Objectives

The goal of this conference is to inform about new manufacturing strategies and technologies as well as innovative machine tools and machining concepts. This is done against the background of increasing digitization and energy efficiency, new manufacturing technologies and the trend of electromobility. At the same time the conference provides an ideal networking platform for key players of the automotive powertrain manufacturing industry.

Guiding Themes of PMC 2017

- Digitization and Industrie 4.0
  From Big Data to Smart Manufacturing
- Electromobility and Hybridization
  Productivity Challenges of Electric Drive Manufacturing
- Energy Efficiency in Powertrain Manufacturing
  Potentials and Solutions for Sustainable Production
- Process Innovations in Powertrain Manufacturing
  Moving the Boundaries of Productivity

Advisory Committee

[Portraits of the advisory committee members]

www.powertrain-conference.de

Technische Universität Darmstadt
Institute of Production Management, Technology and Machine Tools (PTW)
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Prof. Dr.-Ing. Joachim Metternich
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Preface

Welcome to the 14th Powertrain Manufacturing Conference
Powertrain Manufacturing – Change Drives Progress

- Digitization
- Hybridization / Electrification
- Energy Efficiency
- Process Innovations

Due to the trends of digitization and energy efficiency in manufacturing as well as the increasing hybridization and electrification of automotive powertrains, the automotive industry is faced with holistic changes: Industrie 4.0 promises significant opportunities to optimize manufacturing processes – transforming Big Data to Smart Data becomes crucial in this context. Powertrain electrification leads to structural changes in the automotive sector and to new challenges for manufacturers. Furthermore, increasing demands on energy efficiency and challenging climate goals require innovative approaches to manufacturing processes. Finally, the boundaries of productivity of machining operations are moved due to innovative processes and advanced machining strategies.

Thus, PTW organizes the 14th Powertrain Manufacturing Conference in Darmstadt to provide valuable insights into future trends and challenges regarding the manufacturing of powertrain components.

The conference allows for a close exchange between experts from industry and academic research institutes and therefore offers an ideal platform for the development of future-oriented products, processes and innovative ideas.

We are looking forward to seeing you in Darmstadt.

Kind regards,

Prof. Dr.-Ing. E. Abele
Prof. Dr.-Ing. J. Metternich

Conditions of Attendance

Registration: Please register online at www.powertrain-conference.de
After your registration you will receive a participant confirmation e-mail from the organisation team of the 14th Powertrain Manufacturing Conference. The invoice will be sent in a timely manner.

Conference Fee: Until October 1st, 2017:
790,– € | Regular participants
690,– € | Project partners of PTW

After October 1st, 2017:
890,– € | Regular participants
790,– € | Project partners of PTW
10 % discount for each additional participant of the same institution.
(Prices do not include VAT)

Payment: Please make sure that the conference fee is paid 14 days prior to the conference. Otherwise we must request to see the tranfer voucher.

Cancellation: Up to two weeks prior to the conference, a cancellation is possible for a service charge of 100,– € (VAT not included). After this date, the registration fee is non-refundable. We kindly ask you to submit your cancellation in written form, either by mail or fax.

Location: darmstadtium
Wissenschafts- und Kongresszentrum
Schlossgraben 1
64283 Darmstadt
Germany

Language: Presentations are conducted in English.

Accommodation

In order to make your stay in Darmstadt as pleasant as possible, a contingent of hotel rooms has been set aside for conference participants. The rooms can be booked by referencing the keyword „Powertrain“. Please find further information on the bookable hotels in the following segment.

1 darmstadtium
Wissenschaft und Kongresszentrum
Schlossgraben 1 | 64283 Darmstadt
Phone: +49 6151 7806-0
E-Mail: info@darmstadtium.de

2 welcome Hotel
Keyword „Powertrain“
Karolinenplatz 4 | 64289 Darmstadt
Phone: +49 6151 3914-0
E-Mail: info.dar@welcome-hotels.com

3 Maritim Konferenzhotel Darmstadt
Keyword „Powertrain“
Rheinstraße 105 | 64295 Darmstadt
Phone: +49 6151 303-125
E-Mail: info.darm@maritim.de
Program | Tuesday | November 21st, 2017

