

# EALA – EUROPEAN AUTOMOTIVE LASER APPLICATIONS 2018

19<sup>TH</sup> EUROPEAN EXPERT CONFERENCE  
6 – 7 FEBRUARY 2018

CAR BODY ENGINEERING



**OEM**  
PRESENTATIONS BY

Audi, Daimler,  
Fiat, Renault,  
Volvo, VW

## LASER-BASED PROCESSES FOR FUTURE CAR BODY PRODUCTIONS

Innovative laser beam design and laser beam guidance systems, more efficient quality and process control, greater process robustness, improved energy and cost efficiency, new application areas for laser welding and brazing in the automotive lightweight material mix: The options for laser-based processes in modern car body and automobile manufacturing as well as their capabilities continue to increase.

However, the technical and economical viability of concrete use cases for such processes, their optimal integration in today's smart production environments, as well as the qualitative product and process improvements that can truly be reached for future series car body production – these remain questions that have to be answered anew for each automobile project.

Providing such answers is the aim of EALA, Automotive Circle's annual conference on progress in laser-based manufacturing technologies in automobile production, again assembling its leading network of automobile engineering experts representing international OEM and their suppliers in Bad Nauheim, Germany, on 6 – 7 February 2018.



Be part of this network, have your say in the discussions on site, we are looking forward to meeting you in Bad Nauheim!

A handwritten signature in black ink that reads "Dirk Meine".

**Dr. Dirk Meine**  
Presidium  
Automotive Circle, DE

## ⊕ MEET THE SPEAKERS

During the coffee breaks and at the beginning of the lunch breaks, the speakers of the respective preceding conference session will be available for your individual questions and further discussions!

## LIVE POLLS ON SITE

Ask your specific questions on current issues corresponding to laser-based technologies in series car body production and benefit from the answers of the conference's expert audience!

## ⊕ EXHIBITION

Take advantage of the accompanying exhibition featuring up to 20 companies demonstrating their products and services pertaining to laser-based automobile production technologies!

## INTERNATIONAL OEM ADVISORY BOARD



Dr. Jan-Philipp  
Weberpals  
**Audi AG, DE**



Dr. Florian Oefele  
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**Renault SAS, FR**



Thorge Hammer  
**Volkswagen AG, DE**



Oscar Andersson  
**Volvo Car  
Corporation, SE**

### THE CONFERENCE ADDRESSES

automobile engineers representing international OEM, involved in the development, planning and implementation of laser-based production processes, as well as experts representing corresponding system suppliers and academic research institutions.

# PROGRAMME

TUESDAY, 6 FEBRUARY 2018

**9.00 h** Welcome and conference introduction

*Dr. Dirk Meine, Automotive Circle, DE*

*Dr. Jan-Philipp Weberpals, Audi AG, DE*

## OPTICAL QUALITY CONTROL

**9.15 h** Non-contact focus spot and focus shift measurement of high power lasers in the manufacturing of differential gears

*Dr. Andreas Bünting, Daimler AG; Christian Dini, Ophir Spiricon Europe GmbH; DE*

**9.45 h** An evaluation of new optical technologies for real-time laser weld monitoring

*Dr. Giuseppe D'Angelo, Centro Ricerche Fiat S.C.p.A., IT; Tony Pramanik, TWI Ltd., GB*

**10.15 h** Determining defect-related process features in laser material processes in car body manufacturing by the use of videography

*Felix Tenner, Friedrich-Alexander-Universität Erlangen-Nürnberg, Institute of Photonic Technologies (LPT), DE*

**10.45 h** ☕ Coffee and contacts

**11.30 h** Quality assurance of laser processes based in high speed infrared imaging systems: an innovative solution for real time process monitoring and closed loop control

