11th VDI Symposium

Innovative sheet metal forming in the automotive industry 2020

Key Topics:

- Future requirements in sheet metal forming
- Networking in the forming and stamped bent process to increase quality
- New concepts and methods in tool design and construction
- Development trends in bodyshell materials and tool steel concepts
- Assessment of manufacturability of components and the tool design with the aid of digitization

Symposium direction
Dr.-Ing. Bernd Haller, chairman of the Technical Committee 101: stamping operations-industrial tools

You will hear experts from the following companies:

BMW Group | Cellimpact | Daimler | FIBRO | Fraunhofer IWU | Hilma-Römheld GmbH | Hochschule Kempten FZA |
Inigence | LÄPPLE Automotive | METROM Mechatronische Maschinen | MN Coil Servicecenter GmbH | PROFIL
Verbindungstechnik | RAZIOL | Schuler | STAUFEN.AG | University Stuttgart IFU | voestalpine

March 4th-5th, 2020, Nürtingen near Stuttgart, Germany

An event organized by VDI Wissensforum GmbH
www.vdi-wissensforum.de/en/02TA412
Phone +49 211 6214-201 • Fax +49 211 6214-154
**1st day**
Wednesday, March 4, 2020

12:00 Registration and distribution of conference documents

13:00 Chair’s welcome and opening address
Dr.-Ing. Bernd Haller, chairman of the Technical Committee 101: stamping operations-industrial tools

13:15 Change is necessary. Change is right. Transformation is shaped

- Initial situation in sheet metal forming and future requirements
- Sustainable total performance is the goal and lean transformation the way
- Change within Lean Transformation
- The success factors in change

**Press Technology and Plant Engineering**
Moderation: Dipl.-Ing. Ingo von Wurmb, BMW AG, München

13:45 Challenges of a large press plant in Germany

- Achievement of a long-term, economic optimum in the area of tension between innovation speed, personnel costs, start-up density, volatility and investment in plant and tools
- Focus on the realisation of innovation projects with measurable success factors
- Flexible approach to personnel deployment planning for fluctuating quantities and adherence to production order schedules

**Digitization in Forming and Sheet Metal Working**
Moderation: Dipl.-Ing. Ingo von Wurmb, BMW AG, München

14:15 New process concepts in the Tryoutcenter

- Tryout – further thought with servo presses
- Optimization of ergonomics and efficiency with tool changer
- Tryoutcenter – The combination makes the difference
- Reality and simulation – fully networked

**Manufacturing and Quality Assurance**
Moderation: Uwe Horschig, Oerlikon Balzers Coating Germany GmbH, Schopfheim

14:45 Coffee break with visit to the trade exhibition

15:15 Maximizing the number of strokes in the press plant by considering the dynamic load in the die

- Modelling of dynamic effects during hold-down acceleration
- Recording of dynamic, characteristic values
- Metrological validation in test and series operation
- Guidelines for the load-compliant design of large tools

**Inline Monitoring in Forming Technology using the Example of Punching and Bending Technology**

Moderation: Dipl.-Ing. Ingo von Wurmb, BMW AG, München

15:45 Mobile 5-axis machine tool for manufacturing and repairing tool parts

- Challenge in toolmaking
- Solution approach and concept selection – Mobile machine tools or robots
- Functionality of the mobile 5-axis machine tool
- Measuring strategies on the existing workpiece
- Scopes and technologies of processing
- Achievable savings potential

**Get-together**

At the end of the first day of the event, the VDI Wissensforum invites you to a get-together. Take advantage of the relaxed atmosphere to expand your network and hold in-depth discussions with other participants and speakers.

www.vdi-wissensforum.de/en/02TA412
2nd day
Thursday, March 5, 2020

09:00 From sheet metal supplier to module supplier for car body construction – Economic challenge with future potential
- Forward-looking digital logistics concepts
- Digitally coordinated body-in-white concepts between body-in-white supplier and OEM
- Realization of highest quality requirements without production losses
- Technology networking for quality control, process monitoring and process control
- Complex body-in-white lines with optimised use of space
Dr.-Ing. Frank Scheppe, Head of Operations, David Ionda, Head of Planning, LÄPPLE Automotive GmbH, Heilbronn

09:30 Sheet metal forming for the production of fuel cells – the alternative drive of the future?
- Fuel cells and their applications
- Unique forming process
- High demands on material
- Highest accuracy of the forming tools
Pär Teike, CEO, PhD Henrik Jackman, Application Engineer and Achim Zeiss, Area Manager Europe, Cellimpact AB, Karlskoga, Sweden

