Program

13th Powertrain Manufacturing Conference

Powertrain Production 2020
• Global Networks
• New Processes
• Resource Efficiency

November 17–18, 2015
darmstadtium | Darmstadt | Germany

www.powertrain-conference.de
Preface

Welcome to the 13th Powertrain Manufacturing Conference

Powertrain Production 2020
• Global Networks
• New Processes
• Resource Efficiency

Today, powertrain manufacturing is characterized by huge innovations with regards to environmental and product safety: The primary motivation being reduction of CO₂-emissions and friction, whereby development of new and efficient manufacturing processes for the automotive industry become crucial. Furthermore, new downsizing and hybrid technologies demand new manufacturing processes in order to comply with increasingly strict emission norms.

The 13th Powertrain Manufacturing Conference at PTW, Darmstadt provides a glimpse into the current and future trends in manufacturing strategies, innovative machine tool concepts and cutting tool solutions for automotive powertrain components.

The networking between industry and academic research institutes offer an ideal platform for development of future-oriented products, processes and exchange of ideas.

We are looking forward to seeing you in Darmstadt.

Kind regards,

Prof. Dr.-Ing. E. Abele
Head of Institute PTW

Prof. Dr.-Ing. J. Metternich
Associate Director of Institute PTW

Objectives

The goal of the conference is to inform about new manufacturing strategies, innovative machine tool concepts and latest cutting tool solutions. At the same time the conference provides an ideal networking platform for key players of the automotive powertrain manufacturing industry.

Topics covered for the conference participants in the lecture series regarding new manufacturing technologies:

• CO₂-Reduction
  Consequences for Powertrain Manufacturing
• Friction Reduction
  New Production Solutions for Powertrain Manufacturing
• Industry 4.0
  New Approach for Powertrain Manufacturing?
• New Transmission Generation
  Challenges in Manufacturing of Powertrain Components
• New Dimensions in Powertrain Production
  Approaches to increase Process Stability
• Energy Efficiency
  Potentials in Powertrain Manufacturing

Advisory Committee

Prof. Dr.-Ing. E. Abele
PTW, TU Darmstadt
Darmstadt, Germany

Dr.-Ing. A. Mootz
EMAG Automation GmbH
Heubach, Germany

Dr.-Ing. D. Kress
Mapal Dr. Kress KG
Aalen, Germany

Dr.-Ing. W. Polley
Daimler AG
Stuttgart, Germany

Dipl.-Ing. J. Kruszynski
Walter AG
Tübingen, Germany

Dr.-Ing. U. Reuter
Audi AG
Ingolstadt, Germany

Dipl.-Ing. M. Maier
Gebr. Heller Maschinenfabrik GmbH
Nürtingen, Germany

Dr.-Ing. D. Sahm
Adam Opel AG
Rüsselsheim, Germany

Prof. Dr.-Ing. J. Metternich
Associate Director of Institute PTW
**Program | Tuesday, November 17, 2015**

08:30 am  **Registration**

09:00 am  **Welcome speech**
Dr. Manfred Efinger
Chancellor of TU Darmstadt (DE)

09:05 am  **Inauguration of the conference**
Prof. Dr. Eberhard Abele
Head of PTW, TU Darmstadt (DE)

**Keynote Session**
Chairman:
Prof. Dr. Eberhard Abele
Head of PTW, TU Darmstadt (DE)

09:10 am  **Future challenges in powertrain development and manufacturing**
Prof. Dr. Peter Gutzmer, Vice Chairman of the Executive Board, Schaeffler AG (DE)

09:40 am  **The new Mercedes engine family – a modular engine and production concept**
Dr. Torsten Eder, Director of the Center of Competence Engine Development, Daimler AG (DE)

10:10 am  **Paradigm shift in machine tool industry – Thoughts of a Chinese machine tool manufacturer**
Dr. Ömer Ganiyusufoglu – Consultant to Chairman of Shenyang Machine Tool (Group) Co., Ltd. (CN)

10:40 am  **Coffee Break, Exhibition**

**Challenge: Friction Reduction – New Production Solutions for Powertrain Manufacturing**
Chairman:
Dr. Dietmar Sahm,
Adam Opel AG, Rüsselsheim (DE)

01:30 pm  **Formhoning of Cylinder Bores using a Piezo-Hydraulic Hybrid Tool**
Prof. Dr. Klaus Dröder & Dr. Hans-Werner Hoffmeister & Thomas Große,
IWF, TU Braunschweig (DE)

02:00 pm  **Advanced honing – Gehring’s contribution to lower fuel consumption**
Dr. Wolfram Lohse,
Gehring Technologies Holding GmbH (DE)

02:30 pm  **Machining solutions for the production of coated cylinder liners**
Bernd Zapf,
Gebr. Heller Maschinenfabrik GmbH (DE)

03:00 pm  **Coffee Break, Exhibition**

**Challenge: Industry 4.0 – New Approach for Powertrain Manufacturing**
Chairman:
Dr. Wilfrid Polley, Daimler AG, Stuttgart (DE)

03:30 pm  **Big data analytics of manufacturing processes**
Dr. Volker Kreidler,
SAP AG, Head Industrie 4.0 (DE)

04:00 pm  **Global challenges in automobile powertrain production**
Dr. Christoph Sieben, Audi AG (DE)

04:30 pm  **Solutions for Powertrain – Productivity in production and service**
Dr. Henning Rudolf, Siemens AG (DE)

05:15 pm  **Transfer to PTW**
(Alternative departure 05:45 pm)

