Advanced E-Motor Technology 2017

14 – 16 February 2017, Berlin, Germany

Learn from these experts among others:

Rüdiger Heim,
Director Division
System Reliability,
Fraunhofer LBF, Germany

Dr. Alex Michaelides,
Technical Specialist –
Electrical Machines,
Jaguar Land Rover, UK

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

3 FULL DAYS 12 + SPEAKERS 2 ROUND TABLES 1 PANEL 3 WORKSHOPS
UNLIMITED NETWORKING OPPORTUNITIES

At the conference you will learn:

- Gain insight into **next-generation e-motor design** to effectively comply with **future demands** in **passenger cars** and **commercial vehicles**
- Learn about **new materials** for **cost efficient e-drive systems**
- Benefit from novel concepts to enhance **heat transfer** to significantly **raise system performance**
- Find out about **latest testing methods** for **electric powertrains** and **components** to improve development time
- Discuss **innovative concepts** and **up-to-date experiences** for bringing e-motor technology into **mass production**

Co-located with

Thermal Management for EV/HEV

Registration and welcome coffee

Who is who wall **-** Discover who else is participating in the conference. The matchmaking picture wall will help you identify who you want to meet at the conference.

Chairman's opening

Future global trends of e-motor technology

Outlook on market developments of electric motors

- Forecast and comparison of market developments of electric powertrains 2020 and beyond for Europe, US and Asia
- Visions regarding e-mobility for the upcoming five years in China
- Effects of international market developments – especially China – on the European market

Speed networking **-** Get in touch with the other conference guests in quick paced 1-1 meetings – make sure you bring a stack of business cards. The session is followed by a short break.

Refreshment break and networking

Emission legislation as driver for mass production of electric machines

- Prediction of market volumes of electric commercial vehicle within different market segments
- Potential of e-technology
- Innovative cooperation models

Transverse flux machines in a generator-electric vehicle: The use of advanced electric motors for energy generation and propulsion

- Design of transverse flux machines
- Electric drive train of a generator-electric vehicle
- Dual drives for torque vectoring, agility and manoeuvrability
- Chassis integrated drives vs. in-wheel motors

Bringing e-motor technology to mass production

- Latest advancements to improve efficiency to produce electric motors
- Technological requirements
- Opportunities and barriers to high-volume production

Networking luncheon

Advanced e-motor concepts

News of traction drive systems: an OEM`s perspective

- Concepts to enhance performance
- Possibilities of simultaneously reducing costs of traction drive systems
- Lesson`s learned for system improvement within the past five years

Optimization of e-machines for automotive use

- Novel approaches to optimize e-motors for passenger cars
- Current challenges of increasing system complexity
- Limits and chances for improved integration

Refreshment break and networking

Next-generation e-motor design

- Smart e-motor design to comply with future demands
- Ways to properly approach key areas of electrified powertrain development
- Higher performance potential of sophisticated e-motor design

Concepts to improve efficiency of e-drives for commercial/heavy duty vehicles

- Challenges to decrease costs
- Aspects of reliability to comply with factor 10 regarding life time duration of components in comparison to automotive use
- Advanced cooling systems of e-drives for commercial vehicles

New materials for advanced e-motor technology

New materials for cost-efficient e-drive system production

- Innovative materials for performance improvement of electric drive systems
- Aspects of cost-efficiency
- Future outlook

Closing remarks of the chairman and end of day one

Evening event **–** Join us for an informal evening get-together! This is an excellent opportunity for you to meet the other attendees and make new business contacts.

