Plastics in Automotive Engineering 2017
March 29–30, 2017, Mannheim

OUR TOP THEMES

- Future world 2050: growth, smart revolution and resources
- Innovative composite components for premium cars
- Series-production application of hybrid technology for lightweighting and support structures
- Two-component injection molding with breathing mold
- Aerodynamic optimizations and lightweight solutions for CO₂ reduction
- Optimized collision simulation for components made of organo sheets
- Production and testing in the use of engineering recyclates

with friendly support of:

+1500 Attendees
+100 Exhibitors
+80 Speakers

PARALLEL CONFERENCE:
Plastics in Commercial Vehicles

An Event organized by VDI Wissensforum GmbH • www.vdi-wissensforum.de/en/plastics-in-automotive-engineering • Phone +49 211 6214-201 | Fax +49 211 6214-154
Dear Sir or Madam,

Engineering plastics, fiber-reinforced composites and multifunctional plastic composites provide ongoing support to the modern automotive industry today. In many cases multi-functional tools and automated processes make particularly economic systems solutions possible. Additive manufacturing in combination with plastics already have a great potential today for producing individual, tailor-made component concepts above all for small production runs.

Lightweight construction, an attractive look and feel for the interior, and active and passive safety stand right at the forefront of new automotive developments today. Innovations in plastics technology have a direct influence on tomorrow’s vehicle concepts. Mixed construction with plastic composites, natural fiber applications, overmolded and in-mold film laminated parts, LCD- and OLED-based lighting technologies, and also optically and tactically optimized display and operating concepts make tailored system solutions possible in both passenger cars and commercial vehicles and thus secure in the long term the international competitiveness of the plastics and automotive industries.

The Association of German Engineers invites you to Mannheim on the 29th and 30th March 2017 for the annual international plastics conference ‘Plastics in Automotive Engineering 2017’. Overview presentations on resource efficiency from research and the market, technical reports on innovations in plastics from the car and commercial vehicle sectors, as well as practical reports from plastics processing provide detailed information on the current state of the art in plastics technology in automotive engineering. An exhibition involving plastics producers and machinery manufacturers as well as an affiliated motor show with the latest cars and commercial vehicles provide a focus for an exchange of specialist information at the object itself.

May we cordially welcome you to Mannheim!

Prof. Dr. Rudolf Stauber,
Fraunhofer Project Group Materials Recycling and Resource Strategies, IWKS, Alzenau and Hanau

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**Program overview**

**TUESDAY, 28TH MARCH 2017**

**20:00**  
**Automotive Night**

**WEDNESDAY, 29TH MARCH 2017, FIRST DAY OF CONGRESS**

**MOZARTSAAL**  
**09:00**  
**Plenary Session**

**10:45**  
*Coffee break and visit to the exhibition*

**11:30**  
**Exterior**

**11:30**  
**Materials & Methods**

**13:00**  
**Lunch and visit to the exhibition**

**14:30**  
**Interior**

**14:30**  
**Masterbatch**

**16:00**  
**Coffee break and visit to the exhibition**

**16:40**  
**Simulation**

**16:40**  
**Tools / Machinery**

**18:10**  
**Evening reception in the exhibition**

**STAMNITZSAAL**  
**09:00**  
**Plastics Engineering**

**10:30**  
**Plastics Processing Companies**

**12:00**  
**Consulting / Research**

**13:45**  
**Plenary Session**

**14:45**  
**Closing words**

**14:55**  
**End of the congress**

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**Technical sponsors**

**VDI Society for Materials Engineering**

The VDI Society for Materials Engineering makes a point of networking experts both from business and from scientific fields close to actual applications in order to allow discussion of current questions about components and products from the point of view of materials and the corresponding technologies and also to enable engineers in this field to access via the network the approaches to solutions which have been worked out. www.vdi.de/gme

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**Target Group**

Manager, Engineers, Technicians, Developer etc. of the Industry (OEM, Tier-1), Economy, Research
20:00  Automotive Night at the Manufaktur Mannheim

On the eve of the first congress day we invite you to the "Automotive Night". In a communicative and relaxed atmosphere, the get-together offers a good opportunity ahead of time to talk and network with other participants, speakers and exhibitors.

