COMPETENCE CENTER FOR HOT STAMPING TECHNOLOGY

– 8th PHS Suppliers Forum –
COMPLEXITY OF PARTS & FUNCTIONAL INTEGRATION IN THE PHS PROCESS
TELOS Global specializes in the conception, design, training and production associated with high-quality press hardened and aluminum stampings, tooling and the required thermal and production equipment. Our state-of-the-art facility line, manufactures customized press hardened parts developed by our engineers in close collaboration with our customers. Our in-house toolmaking workshop supplies the tooling required – from prototypes through serial products.

Besides these core competencies, we process products and train on state of the art equipment using the talent and support of our entire workforce and partners.

Pictures: Volkswagen AG, NMB, Fraunhofer IWU, T&F, Private
Specific requirements for car body design are presently becoming more and more inconsistent. OEMs provide an expansive range of car body and drive train variants in various local markets, however, the development and production cost, per car, needs to be significantly reduced. This currently leads to intentions of thinning out the model ranges at large volume car manufactures such as Volkswagen, PSA/Opel and Ford. Because of the changes in customer priorities for newer functionalities in cars, such as assistant devices to complete autonomous driving cars, the production of further car components will become less of a priority within OEM.

Today, OEMs earn more money by providing mobility concepts rather than manufacturing cars. This leads to a tendency of producing car bodies with lower effort and costs. An appropriate method of reducing the production effort is to decrease the number of parts. In the past, ideas to overcome this led to complete automated tailored welded banks.

This is why we have chosen the focus of this year’s forum “Complexity of Parts & Functional Integration in the PHS Process”. This forum encompasses the informative presentations. This event offers many exciting opportunities and focuses on industry-oriented applications.

**KEY PLAYERS**

- Frank Schieck (Fraunhofer Institute IWU, Chemnitz, Germany)
- Christian Peuker (Tower Automotive Presswerk Zwickau GmbH, Zwickau, Germany)
- Robert Veit (Berto Consult, Graz, Austria)
- Eren Billur (Billur Metal, Bursa, Turkey)
- Michael Selent (SELMATEC, Scharnebeck, Germany)
- Christian Conrad (Fraunhofer IZFP, Saarbrücken, Germany)
- Michael Düring (AutoForm Engineering, Krimpenerden, Germany)
- Daniel Minh Maier (TRUMPF Laser, Ditzingen, Germany)
- Richard Teague (TELOS Global, Caryville, TN, USA)
- Stefan Kemethmüller (Saint Gobain, Rödental Germany)
- Michael Kerausch (ESI-Engineering, Munich, Germany)
- Jörg Hahn (Nikon, Inc., Tokyo, Japan)
- Federico Melotti (Impression Technologies Ltd, Coventry, UK)
- Jan Schmeling (Eisenmann Thermal Solutions, Bovenden, Germany)
- Ories Pohlmann (RB&W Corporation, Streetsboro, OH, USA)
- Robert Vollmer (Schuler Pressen GmbH, Göttingen, Germany)

In a series of short presentations, representatives from leading players in industrial hot stamping describe and illustrate key aspects and optimization procedures. The entire thematic completion will be brought together by the knowledge and commentaries of internationally renowned experts. Within the selected topical units, specialized skills are given to provide insight and understanding in planning and pre-processing technology, heating, simulation of tools and dies and in post-processing technology, all related to complexity of parts and functional integration in the PHS process.
**Welcome**

09:55 a.m. Richard Teague & Christian Kovacs (TELOS Global, Caryville, TN, USA)

**Session 1 Requests, Requirements & Trends**

10:00 a.m. Complexity of Parts versus Production Costs
Frank Schieck (Fraunhofer IWU, Chemnitz, Germany)

10:20 a.m. TBC
Christian Peuker (Tower Automotive Presswerk Zwickau GmbH, Zwickau, Germany)

10:40 a.m. Opportunities & Challenges in Part Consolidation
Richard Teague (TELOS Global, Caryville, TN, USA)

