Engineer, Development Electric Motor,
AUDI AG, Germany

17:00 Optimizing PSM design for low dy-content magnet material
- Efficiency losses and thermal conditions of PSM
- Driving cycles for electric vehicles
- Operating points and effect on thermal conditions
- Optimizing motor design and operating strategy
Rüdiger Heim,
Head, R&D Division System Reliability
Fraunhofer LBF, Germany

17:40 Closing remarks by conference chairman,
Prof. Phil Mellor,
Professor of Electrical Engineering,
Bristol University, UK

18:30 Evening get-together
Join us to the restaurant “Filmbühne” and enjoy dinner in a special location – originally the first cinema in Germany. This is an excellent opportunity for you to meet the other attendees and make new business contacts or just to relax and round off your first conference day in an informal atmosphere. We look forward to welcome you!
08:45  Welcome coffee and networking

09:15  Opening remarks by conference chairman:
Dr. Alex Michaelides,
Technical Specialist - Electrical Machines and
Power Electronics,
Jaguar Land Rover, UK

Addressing cost concerns through the use of advanced components and materials

09:30  Realising high specific output from low cost ferrite magnets and aluminium windings
• Ferrite magnet advantage and limitations
• Working with aluminium windings
• AC loss analysis
• Demagnetisation analysis
• Building up a cost-effective eMachine

Dr. Alex Michaelides,
Technical Specialist - Electrical Machines and Power Electronics,
Jaguar Land Rover, UK

Prof. Phil Mellor,
Professor of Electrical Engineering,
Bristol University, UK

10:10  48V traction drive for electric vehicles: How to combine low cost, large driving range and high power
• Explanation of the novel stator cage machine
• Special advantage: High power at low voltage
• Consequences for the entire electric drive train
• Comparison with the benchmark Tesla Model S concerning costs, performance, fail-safety, modularity, etc.

Prof. Dr.-Ing. Dieter Gerling,
Institute for Electrical Drives,
Bundeswehr University Munich, Germany

10:50  Networking coffee break

11:20  Deep Dive
Optimised e-motor thermal management
Join with the audience of the Intelligent Thermal Management Systems in this interactive session to deepen your knowledge in close dialogue with experts in the areas of:
• Evolution of insulation systems
• Advanced materials
• Innovative heating & cooling

12:05  Feedback from round tables

12:20  Networking luncheon

13:50  Assembly solutions for electric motors in the automotive industry
• Portfolio of ThyssenKrupp for electric motors and brief overview of the InCar®plus innovations
• Example of an assembly line for a PMSM
• Example of an End-of-line test bench for an electric drive train
• Current challenges and outlook for serial production

Tobias Grobe,
Project Manager, Electric Mobility,
ThyssenKrupp System Engineering GmbH, Germany

14:30  Manufacturing and system design of an e-motor for commercial vehicles
• Dimensioning of electric motors for optimal system performance
• Thermal requirements: drive cycles and life of components
• Specific commercial vehicle challenges

Pär Ingelström,
Research Engineer, Electromobility Sub-Systems,
Volvo Group Trucks Technology, Sweden

15:10  Networking coffee break

15:40  High Performance Low Cost Motors for Electric Vehicles
• Ferrite traction motor development for use in a Battery Electric Vehicle
• Comparison with NdFeB based technologies
• Test programme for the ferrite motor

Mohammad (Kia) Kimiabeigi,
Research Associate,
Newcastle University, UK

Co-Author:
Dr. James Widmer,
Principal Research Associate
Newcastle University, UK

16:20  Q&A Session
Create your agenda!
Nominate the subjects that you would love to hear about and we will organize a lively and open discussion with panel experts and the audience. Feel free to submit questions you would like to have answered in course of this conference to the following e-mail address: yourquestions@iqpc.de. We will make sure that your questions will be part of this session.