08:00 Reception, Registration, Breakfast

09:15 Welcoming Speech
Prof. Dr.-Ing. Ralph Bruder | Vice President, TU Darmstadt

09:20 Conference Opening
Prof. Dr.-Ing. Eberhard Abele | Head of Institute, PTW, TU Darmstadt

12:35 Predictive Maintenance of Machining Centers at BMW Engine Manufacturing
Dr. Josep Grebner, Marco Suthe | BMW Group

13:05 Lunch, Visit of the Exhibition

14:30 Challenging Flexibility in Transmission Production
Dr. Wolfgang Geis-Drescher | Adam Opel AG

15:00 Additively Manufactured Turning Tool Solution for the Application of Cryogenic CO₂-Cooling
Thomas Heep | PTW, TU Darmstadt

15:30 Gentle Solutions for very Hard Tasks… (P)ECM technology – More than just deburring!
Richard Keller | EMAG ECM GmbH

16:00 Conclusion and Summary of Day 1
Prof. Dr.-Ing. Eberhard Abele | PTW, TU Darmstadt

16:15 Coffee Break, Visit of the Exhibition

17:00 Bus Transfer to PTW Campus Area

18:00 Evening Event and Get-Together
Demonstrations, Entertainment Program and Dinner

22:00 Bus Transfer back to City Center

Keynote Session

09:30 The Future of Powertrain - The Voltage is Rising!
Dr. Oliver Maiwald | Senior Vice President Technology and Innovation, Continental Automotive GmbH

10:00 Choosing between Immortality and Reproduction
Thomas Fellger | CEO, Iconmobile GmbH

10:30 Digital World in Machine Tool Industry: Modern Methodologies in Machine Tool Development and Application
Dr. Dennis Korf | Head of R&D, Hyundai WIA Corp.

11:00 Coffee Break, Visit of the Exhibition

Digitization and Industry 4.0 – From Big Data to Smart Manufacturing (I)

11:35 Advanced Digitalization and Analytics in Manufacturing - Big Data: Asset or Burden?
Dr. Matthias Weigold | SAP SE

12:05 Schaeffler Smart Eco System 4.0 – Potentials of Intelligent Machine Tool Components
Gerhard Baum, Ralf Moseberg | Schaeffler Technologies AG & Co. KG

13:05 Lunch, Visit of the Exhibition

14:30 Challenging Flexibility in Transmission Production
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Sponsors of PMC 2017

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.

www.emag.com

Walter AG

Walter AG was founded in 1919 and is now one of the world’s leading metalworking companies. As provider of specialized machining solutions, Walter offers a wide range of precision tools for milling, turning, drilling and threading applications. Walter works together with its customers to develop custom solutions for fully machining components for use in the aviation and aerospace industries, as well as automotive, energy, and general engineering. The company demonstrates its Engineering competence at every stage of the machining process. As an innovative partner capable of creating digital process solutions for optimal efficiency, Walter is pioneering Industry 4.0 throughout the machining industry. With over 3600 employees worldwide, together with its numerous subsidiaries and sales partners, Walter AG serves customers in over 80 different countries.

www.walter-tools.com

pro-micron GmbH & Co. KG

The pro-micron GmbH & Co. KG has established itself as the technology leader for wireless sensors for monitoring and machine control. Our innovative and wireless sensor solutions give support to our renowned customers into the fourth industrial revolution. We develop and produce innovative mechatronic sensor solutions for companies from the field of mechanical engineering, medical engineering, food industry and aerospace. In our main business unit “Tool Control” we provide measurement systems for analysis and monitoring of metal cutting processes (SPIKE® and SiS). In this processes we are mainly using telemetry technologies with inductive or battery powered wireless systems.

www.promicron.de
Guided Tours through PTW Machine Park and the ETA-Factory

In the evening of the first conference day, guided tours through the PTW laboratories and its recently opened energy efficient ETA-Factory will take place. Conference participants can look forward to an interesting exhibition in the institute's facilities and numerous demonstrations of current research topics. Afterwards the participants will have the opportunity to network and to discuss their impressions during dinner and a casual get together.