06:00 pm  **Guided tour through the machine park of PTW**

07:00 pm  **Finger-food and discussions at PTW machine park**

10:00 pm  **Transfer back to the conference venue**
### Program | Wednesday, November 18, 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 am</td>
<td><strong>Inauguration of the second conference day</strong></td>
</tr>
<tr>
<td></td>
<td>Prof. Dr. Eberhard Abele, Head of PTW, TU Darmstadt (DE)</td>
</tr>
<tr>
<td>09:00 am</td>
<td><strong>Challenge:</strong> New Dimensions in Powertrain Production – Approaches to increase Process Stability</td>
</tr>
<tr>
<td></td>
<td>Chairman: Jacek Kruszynski, Walter AG, Tübingen (DE)</td>
</tr>
<tr>
<td>09:00 am</td>
<td><strong>Deburring tool and process development for cross-drilled holes</strong></td>
</tr>
<tr>
<td></td>
<td>Sebastian Güth, PTW, TU Darmstadt (DE)</td>
</tr>
<tr>
<td>09:30 am</td>
<td><strong>Deburring of powertrain components using industrial robots</strong></td>
</tr>
<tr>
<td></td>
<td>Dominik Landhäußer, KADIA Produktion GmbH + Co. (DE)</td>
</tr>
<tr>
<td>10:00 am</td>
<td><strong>Advanced cutting solutions for increased process stability</strong></td>
</tr>
<tr>
<td></td>
<td>Gianfranco Dell'Aquila, Walter AG, (DE)</td>
</tr>
<tr>
<td>10:30 am</td>
<td><strong>Coffee Break, Exhibition</strong></td>
</tr>
<tr>
<td>11:00 am</td>
<td><strong>Challenge:</strong> Energy Efficiency – Potentials in Powertrain Manufacturing</td>
</tr>
<tr>
<td></td>
<td>Chairman: Prof. Dr. Joachim Metternich, Associate Director of PTW, TU Darmstadt (DE)</td>
</tr>
<tr>
<td>11:00 am</td>
<td><strong>Energy efficient manufacturing – Example for innovative machine tool concepts</strong></td>
</tr>
<tr>
<td></td>
<td>Mark Helfert, PTW, TU Darmstadt (DE)</td>
</tr>
<tr>
<td>11:30 am</td>
<td><strong>Potentials in energy efficient powertrain manufacturing by using MQL</strong></td>
</tr>
<tr>
<td></td>
<td>Prof. Dr. Eckehard Kalhöfer, Stiftung Lehrstuhl Spanende Fertigung, HTW Aalen (DE)</td>
</tr>
<tr>
<td>12:00 pm</td>
<td><strong>Energy efficient tool concepts – the role of the MQL technology</strong></td>
</tr>
<tr>
<td></td>
<td>Dr. Stefan Sattel, Gühring KG (DE)</td>
</tr>
<tr>
<td>12:30 pm</td>
<td><strong>Lunch Break, Exhibition</strong></td>
</tr>
</tbody>
</table>

**Language**

Lectures are conducted in English.
Guided tour through PTW machine park

In the evening of the first day of the conference, we will provide a guided tour through the PTW-Lab. Participants of this special event can look forward to an interesting exhibition in the machine park at PTW. Afterwards the conference participants will have the opportunity to network and discuss the impressions of the first conference day.

Exhibitors of the PMC 2015

EMAG Holding GmbH

The EMAG Group is one of the few suppliers of manufacturing systems that cover the whole process chain, from soft to hard machining. Access to a wide range of technologies (turning, drilling, milling, gear cutting, grinding, laser welding, ECM deburring, PECM machining, induction hardening and automations) allows EMAG to implement complete process chains not only for the manufacture of gearbox, engine and chassis components but also of components for the non-automotive sector.

LMT Tool Systems GmbH

LMT Tool Systems is the international distribution company of LMT Tools. Through distribution and service subsidiaries LMT Tool Systems offers its customers integrated tool solutions on an industrial scale worldwide. The comprehensive product range of LMT Tool Systems includes tools, cutting materials and services for the most diverse cutting and noncutting applications. Our service portfolio includes the tool reconditioning and tool management according to customer requirements.
Accommodation

There is a significant number of rooms reserved in different hotels in the city at special rates. Please find further information about the conference and the registration form on our homepage. www.powertrain-conference.de

How to find the conference venue

darmstadtium
Wissenschaft | Kongresse
Schlossgraben 1
64283 Darmstadt, Germany
Phone: +49 6151 7806-0
www.darmstadtium.de

Conditions of attendance

Registration:
Please register online at www.powertrain-conference.de
After your payment for the registration you will get a participant confirmation mail from the conference authority.
Conference registration will be accepted until October 30th, 2015.

Conference Fee:
Until October 1st:
€ 790.- | Industrial Representatives
€ 690.- | project partners of PTW

After October 1st:
€ 890.- | Industrial Representatives
€ 790.- | project partners of PTW
10 % discount for each additional participant from the same company
All prices plus German VAT

Payment:
Please make sure that the conference fee is paid 14 days prior to the conference. Otherwise we would have to ask you for the transfer voucher.

Cancellation:
A cancellation is possible for a service charge of € 100.- plus German VAT until two weeks prior to the conference. For a request after that date, the fee is non-refundable. We kindly ask you to cancel your registration in written form, either by mail or fax.

Location:
darmstadtium
Wissenschaft | Kongresse
Schlossgraben 1
64283 Darmstadt, Germany