17:00  Closing remarks by conference chairman
Dr. Alex Michaelides,
Technical Specialist - Electrical Machines and Power Electronics,
Jaguar Land Rover, UK
“You can succeed on your own terms but you can’t succeed alone”

Join our interactive workshops and benefit from in-depth sessions, hosted by selected industry experts. In our unique workshops, industry experts will share their expertise with a limited group of peers. Our workshop leaders provide in-depth knowledge and will actively foster open exchange and discussion to help you face challenges, discover solutions, and make decisions crucial to business excellence.

08:30 Registration and welcome coffee
10:30 Refreshment break and networking

09:00 – 12:00 Workshop A
Cost-optimized electrical drivetrain without compromising power

The workshop is intended to review how the electrical drivetrain can be optimized concerning costs, power, weight, efficiency and reliability. As a basis the novel stator cage machine will be described in detail and will serve as an example to achieve cost advantages. Be prepared to discuss your own experiences with fellow technical experts.

Major topics that will be discussed in this workshop include:
- Introduction of the novel stator cage machine
- Low system voltage leads to low cost power electronics
- Achieving high power by parallel modules
- High availability and reliability by parallel modules
- Efficient design leads to economies of scale

Prof. Dr.-Ing. Dieter Gerling,
Institute for Electrical Drives;
Bundeswehr University Munich, Germany

12:00 Networking luncheon
14:30 Refreshment break and networking

13:00 – 16:00 Workshop B
E-Motor design optimization through the reduction and substitution of heavy rare earths in high performance magnets

Join this workshop to gain a better understanding of the role of rare earth magnets in e-motor technologies as well as what efforts are currently employed to decrease the dependence on these critical raw materials.

Major topics that will be discussed in this workshop include:
- Material substitution (combinatorial high-throughput screening, synthesis and analysis)
- More efficient processes (microstructural tailoring)
- Optimized design
- Design for recycling/re-use
- Material flows in markets and the environment

Prof. Ralf B. Wehrspohn,
Director,
Fraunhofer IWM, Germany

16:00 End of the workshop day

Media Partners:

PowerGuru.org is a Power Electronics information portal and focuses on the needs of engineers and students working in the field of power electronics. PowerGuruis article content is provided by partner companies and ranges from power electronics basics to expert level material on power electronics devices and design, including a complete archive of Bodo's Power Systems magazine. Additional site features include a Power Electronics Jobs Page, event listing, and a Q&A forum.

AutoVolt is the UK’s first electric and hybrid vehicle magazine, providing an authoritative voice about exciting automotive design, cutting edge technology and innovative transport solutions.

www.autovolt-magazine.com
16 – 18 February 2016 | Hotel Palace Berlin, Berlin, Germany

The delegate fee includes the following services:
- Access to the purchased conference packages
- Catering during the entire conference
- Conference documentation

**Conference Packages**

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<th>Packages</th>
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<tr>
<td>Gold Package</td>
<td>€ 3,499,- + VAT</td>
</tr>
<tr>
<td>Silver Package</td>
<td>€ 3,199,- + VAT</td>
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<tr>
<td>Bronze Package</td>
<td>€ 2,699,- + VAT</td>
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Every registration includes a complimentary membership to Automotive IQ

Please indicate your choice of pre-conference workshop on Thursday, 18 February 2016

- A: Cost-optimized electrical drivetrain without compromising power
- B: E-Motor design optimization through the reduction and substitution of heavy rare earths in high performance magnets

Only one discount applicable per person.

CAN'T MAKE IT TO THE CONFERENCE? PURCHASE THE 2-DAY DOCUMENTATION FOR € 990,- + VAT.

Documentation will be sent 6 weeks after the event

Payment is due on receipt of the invoice.

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We have a variety of packages available to suit your requirements. For all Sponsorship and Exhibition opportunities call Andreas Wibowo on: +49 (0)30 20 91 32 12 or email andreas.wibowo@iqpc.de

**Venue and Accommodation**

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Phone: +49 30 2502-0
Fax: +49 30 2502 1109
www.palace.de

Accommodation: A limited number of reduced rate rooms are available at the conference hotel. Accommodation can be booked by calling the central reservation number. Please always quote the booking reference IQPC-Berlin.

Hotel accommodation and travel costs are not included in the registration fee.

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