Preface


Due to the scarcity of resources, the increasing competition and the changed customer requirements, the automobile industry is facing new challenges: short, quality-oriented product development processes, growing price competition and customer-oriented innovations. Accordingly, new technologies and structural changes in the automobile sector are necessary for satisfying market and customer demands.

Thus, the PTW organizes the 12th Powertrain Manufacturing Conference to inform about current trends in manufacturing strategies, innovative machine tool concepts and automation solutions in Powertrain Manufacturing.

We are looking forward to seeing you in Darmstadt.

Kind regards,

Prof. Dr.-Ing. E. Abele
Prof. Dr.-Ing. J. Metternich
**Program, Thursday, September 26th**

08:30 am | Registration
09:30 am | Opening and Common Start of the Conferences<br>Prof. H. J. Prömel, President of the TU Darmstadt,
09:45 am | Production of the Future – Trends and Challenges for Cutting and Powertrain Manufacturing<br>Prof. E. Abel, Head of PTW, TU Darmstadt,
10:15 am | Challenges for Future Powertrain Production – Insights to Global Manufacturing<br>G. Kasper, Head of Engine Production, Powertrain Mercedes-Benz Cars, Daimler AG, Germany
10:45 am | Coffee Break, Exhibition
11:00 am | Agile Production Systems – Flexibility in Large Batch Production<br>G. Wankmiller, Chairman of the Board & CEO, GROB-Werke GmbH & Co. KG, Germany
11:30 am | Challenges in Brake Caliper Machining for a Tier 1 Supplier<br>T. Tietze, Director Segment Foundation Brakes / Brake Hoses, Continental AG, Germany
12:00 pm | Common Lunch, Exhibition
**Challenge**
**Powertrain of Tomorrow – Challenges in Friction Reduction**
Chairman: Dr. A. Moortz, EMAG Automation GmbH, Germany
01:00 pm | Friction Optimization of Combustion Engines – A Challenge for Machining<br>Prof. T. Behr, Daimler AG, Germany, Austria
01:25 pm | Machining of Coatings for Reduced Friction<br>Dr. F. A. Xavier, NAGEL Maschinen- u. Werkzeuggerate GmbH & Co. KG, Germany
01:50 pm | Hybrid Structures, High-tensile Strength Materials, Hard Coatings - New Challenges for Tooling Solutions<br>Dr. K. Kress, MAPAL Präzisionswerkzeuge
02:15 pm | Coffee Break, Exhibition
02:55 pm | Guided tour through Exhibition and Poster Session
03:00 pm | Tool Life, New Solutions for Powertrain Components<br>Dr. O. Muschim, TRUMPF Laser- and Systemtechnik GmbH, Germany
03:25 pm | Tooling Solutions for Powertrain Components – Challenges, Risks, Potentials<br>Chairman: Dr. W. Polley, Daimler AG, Germany
04:00 pm | Transfer to PTW

**Exhibition**

**Challenge**
**Powertrain of Tomorrow – Challenges for Cutting and Powertrain Manufacturing**
Chairman: Prof. U. Reuter, Audi AG, Germany
08:30 am | Transfer to Production Sites

**Program, Friday, September 27th**

08:30 am | Dry Finishing and Surface Stucturing of Crankshafts<br>Dr. H. Lang, MAG IAS GmbH, Germany
08:55 am | Energy-efficient Factory of the Future – The η-research Factory<br>Prof. E. Abel / S. Schrems / M. Beck, PTW, TU Darmstadt, Germany
09:20 am | Coffee Break, Exhibition
**Challenge**
**Machining of Powertrain Components – Experiences, Boundaries, Solutions**
Chairman: Dr. T. Hauer, PTW, TU Darmstadt, Germany
09:35 am | Innovations in Camshaft Manufacturing<br>Dr. G. Hegerer, EMAG Maschinenfabrik GmbH, Germany
10:25 am | Turbocharger Production – Solutions for the Challenges in Cutting Processes<br>Dr. J. Adam, BorgWarner Turbo Systems GmbH, Germany
10:50 am | Coffee Break, Exhibition
**Challenge**
**Powertrain Manufacturing Worldwide – Challenges, Risks, Potentials**
Chairman: Dr. W. Polley, Daimler AG, Germany
11:05 am | Flexible Production of Diesel- and Gasoline Engines<br>Dr. D. Sahn / R. Spieß, Audi AG, Germany
11:30 am | Batch Production – Machining Solutions for the Production of Transmission Components<br>Dr. W. Brachkus, ANGER MACHINING GmbH, Austria
11:55 am | Worldwide Powertrain Manufacturing – Innovative Technologies and New Strategies<br>R. Bultenhaus, Audi AG, Germany
12:20 pm | Summary Prof. E. Abel, PTW
12:30 pm | Corvette Lunch, Exhibition