Chairman's opening

Virtual real world testing of advanced e-motor technology

New concepts of simulation of e-motor design

- Numerical methods to support optimization and design of electric machines
- Exploring latest three dimensional thermal analysis
- Identification of various drivers behind latest simulation methods

Latest testing methods for electric powertrains and components

- Introducing new testing methods
- New simulation models
- Test results and validation

Refreshment break and networking

Power electronics for e-drives

Impact of higher voltage on the entire e-system

- Requirements for the raise of battery voltage
- Effect on e-machines and their life-time durability
- Latest solutions and future developments

Advanced material packaging for high effective power electronics

- Technological demands
- Possibilities to guarantee proper material packaging
- Latest improvements

Energy storage for e-motors

Potential energy storage for advanced e-motor technology

- Current developments and visions
- Technological requirements
- Lesson`s learned

Optimized thermal management for E-motors (co-located with Thermal Management for EV/HEV)

Novel concepts to enhance heat transfer to significantly raise system performance

- Advanced approaches for optimized heat transfer
- Technical requirements and challenges
- Pushing the limits: Effective solutions for smart heat transfer

Networking luncheon

R&D in thermal management of e-motors

- Data, analysis methods, and experimental techniques to improve and better understand thermal management of e-motors
- New materials and parts designs for better passive thermal performance
- Exploring possibilities of efficient heat transfer to compliment passengers comfort

Optimize design for cooling systems for e-motors

- Understanding thermal processes through simulation of e-motors
- Design for thermal efficiency and optimal heat transfer
- Optimize working modes to achieve the best performance

Technical round table discussions

Delegates will be sorted into two groups to facilitate a healthy and engaged discussion in a smaller group. After half an hour the delegates will swap round table and topic giving you the chance to participate in all discussions.

Table 1: **Thermal management strategies for modern E-Motors in order to achieve the best performance**

Table 2: **Comparing practices of thermal simulation in order to understand the way to an ideal design**

Final Q&A session

Address your current challenges or questions to the audience and discuss collectively possible approaches and solutions.

Closing remarks of the chairman and end of conference

"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. Our **industry experts** will share their **expertise** with a **limited group of peers**. Our workshop leaders will actively **foster open exchange** and **discussion** to help you **face challenges**, **discover solutions**, and **make decisions** crucial to **business excellence**.

Workshop A 09:00 – 11:30: *Combined electrochemical-thermal characterization and modelling of Li-ion cells to prevent thermal runaway*	**Workshop B 09:00 – 11:30: *Innovative e-motor design and smart material packaging***
Use this workshop to gain further understanding into the combined electrochemical-thermal characterization and modelling of **Li-ion cells**. The workshop will be divided in two parts. The first part will explore the **characterization of Li-ion cells** in battery calorimeters under different thermal conditions in order to study **the influence of ageing phenomena** on different modes of heat generation and to collect data that can be used in battery and thermal management systems. In the second part, a **general thermal model** will be derived, discussed and extended with respect to thermal runaway. You will have the opportunity to discuss the application of such model and give simplifications of the model suitable for the use in thermal management systems and for **solving issues of thermal runaway**.	In this workshop you will discuss the following aspects: How will the **next-generation e-motor design** look like? What are the **current challenges** in e-motor technology design and how can they be addressed? How does **smart material packaging in e-motor technology** look like? And what are the ways to improve **efficiency, cost, weight** and **production?**
11:30 – 12:30 Networking luncheon	
Workshop C 12:30 – 15:00: *Alternative heating solutions with heat-based cabin surfaces*	**Workshop D 12:30 – 15:00: *Global market trends of e-motor development from light to heavy duty vehicles***
This workshop's primary goal is to discuss and find **solutions for minimizing thermal energy consumption** without compromising cabin comfort. Smart solutions on reducing climate control need with **zone-based cabin temperature controls** as well as possibilities of dashboard and **steering wheel heating** will be explored with the ultimate goal of energy optimization. What are the current trends and how can you advance cabin comfort to the next level?	This session is designed to give you a profound insight into latest and upcoming **market trends of e-motor technology** for both, **light and heavy duty vehicles**. You will discuss the **future trends** of e-motor technology in **Europe, USA and Asia.** How is the European market preparing to react on the **Chinese market?** How will the next 1-5 years look like in this respect?
15:00 – 15:15 Networking luncheon	
Workshop E 15:15 – 17:45: *Implementation of modern heat transfer materials for passive cooling improvement and systems cost reduction*	**Workshop F 15:15 – 17:45: *Thermal management for e-motors***
This workshop's primary goal is to learn about **modern materials** and their appliance **in maximizing passive thermal energy dissipation** without increase in **systems cost**. There are ways to achieve **optimal heat transfer** from electronic components – by using **passive measures** such as radiators and dissipation plates. Such systems costs are cheaper than the ones with active cooling thus a **competitive advantage** can be **achieved.** Join us and learn more about it.	To **significantly improve efficiency** of e-motor technology thermal management is of very high importance. This workshop is an interactive session which will focus on understanding the relevance of **heat transfer** when it comes **to improve performance** and **efficiency of e-motors.** In this interactive session you will discuss the recent findings related to **innovation of thermal management** and the **possibilities** and **limitations.**