10:00 Service life of wedge gate valves (influence of design, operating conditions and maintenance)
- Design of wedge gate valves and operating conditions in press tools
- Operating forces and technical operational design
- Influence of operating conditions and maintenance
Dipl.-Ing. (BA) Markus Meyer, Head of Gate Valve Applications, Business Unit Standards, FiBRo GmbH, Haßmersheim

10:30 Coffee break with visit to the trade exhibition

11:00 Best Practice Approaches for Springback Compensation of Complex Sheet Metal Formed Parts
- New methods for compensation of complex sheet metal formed parts with equal area and unwinding
- New strategy for partial position optimization of complex sheet metal formed parts
- New method for discrete scaling of complex sheet metal parts
Benjamin Hartman, M. Eng., Prof. Dr. Arndt Birkert, Managing Partner, Markus Straub, Managing Partner, Inginece GmbH, Bretzfeld

11:30 Development trends in hot forming
- General trends in hot sheet metal forming of steel
- Different tailored tempering strategies, advantages and disadvantages
- Alternative heating strategies for tailor-made strength properties
- Hot forming Press hardening of 7000 aluminium alloys
- Summary and outlook
Dipl.-Ing. Frank Schieck, Head of Sheet Metal Forming Department, Fraunhofer Institute for Machine Tools and Forming Technology IFWU, Chemnitz

12:00 Introduction of fasteners during hot forming in the press hardening process to reduce production steps
- The future of press hardened steels
- Principle of the insertion of functional elements during the hot forming process
- Influence of temperature on the elements
- Insertion of various functional elements
Dr.-Ing. Amer Mahline, Entwicklungsingenieur, Technische Entwicklung, Dr.-Ing. Tobias Jene, Leiter der Entwicklungsabteilung, Georg Donhauser, Mitarbeiter im Bereich Business Development, PROFIL Verbindungstechnik GmbH & Co. KG, Friedrichsdorf

12:30 Lunch break with visit to the trade exhibition

13:45 Tribology in focus – Process optimization as a driver of competitiveness
- Development of the sheet metal processing industry
- Possible focus on improving process conditions – Tribology
- Determination of friction coefficients in model tests
- Coupling of experiment, friction modelling and sheet metal forming simulation
- Influence of lubricant on the process
Dipl.-Ing. (FH) Mathias Schmeier, Sales Manager – Technical Service Raziol Lube, RAZIOL Zibulla & Sohn GmbH, Iserlohn

14:15 Innovative tool steel concepts for direct press hardening with soft zone technology
- Requirement profile for tool steel for direct press hardening
- Experimental friction coefficient investigations on various tool steels
- Challenges with heated tool segments
- Suitable alloy concepts for heated tools
Dipl.-Ing. (FH) Marc Geile, Applications Engineer Tool Steel, Böhler, voestalpine High Performance Metals Deutschland GmbH, Düsseldorf

14:45 Development trends for high-strength body steels
- Requirements for body materials and driving forces in materials development
- Presentation of current and future developments in cold-rolled, high-strength body steels (AHSS)
- Aspects of formability of AHSS
- Processing and application challenges

15:15 Closing Discussion

15:30 End of the Symposium
Symposium direction
Dr.-Ing. Bernd Haller, chairman of the Technical Committee 101: stamping operations-industrial tools

Programme Committee
Dipl.-Ing. (FH) Michael Göckeritz, Porsche Werkzeugbau GmbH, Schwarzenberg
Dr.-Ing. Bernd Haller, chairman of the Technical Committee 101: stamping operations-industrial tools
Uwe Horschig, Oerlikon Balzers Coating Germany GmbH, Schopfheim
Dipl.-Ing. (BA) Markus Meyer, FIBRO GmbH, Haßmersheim
Stefan Müller, Daimler AG, Sindelfingen
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Dipl.-Ing. Ingo von Wurmb, BMW AG, München
Christian Zott, NovoPlan GmbH, Aalen

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Vanessa Schwarz
Project Officer Exhibitions & Sponsoring
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Five good reasons why you attend the event
1. Get innovative impulses for your tool development
2. Learn more about new materials and their optimal handling
3. Learn how to achieve a more efficient try-out process
4. Follow the latest developments in press technology
5. Benefit from experience reports on digitisation in production
### I participate as follows (as the price p. p. plus VAT):

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