Buses leave the Dorint Hotel Mannheim at 7:45 pm on 28th March 2017.

with friendly support of covestro
14:30 New vinyl ink and robotized inkjet printing process for the fine decoration of instrument panels made by PVC slush molding
- Inkjet printing
- PVC slush molding
- Instrument panel customization
Dr. Nicolas Amouroux, Ph.D., Director Automotive Interior, Co-author: Mustapha El Fazari, both of IV Group, Reims, France

15:00 Plastic Interface Technology 2.0 – an attractive possibility to produce decorative and functional surfaces
- Bonding technology
- Back moulding with thermoplasts
- Cost efficiency and reduced complexity
- Decorative and functional surfaces
- High surface quality and design performance
Dr. Ralf Langendörfer, Engineering Group Manager, Adam Opel AG, Rüsselsheim and Dr. rer. nat. Dipl.-Chem. Erik Licht, Head of Business Development, Co-author: Klaus Müller, both of Basell Deutschland GmbH (LyondellBasell), PP Compounds, Frankfurt a. M

15:30 New surfaces and requirements of applying existing testing methods
- Basics about coating inside the mold
- Basics about automotive testing methods
- Special requirements during the implementation of tests
- Methods for finding the cause of a failure
Dipl.-Ing. (FH) Jörn Günther, Managing Director, Co-author: Dipl.-Ing. Dominik Malecha, both of Kunststoff-Institut Lüdenscheid GmbH

16:00 Methods | Prof. Dr. Rudolf C. Stauber

16:40 Innovative processing of thermoplastic composites for Porsche Panamera brake pedal
- Potentials and limits of thermoplastic composites
- Design of fiber orientation
- Development cycle for endless-fiber parts
- Automation for processing thermoplastic composites

17:10 Energy-efficient production of thermoplastic CFRP parts by direct processing
- Motivation for energy-efficient and sustainable lightweight design
- Electric-resistance heating of carbon fibers
- Direct impregnation in injection-molding machines

17:40 3D direct filing of natural fibers in the fiber blowing process
- Material combination of natural fibers and secondary carbon fibers
- Development of formulations / stiffness optimization
- Maximum lightweight construction
- New industrial production process for fiber-composite components

18:10 Evening reception on the exhibition on the first congress day
All attendees are cordially invited to a communicative get-together with a drink and buffet. Discuss the results of the first day of the congress with your colleagues and make new contacts. We very much look forward to seeing you!
09:00 Application of discontinuous carbon fiber-reinforced plastics in a differential housing for a hybrid super sports car
- General conditions for exhaust gas treatment
- Requirements for the polymers and materials
- Material specifications
- Tanks, tubing, delivery modules
Ing. Stefan Klaus Nöthdurft, Head of Engineering, Advanced Composite Research Center, Automobili Lamborghini S.p.A., Sant’Agata Bolognese, Italy

09:30 Application of pultrusion process technology to automotive engineering for highly stressed body structures
- Automated large-scale automotive production of fiber-reinforced composite parts
- Thermoset pultrusion
- Door structures
Dr.-Ing. Philipp Härmann, Designer Lightweight Design Fiber-Reinforced Doors, Development Body Construction and Dr.-Ing. Tobias Ströhlein, Planner Technology Development, Production Processes, Co-authors, Dipl.-Ing. (FH) Kino Barmemann, Dipl.-Ing. Helge Herten, Dr.-Ing. Volker Hohm, all of Volkswagen AG, Wolfsburg

10:00 Hollow profiles, organosheets and LRPIT node structures: hybrid components made of fiber-reinforced plastics for automotive serial production
- Components
- Frame structures
- Lightweight design
Dipl.-Ing. Alexander Liebsch, Research Engineer, Institute of lightweight design and Plastics Technology (ILK), TU Dresden and Dr.-Ing. Tobias Ströhlein, Planner Technology Development, Production Processes, Co-authors, Dipl.-Ing. (FH) Kino Barmemann, Dipl.-Ing. Helge Herten, Dr.-Ing. Volker Hohm, all of Volkswagen AG, Wolfsburg

10:30 Coffee break and visit to the exhibition

11:10 Materials Data Space for composite materials: digitization of material competence within the framework of Industry 4.0
- Material data
- Linked simulation
- Integrated inspection
Dr.-Ing. Ralf Schlümpfer, Group Leader, Fiber Composite Structures, Co-authors, Prof. Dr.-Ing. Peter Michel, Dr.-Ing. Matthias Zscheyge, all of Fraunhofer-Institut für Mikrostruktur von Werkstoffen und Systemen IMWS, Halle

11:40 Two-component air-guide panel of BMW 7 series manufactured by co-molding and foaming using core-back technology
- Foam injection molding (MuCell®)
- Co-molding
- Core-back technology / core-back expansion
- Hard-soft combination
Dr.-Ing. Alexander Rach, Head of Technology Thermoplastics, Polymer Engineering, Development, BHP Kunststoffwerk Marbach Baier, Marbach am Neckar. Co-author, Andreas Menrath, Fraunhofer ICT, Pfinztal

12:10 Lunch and visit to the exhibition

13:15 Application of organosheets in underbody components
- Cost- and weight-optimized off-road package
- PP-GF, fiber reinforcements in a matrix of thermoplastics
- Underbody components
Dipl.-Ing. (FH) Robert Apfelbeck, Head of Development Mounting Parts Subsurface and Sven Müller, B. Eng. (BA), Development Mounting Parts Subsurface, Co-authors, Andreas Fidorra, all of AUDI AG, Neckarsulm & Ingolstadt