**Session 2 Blank Materials and Coatings**

11:00 a.m. New Materials and Processes for Functional Integration in Car Body Components
Eren Billur, Billur Metal, Bursa, Turkey

11:20 a.m. Innovative Hot Form Quench (HFQ*) Process for Hot Stamping of Aluminum
Federico Melotti (Impression Technologies Ltd, Coventry, UK)

11:40 a.m. Lunch Break

**Session 3 Tools and Dies in PHT**

01:00 p.m. FE-based Assessment for Efficient Hot Stamping Processes
Michael Dürring (AutoForm Engineering, Krimpen aan den IJssel, NL)

01:20 p.m. Functional Integration of Fasteners during the Hot-Forming Process
Ories Pohlmann (RB&W Corporation, Streetsboro, OH, USA)

01:40 p.m. Manufacturing Digital Twins and Press Hardening Stamping System
Michael Kerausch (ESI-Engineering, Munich, Germany)

**Session 4 Equipment & Machinery**

02:00 p.m. Facing the Increasing Competitive Pressure in the Production of PHS-Parts
Robert Veit (berto product engineering, Graz, Austria)

02:20 p.m. Eisenmann Furnace - Ready to meet Challenges of PHS Part Complexity
Jan Schming (Eisenmann Thermal Solution, Bovenden, Germany)

02:40 p.m. Real Time Process Monitoring For Hot Stamping Line
Robert Vollmer (Schuler Pressen GmbH, Göppingen, Germany)

03:00 p.m. Next Generation Rollers for Hot Stamping Lines
Stefan Kemethmüller (Saint Gobain, Worcester, Germany)

03:20 p.m. Nikon’s Custom Ceramic Coating and Ceramic Roller for Hot Stamping
Jörg Hahn (Nikon, Inc., Tokyo, Japan)

03:40 p.m. Break

**Session 5 Supporting Processes & Quality Assurance**

04:10 p.m. New Laser Cutting and Softening Solutions
Daniel Minh Maier (TRUMPF Laser, Ditzingen, Germany)

04:30 p.m. Robust Machine Vision Systems on Hot Stamping Lines
Michael Selent (SELMATEC, Scharnebeck, Germany)

04:50 p.m. Process Integrated Inspection of Joints during Assembling Processes using NDT Methods
Christian Conrad (Fraunhofer IZFP, Saarbruecken, Germany)

05:10 p.m. Summary

05:20 p.m. End of Day
Learn more about furnace technology from Eisenmann, In-Die Technology from TELOS Global & RB&W, what are the new trends, and much more...

“As global and modular platforms become the industry standard, millions of vehicles are sharing common parts now. With this trend, the initial fixed costs for dies and ramp-up are divided to more number of units. Breakeven point for complicated parts that can replace assemblies (through part consolidation) are now shifted. We are about to see a new era of PHS, where cold stamped UHSS cannot compete.”

Eren Billur, Technical Manager, Billur Metal

“TELOS Global is very excited to invite you to the COMPETENCE CENTER FOR HOT STAMPING TECHNOLOGY. This gives us unique exposure to those that are directly involved in the day to day operations, chal-lenges and ideas surrounding PHS technology. We will be addressing the topic of “The importance of Optimizing the PHS Process”.

This topic is a priority of TELOS Global for 2 reasons, the first is importance of addressing the high cost of capital equipment by showing a quicker ROI through more efficient equipment and processes that yield higher thru-put. The second to address the high cost of the manufacturing and maintenance PHS tooling and secondary production processes.”