*Dr. Germán Vergara, New Infrared Technologies S.L., ES*

**12.00 h** New texture based seam inspection for reliable detection of tiny defects

*Jochen Sander, Automation W+R GmbH, DE*

**12.30 h** 🗣️ LIVE POLLS IN THE AUDITORIUM

*on current topics in laser manufacturing technology in automotive engineering*

**12.45 h** 🍴 Lunch break

## LASER BASED JOINING OF COMPOSITES

**14.00 h** Metal-composite joining by direct laser heating

*Dr. Axel Jahn, Fraunhofer IWS, DE*

**14.30 h** Highly productive laser cutting and welding of plastic automotive parts

*Dr. Torsten Scheller, Jenoptik AG, DE*

## PROCESS OPTIMISATION

**15.00 h** New multi-spot-geometry for aesthetic and high speed aluminium welds

*Hichame Roumadni, Renault SAS, FR; Dr. Axel Luft, Laserline GmbH, DE*

**15.30 h** ☕ Coffee and contacts

**16.15 h** Avoiding defects in laser welding of AlMgSi alloys by means of very high feed rates

*Florian Fetzer, Christian Hagenlocher, University of Stuttgart, Institut für Strahlwerkzeuge (IFSW), DE*

**16.45 h** Reliable laser joining solutions of coated materials at zero gap including quality control for automotive applications

*Dr. Klaus Krastel, IPG Laser GmbH, DE*

**17.15 h** Active, mechanically flexible laser protection - a new approach ready to go into production

*Dr. Heiko Brüning, Jutec GmbH, DE*

**17.45 h** Get together

**18.45 h** Networking Night

WEDNESDAY, 7 FEBRUARY 2018

## FOCUS: PROCESS ROBUSTNESS

**9.00 h** Demands on robustness of laser beam welding processes in automotive manufacturing

*Oscar Andersson, Volvo Car Corporation, SE*

IMPULSE

– Followed by supplier presentations replying to the questions raised in the impulse presentation –


## FOCUS: OPTICAL COHERENCE TOMOGRAPHY

**10.00 h** Fully automated laser welding process in industrial seating component manufacturing by means of OCT for in-situ weld depth measurement and closed loop control

*Lutz König, Precitec GmbH & Co. KG; Dr. Martin Zubeil, Sitech Sitztechnik GmbH; DE*

**10.30 h** ☕ Coffee and contacts

- 11.15 h** **OCT application and results when laser welding**  
*Richard Steinbrecht, Lessmüller Lasertechnik GmbH, DE*
- 11.45 h** **Seam tracking and welding depth determination by means of OCT technology**  
*Marc Kirchhoff, TRUMPF Laser- und Systemtechnik GmbH, DE*
- 12.15 h** **Seam tracking with OCT and beam oscillation for automotive laser remote welding applications**  
*Thibault Bautze, Blackbird Robotersysteme GmbH, DE*

**12.45 h**  **LIVE POLLS IN THE AUDITORIUM**  
*on current topics in laser manufacturing technology in automotive engineering*

**13.00 h**  **Lunch break**

### LASER BEAM BRAZING

- 14.15 h** **Laser beam brazing within the future production concept**  
*Meinulf Hinz, Volkswagen AG, DE*
- 14.45 h** **Determining factors for manipulation of the melt pool dynamics in laser beam brazing**  
*Eva Heuberger, Gerhard Gaull, Audi AG, DE*
- 15.15 h** **Efficient laser beam brazing using reflections for preheating**  
*Christoph Mittelstädt, BIAS - Bremer Institut für angewandte Strahltechnik GmbH, DE*

**15.45 h**  **OEM CONCLUSIONS**  
*Members of the OEM Advisory Board on current trends and challenges in laser-based automotive manufacturing processes*

**16.00 h** **Farewell address and end of the conference**

*Subject to change (status as of 14 November 2017)*

**Programme updates at:  
[www.automotive-circle.com](http://www.automotive-circle.com)**



## TUTORIAL

### FUNDAMENTALS OF LASER USE IN THE AUTOMOTIVE AND SUPPLIER INDUSTRIES

**5 FEBRUARY 2018, 14.00 – 18.00 H**

Additional to the EALA conference, the EALA tutorial provides newcomers with the theoretical and practical fundamentals of laser application in automobile production.