13:45 Design developments relevant to the future in the vehicle interior
- Overview of current cockpit design developments
- Effects on cockpit design of ‘autonomous driving’
- Definition of design factors in the vehicle interior for ‘autonomous driving’
- Outlook for increasing ‘resolution tendencies’ in the cockpit
Dipl.-Ind.-Des. Jörg Friedrich, Managing Director, Car Men GmbH, Idstein/ Kröftel
MARKETPLACE PLASTICS IN AUTOMOTIVE ENGINEERING

One of the highlights of the automotive congress in Mannheim is the accompanying trade show. For congress visitors’ eyes only, more than 100 national and international companies will present innovative solutions in plastics in the foyer of the Congress Centre. The auto show presents the latest models and highlights, the attendees have the opportunity to study and discuss the components directly on the vehicle.

Exhibitors at Plastics in Automotive Engineering 2017 (as at December 2016)

3A Composites Core Materials
3M Deutschland GmbH
A. Schulman GmbH
A.P.I. S.p.A.
Akro-Plastic GmbH
ALBA tooling & engineering GmbH
almaek international GmbH
Americhem Europe Ltd
ARKEMA
Asahi Kasei Plastics NA Inc.
Ascend Performance Materials spol
Barlog plastics GmbH
BASF Deutschland GmbH
BASF Polyurethanes GmbH
BASF SE
Bertram AG
Biesfelder Plastik GmbH
BOREALIS AG
Celanese Engineered Materials Division
Christian Karl Siebenwurst GmbH & Co. KG
Clariant SE
Covestro Deutschland AG
Dema Engineering Plastics GmbH
DuPont International Operations Sàrl
EIDT GmbH & Co. KG
Elektro Klima A.G.
ELB Polymers S.L.
Eringlinger AG
EMS-Cheins (Deutschland) Vertriebs GmbH
Engel Austria GmbH
Eringer Compounds Geschäftsbereich der IP-Polymer GmbH
Evonik Industries AG
Fraunhofer-Institut ICT
FRMD Group GmbH
Georg Kaufmann Formenbau AG
GKG Goldmann Kunststoffe GmbH & Co. KG
Graf Advanced Polymers GmbH
Graf Gesellschaft Wärme-Kältetechnik mbH
HIBO GmbH
HIBW Gubisch Thermostformung GmbH
Hexion GmbH
Hoffmann + Voss GmbH
HRSflow GmbH
INCO International Europe
INOS Styrolution Europe GmbH
Institut für Verbandsverwaltungs GmbH
Intertek Polychemlab B.V.
Kiefel GmbH
Kirchhoff Sci. & Tech. (Europe) GmbH
Kraiburg TPE GmbH & Co. KG
Krauzy/Mariti Technologies GmbH
Kunststoff-Institut für die mittelständische Wirtschaft NRW
Kurz Stiefung & Co.KG
Lanxess Deutschland GmbH
Lehmann & Voss & Co. KG
LG Chem Polakas Sp. z o.o.
Lotte Advanced Material Europe GmbH
Maruni Europe Pte.
MF Software Sales & Service Group GmbH
Mitsubishi Rayon Co. Ltd
Mitsui Chemicals Europe GmbH
Momentum Performance Materials GmbH
Nanogate AG
Nexeo Solutions Germany GmbH
Nissha Europe GmbH
Oderwald-Chemie Technologie GmbH
Oerlikon Balzers Coating Germany GmbH
On-Warmmetall GmbH
PART Engineering GmbH
PENTAC Polymer GmbH
Plastics Engineering Group GmbH
PolyOne
Polyployst Compound Werk GmbH
Polypoylates Europe GmbH
Polyram plastic industries LTD
Polyvap Polymers B.V.
Profi KG
QIN-FORM GmbH & Co. KG
Quadrant Plastic Composites AG
Quarzweger GmbH
RadiGroup Performance Plastics
Recotel Autobilotsysteme GmbH
Repal Quimica, S.A.
Resinex Germany GmbH
Resnoviplast S. A.
RIVA-Polymer GmbH
Rock Test GmbH
ROMIRAB GmbH
ROWA Masterbatch GmbH
SABIC Innovative Plastics BV
SECISU CHEMICAL CO., LTD.
SHANGHAI PRET COMPOSITES CO LTD.
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SOLVAY
Summerer Technologies GmbH & Co. KG
Syntventive Molding Solutions GmbH
Tory Industries Europe GmbH
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Media Partners

Congress office

Congress Center Rosengarten, Lobby
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Fax: +49 (0) 621 62 60-59 01

Office hours Plastics in Automotive Engineering
Wednesday, 29th March 2017 8.00 am to 6.30 pm
Thursday, 30th March 2017 8.00 am to 3.00 pm

Congress languages
German and English (with simultaneous interpreting)

Note
Make best use of your time in Mannheim for contacts and save yourself waiting time when the congress begins by picking up your congress documents on Tuesday, 28th March 2016 between 6:00 pm and 9:00 pm at our advance check-in facility in the Derit Kongress-Hotel Mannheim.

