

# MATERIALS IN CAR BODY ENGINEERING 2018

Steels, light metals, fibre reinforced plastics – in search of the optimal lightweight material mix

**15 – 17 MAY 2018, BAD NAUHEIM, GERMANY**

**MODULE 1: COMPOSITE AND HYBRID MATERIALS**

**MODULE 2: STEEL AND LIGHT METALS**



**CALL FOR  
PAPERS**

## CONTINUOUS OPTIMISATION

Due to foreseeable new demands regarding CO<sub>2</sub>-emissions and the challenges of automobile electrification, weight saving and light-weight design remain a main topic of modern car body engineering, in all available forms, depending on economic feasibility and demands – from intelligent functional steel lightweight design to light-metal-intensive structures up to a complex multi-material-classes mix. Constant advances in material development as well as in semi-finished goods and in the series processability of the applied materials expand the possibilities of application and combination. Therefore, the car body engineering mantra **“the right material in the right place”** needs to be redefined again and again – continuous optimisation is requested.

Meanwhile, making full use of new design possibilities, implementing e-vehicle architectures, complying with newest crash safety requirements, minimizing costs as well as maximizing production flexibility, paying attention to corporate specifics and worldwide availability of materials – all of this and more outlines the challenges of finding ideal solutions for material concepts in modern car body engineering.

Helping with this task with profound information and an exchange of expertise on the highest level is the aim of the annual Automotive Circle conference “Materials in Car Body Engineering”, gathering once more its global network of automobile engineers in Bad Nauheim from 15 to 17 May 2018.

Three conference days address, in two separate yet overlapping conference modules, the state of industrial developments and applications of composite and hybrid materials on the one hand, and car body lightweight design with innovative steel and light metal developments on the other. During the joint session with delegates from both modules on the second conference day, the focus will lie on current car body material concepts as well as innovative ideas for intensive material mix solutions.

Now your expertise is called for: We are looking forward to your suggestions on how to enrich this event with your recent development results!

### INTERNATIONAL OEM ADVISORY BOARD:

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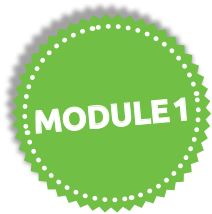
### PROGRAMME COORDINATOR:



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## RANGE OF CONFERENCE TOPICS:



### COMPOSITE AND HYBRID MATERIALS

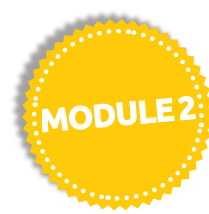
15/16 MAY 2018

- ▶ Fibre reinforced plastics
  - Volume series production technologies
  - Joining technologies for homogeneous and mixed-material joints
  - Validation and simulation of CFRP parts and constructions
  - Materials-specific car body architectures
  - Non-carbon-fibre reinforced plastics
- ▶ Material mix within car body parts: Hybrid materials and their application

### OVERLAPPING SESSION FOR BOTH MODULES

16 MAY 2018

- ▶ Current OEM car body material concepts
- ▶ Novel approaches to an intensive material mix
- ▶ New materials: Material properties of additively manufactured components



### STEEL AND LIGHT METALS

16/17 MAY 2018

- ▶ Further development of steel applications
  - 2<sup>nd</sup> and 3<sup>rd</sup>-generation AHSS
  - Press-hardened steels, tailored tempering
  - Corrosion protection
  - Alloys and semi-finished goods with new property combinations
- ▶ Progress in aluminium usage
  - Market situation, economic viability, standardisation
  - Attainable mechanical strengths
  - Hot-forming of Al; corresponding process technology
  - Joining technology as a lightweight-design enabler
  - Semi-finished goods, complex die-cast parts
- ▶ Possibilities for magnesium
  - Realistic lightweight design potential, market situation
  - Use cases in the car body
  - Corrosion protection issues, challenges caused by Mg anisotropy

## CONFERENCE STRUCTURE:



## CALL FOR PAPERS

Interested speakers are kindly requested to submit their suggested contribution no later than

**31 DECEMBER 2017**

via e-mail to the programme coordinator, or through the [online submission form](#).

Your submission should contain:

- ▶ the title of the suggested presentation
- ▶ name and contact details of the speaker and co-authors
- ▶ a concise, informal abstract, summarizing in technical terms the contents of your suggested presentation, especially explaining the practical benefit and/or potential of your results for the advancement of car body material concepts.

Based on this input, the OEM Advisory Board of the conference will evaluate all suggested contributions, particularly taking into account their novelty, their practical industrial relevance and engineering-oriented, non-commercial style.

## FURTHER DATES

Notification of acceptance  
**Mid-January 2018**

Publication of the conference programme  
**End of January 2018**

Submission of the presentation files  
**30 March 2018**

For each contribution to the conference, complimentary participation to the corresponding conference module is granted to one speaker per presenting company/institution.