#### 1. Laser and laser systems

- \* Laser principles
- \* Modern types of lasers
- \* Design of laser working stations
- \* Laser remote & scanner systems

#### 2. Laser materials processing for automotive applications

- \* Laser beam welding
- \* Laser beam brazing
- \* Laser beam cutting
- \* Laser beam hardening

#### 3. Overview on process control systems

#### 4. Trends, prospects, visions in applications and systems

## TUTORS



**Dr. Jens Standfuß**  
Fraunhofer IWS



**Johnny K. Larsson**  
Autokropolis  
Engineering, SE

## TERMS & CONDITIONS

### REGISTRATION PROCEDURES

Vincentz Network GmbH & Co. KG  
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### ONLINE REGISTRATION

www.automotive-circle.com

### DATE AND VENUE

Conference: 6 – 7 February 2018  
Tutorial: 5 February 2018

Hotel Dolce Bad Nauheim  
Elvis-Presley-Platz 1  
DE-61231 Bad Nauheim  
T +49 6032 303-0, F +49 6032 303-529  
www.dolcebadnauheim.com  
info@dolcebadnauheim.com

We kindly ask you to make your own hotel reservation at the conference hotel, please refer to Automotive Circle. The hotel offers special room rates from 135,- € to 155,- € depending on different cancellation conditions. The mentioned room rates include 5,- € breakfast per person and per day.

### CONFERENCE FEES

#### Conference:

Standard: 1.995,- €\*

Last Chance: 2.095,- €\*

**Tutorial:** 550,- €\*

Standard price available until 22 January 2018. Students will get 50 % discount on Last Chance price on presentation of a valid student ID.

\* All prices plus 19 % German VAT.  
All conferences in Europe are subject to VAT. To reclaim, please contact your local tax office.

### FEES INCLUDE

**Conference:** Fees including full conference participation, incl. conference materials and list of delegates, the authority for downloading the presentation on the internet, luncheons, catering and the participation in the evening networking event.

**Tutorial:** The fee includes the attendance in the tutorial, the list of delegates, the proceedings and the coffee break.

### CONFERENCE LANGUAGE

The conference will be translated simultaneously into English and German. Please note that the contents of lectures and presentations at simultaneously interpreted conferences are predominately composed in the English language.

### CANCELLATIONS

Fees will be refunded in full if notice of cancellation is received by 8 January 2018. 50 % of the conference fees will be refunded in case notification of cancellation is received later, but not later than 22 January 2018. Delegates who fail to attend without

notifying the organiser will be liable for the whole conference fees. Substitutions of delegates may be made at any time. Cancellations and changes should be notified in writing. In all cases date of postmark shall apply. Any fees to be refunded will be paid after the end of the conference. The organiser reserves the right to change the programme content or to cancel the event due to important reasons. Cancellation fees of third parties that may appear in this context will not be reimbursed.

### DATA PROTECTION

Vincentz Network produces a list of delegates for each event which may include the following information: company name, address (zip code, city, country), name and job function of delegate. This list of delegates will be made available for all conference delegates, speakers, exhibitors and sponsors of the event, who may use the data for promotional purposes. Objection against publication and circulation of this data may be made at any time until 3 weeks prior to the event and has to be made in writing to the organiser. Company's name, city and country might be published on the internet as reference for upcoming Automotive Circle conferences.

### PLEASE NOTE

By registering you understand that your participation and attendance at the conference may be videotaped, filmed and/or audio recorded. You agree that the recording may be used for any lawful purposes that Vincentz Network, or its designees, in their sole discretion, may determine. The address data are processed for customer service and information purposes in compliance with the German Federal Data Protection Law.

### PICTURES

wi6995/Fotolia.com, molotok743/Fotolia.com, Vincentz Network

## YOUR CONTACT

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## REGISTRATION

# EUROPEAN AUTOMOTIVE LASER APPLICATIONS 2018

### I hereby register for:

- **CONFERENCE** 6 – 7 February 2018  
Standard: 1.995,- €\* (until 22 January 2018)  
Last chance: 2.095,- €\*
- **TUTORIAL** 5 February 2018  
Standard: 550,- €\*

Title	First Name
Name	
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Company	
Department	Function
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Order No.	

## METHOD OF PAYMENT

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Cardholder	Expiry Date
Card Number	Verification Code

- **Yes, I want to be informed about future Vincentz Network events and products via e-mail.**

Date, Signature
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