Information

If you would like to exhibit or sponsor at this VDI congress please contact:
Sandra Klack
Project Consultant Exhibition and Sponsoring
Phone: +49 (0) 211 62 16-188
klack@vdi.de

EXHIBITORS

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CONGRESS APP

Plastics in Automotive Engineering in your store:
March, 2017!

With friendly support from:

TRINSEO
Plastics in Commercial Vehicles

Lightweight design for increased payload: new approaches using fiber-reinforced plastics and microcellular injection molding

Carbon lightweight design: lighter and cheaper than metal
Dipl.-Wi.-Ing. Gerret Kalkhoffen, Managing Director, Carbon Truck & Trailer GmbH, Stade

Development of a carbon-composite transmission housing
Dipl. Ing. (FH) Monika Kreutzmann, Technology & Innovation Advisor, Head of COC Composites, Co-authors: Dr. Thomas Schneider, Dipl. Ing. Raik Rademacher, all of PuZ Engineering GmbH Munich

The use of an alternative material for engine encapsulation in trucks

A new analytical calculation method for the injection-molding process of composite luggage rack holder
Prof. Mustafa Bakkal, Associate Professor, Mechanical and Manufacturing Engineering, Istanbul Technical University, Istanbul, Turkey, Co-authors: Okan Öztür, Sami Doğru, both of Daimler, Istanbul, Turkey

True confidence in thermoplastic composite simulations for any automotive component
Warden Schijve, Chief Scientist Composites, Co-authors: Recep Yaldiz, Gino Francato, all of SABIC, Geleen, Netherlands and Düsseldorf

UV-resistant plastics for dynamically and statically most-stressed parts to achieve cost efficiency
Dipl.-Ing. (FH) Christian Bauer, Development Engineer, Team leader Professional Group Body Construction, Co-author: Dipl.-Ing. (FH), Hartmut Hieber, both of MAN Truck & Bus AG, München

Lightweight carrier system for the air filter of the Mercedes-Benz Actros
Dipl.-Wirt.-Ing. (FH) Horst Hauke, Managing Director, BBP Kunststoffwerk Marbach Baier GmbH, Marbach am Neckar

Commercial vehicle interior design developments
Dipl. Industrie Designer (FH) Jörg Friedrich, Managing Director, Unternehmensberater/Designer, Car Men GmbH, Idstein

Innovative plastic applications for a small city-bus concept
Dr.-Ing. Gerhard Kopp, Team Leader Lightweight Concepts and Methods Road Vehicles, Co-authors: Dipl.-Ing. (FH) Oliver Dittrich, both of Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Institute of Vehicle Concepts, Stuttgart, Prof. Dr.-Ing. Alexander Müller, Hochschule Esslingen – University of Applied Sciences, Esslingen

Development of lightweight vehicle bodies for caravans and commercial vehicles

Further details and the final program can be found here: www.vdi-wissensforum.de/kunststoffe-in-nutzfahrzeugen
Why attend?

Take advantage of this opportunity for participating in technical discussions at the physical object itself

About 80 talks from vehicle manufacturers and the relevant suppliers

Experience the latest models from the automakers in the accompanying auto show

Exhibition with about 100 exhibitors from along the entire process chain

High-quality networking platform

International Congress

Plastics in Automotive Engineering 2017

Please choose your price category

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<tr>
<th>PC</th>
<th>VDI Congress Plastics in Automotive Engineering (01TA701017) Price per person plus VAT</th>
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<tr>
<td>Participation Fee</td>
<td>EUR 1.290,-</td>
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<td>Participation Fee VDI Member</td>
<td>EUR 1.190,-</td>
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VDI membership number* (* For the price category 2, please state your VDI membership number)

I like to register to the Automotive Night on March 28th, 2017 (at 8pm), price per person: EUR 30,-

I'm interested in Sponsoring and/or Exhibition

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https://www.vdi-wissensforum.de/en/terms-and-conditions/

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Venue / Accommodation

Congress Venue:
Congress Center Rosengarten,
Rosengartenplatz 2,
68161 Mannheim,
Germany,
Phone +49 (0) 621 41 06-0 (Main Switchboard),
www.mcon-mannheim.de

Accommodation:
A limited number of rooms are available at a special rate.
Please book your accommodation early.
To make your reservation:
www.kunststoffe-im-auto.de

Venue of the Automotive Night:
Manufaktur - Mannheimer Genusswerk,
Industriestraße 35,
68169 Mannheim

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