Co-located with

Thermal Management for EV/HEV

Automotive iQ
a division of IQPC

Advanced E-Motor Technology 2017

Every registration includes a complimentary membership to Automotive IQ

Conference Packages	1st Early Bird Book & Pay By 04 November 2016	2nd Early Bird Book & Pay By 09 December 2016	3rd Early Bird Book & Pay By 20 January 2017	Standard Pricing
Bronze (2 Day Conference)	(save €100) €2,649+VAT	(save €100) €2,649+VAT	(save €100) €2,649+VAT	€2,749+VAT
Silver (2 Day Conference + One Workshop)	(save €400) €2,849+VAT	(save €300) €2,949+VAT	(save €200) €3,049+VAT	€3,249+VAT
Gold (2 Day Conference + Two Workshops)	(save €500) €3,049+VAT	(save €400) €3,149+VAT	(save €300) €3,249+VAT	€3,549+VAT
Platinum (2 Day Conference + Three Workshops	(save €600) €3,249+VAT	(save €500) €3,349+VAT	(save €400) €3,449+VAT	€3,849+VAT

4 Ways to Register

Fax: +49 (0)30 20 91 32 40

Post: IQPC Gesellschaft für
Management Konferenzen mbH
Friedrichstraße 94
10117 Berlin, Germany

Email: eq@iqpc.de

For further information

Phone: +49 (0)30 20 91 32 74

BOOKING CODE: EQ

- ○ Workshop A: Combined electrochemical-thermal characterization and modelling of Li-ion cells to prevent thermal runaway
- ○ Workshop B: Innovative e-motor design and smart material packaging
- ○ Workshop C: Alternative heating solutions with heat-based cabin surfaces
- ○ Workshop D: Global market trends of e-motor development from light to heavy duty vehicles
- ○ Workshop E: Implementation of modern heat transfer materials for passive cooling improvement and systems cost reduction
- ○ Workshop F: Thermal management for e-motors

Delegate Details

Please fill out in Capitals!

DELEGATE ☐ Mr ☐ Mrs ☐ Ms ☐ Dr

Family Name First Name

Position Email

Telephone Fax

Organisation

Address

Postcode/Town

Approving Manager:

Signature

I agree to IQPC Gesellschaft für Management Konferenzen mbH payment terms.

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Cardholder's name

Signature

Card billing address (if different from Company address)

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SPEAKER CHANGES
OCCASIONALLY IT IS NECESSARY FOR REASONS BEYOND OUR CONTROL TO ALTER THE CONTENTS AND TIMING OF THE PROGRAMME OR THE IDENTITY OF THE SPEAKERS.

DATA PROTECTION
PERSONAL DATA IS GATHERED IN ACCORDANCE WITH THE DATA PROTECTION ACT 1998. YOUR DETAILS MAY BE PASSED TO OTHER COMPANIES WHO WISH TO COMMUNICATE WITH YOU OFFERS RELATED TO YOUR BUSINESS ACTIVITIES. IF YOU DO NOT WISH TO RECEIVE THESE OFFERS, PLEASE TICK THE BOX BELOW.

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