Richard Teague, CEO, TELOS Global

“The application of FE-based simulation software tools is a vital prerequisite for the fast and accurate layout of hot stamping processes. Nowadays, dedicated software codes available have reached an outstanding level of completeness for modelling all aspects of processes steps - such as heating, forming and quenching. Material models which allow the prediction of the final properties of the part are sophisticated. Thus, FE-simulations can either be used for the parameter prediction for production equipment to be purchased or - as mostly done - for fitting the desired quality relevant properties of the part into existing equipment already available on-site. In any case, reliable indications with respect to influential parameters like for instance quenching time and quenching force, cooling rates and the resulting final local hardness of the part are given. Serving many users this way, the whole range of existing processes variations is covered - the application of tailored blanks, patches or even the manifold variations of the partial heating and cooling technologies in order to generate tailored properties in the final part. Recently, typical use cases have expanded into the area of the simulation of warm- and hot forming processes of Al-alloys. Even this challenge has been mastered by FE-codes with success and opens additional opportunities for the future.”

Michael Düring, Product Manager, AutoForm Engineering
Target-orientated competence development creates the foundation for Sustainable Business Success. The intention of our trainings goes further than qualifying your employees. It is the productive implementation of the learned competences, put into practice, that are a fundamental contribution to your company’s success.

We are here, to support and strengthen your competitive advantage and provide you with what your competitors don’t have.

The COMPETENCE CENTER FOR HOT STAMPING TECHNOLOGY takes place in Hanover, Germany, on October 24th, 2018 during the 25th International Sheet Metal Working Technology Exhibition, EuroBLECH2018 (www.euroblech.com).

It takes place at the Convention Center (Saal 3A) within the fairground of the Deutsche Messe AG. (www.messe.de homepage_e). The access to the EuroBLECH 2018 is not included!

VENUE

TELOS GLOBAL

Best Western Premier Hotel
Gut Kronsberg 1
D - 30539 Hanover, Germany
fon: +49 (0) 511 - 87 400
fax: +49 (0) 511 - 86 7112
e-mail: parkhotel@kronsberg.bestwestern.de

Radisson Blu Hotel
EXPO Plaza 5
D - 30539 Hanover, Germany
fon: +49 (0) 511 - 38383 - 0
fax: +49 (0) 511 - 38383 - 8000
e-mail: info.hannover@radissonblu.com

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Each +++ Training includes Laboratory Internships
EISENmann

6th ICAFT / 25th SFU / 6th AutoMetForm
»Ensuring Added Value – Innovation in Forming Technology«, November 6th - 7th, 2018

Conference on Advanced Metal Forming Processes in the Automotive Industry
AutoMetForm deals with the latest developments and approaches of current challenges and trends in forming technology.

This constellation of the event offers an ideal platform for exchanging ideas with top-level speakers from science and industry. Another highlight of the event includes the traditional demonstrations of “Forming Live”.

www.iwu.fraunhofer.de/en/icaft-sfu
We are looking forward to meeting you there.

ORGANIZED BY TELOS Global

Mr. Christian Kovacs
Europe Key Account Manager
Cell: +49 160-9036-5317 Main Line: +1 865-426-5215
Email: ckovacs@telosphs.com
Waiting? Hesitating? Killing time? Not us!

Each day, in our work and talks with customers - assemblers, developers, technicians, engineers, purchasers, field reps and managers – brings us up to date and in touch with new and exciting challenges. We all do our part; we join forces, work together and put our all into working passionately in giving you what you need for your company to develop.

We are all dealing with change and showing initiative. We are dedicated to making your business fit for the future and more competitive in turbulent times.

We look forward to working with you.

Mission Statement

The automotive market is in constant motion. The pace of technological change has accelerated which has resulted in shorter and more complex development cycles. Therefore, it is vital for us not to rest on the laurels of our experience, but to question and enhance our performance at all times.Telos Global specializes in the conception, design, services, trainings and off -load production support associated with high-quality press hardened and aluminum stampings, tooling and the associated thermal and production equipment. Our state-of-the-art production line manufactures customized press hardened parts that our engineers develop in close collaboration with our customers. Our in-house toolmaking shop supplies the tooling required, from prototypes through to the serial products. Besides these core competencies, we process products and train on state of the art Equipment using the talent and support of our entire workforce and partners.

“We take on the changes in PHT, we get things done, and we chart the courses towards new opportunities working boldly and consistently.”

Christian Kovacs, Europe Key Account Manager, TELOS Global