

Ask the Expert Goes LIVE!

POPULAR GEAR TECHNOLOGY AND PTE FEATURE A BIG HIT AT GEAR EXPO

During Gear Expo 2015, *Gear Technology* and *Power Transmission Engineering* magazines hosted four live sessions of “Ask the Expert.” Based on the magazine column of the same name, the sessions featured world-renowned experts in gear design, manufacturing and theory. The experts took questions from the audience and provided their technical expertise to the gear industry professionals in attendance. Each session covered a specific area of gear technology and lasted from 45 minutes to an hour.

Gear Grinding

The Gear Grinding session featured Harald Gehlen, Head of Application Engineering for Reishauer; Enrico Landi, Machine Tools Product Center Director for Samputensili; Dr.-Ing. Andreas Mehr, Technology Development Manager for Grinding and Shaping at Liebherr; and Dr. Hermann J. Stadtfeld, VP Bevel Gear Technology and R&D at Gleason. Here are just a few of the grinding questions included in the session:

- What grinding parameters affect the risk of grind temper?
- Can accuracy of inspection be trusted if it's done on the grinding machine, or does it need to be inspected on an independent CMM?
- What are the advantages of CBN grinding over dressable ceramic?
- How do you decide how much stock to remove per pass?
- What is flank twist or bias in ground helical gears, and can it be eliminated?
- Those who were not in attendance can visit www.geartechnology.com/videos to watch the video-recorded sessions.

Cutting Tools

- The Cutting Tools session featured Dr.-Ing. Nicklas Bylund, Manager of the Engineering Competence Center at Sandvik Coromant; John O'Neil, Engineering Manager for Gear Cutting Tools at Star SU; and Dr. Hermann J. Stadtfeld, VP Bevel Gear Technology and R&D at Gleason. The cutting tools related questions included these and many others:
- When are short lead hobs needed, and how do you select them?
- Do hobs and shaper cutters need to be re-coated after every use?
- How does hob or cutter material affect feed and speed selection?
- When is climb hobbing advisable?

Gear Design

The Gear Design session included Octave Labath, independent consultant and *Gear Technology* technical editor; Dr. Hartmuth

Müller, Chief Technical Officer at Klingelberg; Prof. Dr.-Ing. Karsten Stahl, Head of the Gear Research Center (FZG) at the Technical University of Munich; and Frank Uherek, Principal Engineer for Gear Engineering Software Development at Rexnord. The gear design questions included:

- Is it true that ISO 6336 rates gears with higher load capacity than AGMA 2001?
- How do you select profile shift for the pinion for spur gears?
- What are the advantages of asymmetric gears?
- If a hobbled pinion has undercut, can I make it on a five-axis machine and eliminate the undercut and optimize the root fillet?

Ask Anything

The last session covered the widest variety of topics, as we invited our audience to “ask anything.” The experts on hand included Octave Labath, independent consultant and *Gear Technology* technical editor; Dr. Hartmuth Müller, Chief Technical Officer at Klingelberg; Chuck Schultz, independent consultant and



Gear Technology technical editor and resident blogger; and Prof. Dr.-Ing. Karsten Stahl, Head of the Gear Research Center (FZG) at the Technical University of Munich. Questions included:

- What is the optimum case hardness for carburized gears?
- How do sintered, composite gears compare to case carburized gears?
- Between a straight bevel gear, a spiral bevel gear and a hypoid gear, which one can transmit more load, and which one is quieter?
- Is there a reference and an example calculation for “short pitch hobbing”?

In addition to all of the above, there were many more questions asked and answered. If you are interested in hearing the presentations and learning the answers to these questions, please visit www.geartechnology.com/videos, and choose the appropriate session.

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A Concurrent Event

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Meeting of the Minds

AT GEAR TECHNOLOGY CONTRIBUTORS' DINNER

On October 20, the editors and staff of *Gear Technology* and *Power Transmission Engineering* were pleased to host a dinner for many of our technical editors, authors, regular contributors and others who share our vision and passion for advancing the collective knowledge of the gear industry. In attendance were (from left to right): Randy Stott, Associate Publisher & Managing Editor, Gear Technology; Dipl.-Ing. Michael Hein, research at FZG; Dr.-Ing. Thomas Tobie, department leader, FZG; Dr. Michel Octrue, mechanical power transmission researcher from CETIM; Chuck Schultz, Principal, Beyta Gear Service, and technical editor/resident blogger, Gear Technology; Dr. Ulrich Kissling, President, KissSoft; Frank Uherek (back row), Principal Gear Engineer at Rexnord and technical editor, Gear Technology; Octave Labath, independent consultant and technical editor, Gear Technology; Prof. Dr.-Ing. Karsten Stahl, Head of the Gear Research Institute (FZG) at the Technical University of Munich; Yefim Kotlyar, Technical Specialist, Navistar; John Lange, instructor, Gleason Gear School; Enrico Landi, Machine Tools Product Center Director, Samputensili; John O'Neil, Engineering Manager for Gear



Cutting Tools, Star-SU; Thomas "Buzz" Maiuri, Chairman, AGMA Technical Division Executive Committee; Prof. (emeritus) Dr.-Ing. Bernd-Robert Höhn, FZG; Michael Goldstein, Publisher & Editor-in-Chief, Gear Technology; Dr. Hartmuth Müller, Chief Technical Officer, Klingelnberg; Dr. Hermann Stadtfeld, VP Bevel Gear Technology & R&D, Gleason; Alex Kapelevich, Principal, AK Gears; Dean Burrows, President, President of Gear Motions and Chairman of the Board of AGMA; Carlo Gorla, Professor at Politecnico di Milano and Technical Director at *Organi di Trasmissione*; Jack McGuinn, Senior Editor, Gear Technology; Erik Schmidt, Assistant Editor, Gear Technology; Norm Parker, Bearings Technical expert at General Motors and resident blogger for Power Transmission Engineering; Bob Smith, Principal, R.E. Smith & Co. and technical editor, Gear Technology; Dave Friedman, Associate Publisher and Sales Manager, Gear Technology; Amir Aboutaleb, VP of the Technical Division, AGMA. Photo by Dave Ropinski, Art Director, Gear Technology.



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Timken Expands Service Center in Washington

TO DELIVER MORE REPAIR CAPABILITIES

The Timken Company recently opened a 70,000-square-foot, motor and gearbox repair facility adjacent to its existing service center in Pasco, WA. Built to enhance service to Timken Power Systems' (TPS) customer base throughout the Pacific Northwest, the \$7 million investment gives the facility additional capabilities to repair large electric motors, wind turbine generators and industrial gearboxes under one roof.

"We continue to grow our Timken Power Systems offering of services, working to provide customers in demanding industries with full drive train repairs—including gearboxes, motors, generators and large-diameter bearing repair," said Carl Rapp, vice president of the Timken Power Systems business. "This investment extends our U.S. regional service center network capabilities and positions us to more completely support our industrial customers in the Pacific Northwest to help them optimize their equipment lifecycle performance."

Leveraging the legacy regional strength of the H&N Electric services brand, TPS' Pasco service center houses some of the broadest repair capabilities in the region, able to serve customers in the wind energy, power generation, oil and gas, mining, pulp and paper and agricultural sectors. Its efficient layout optimizes space and features large-capacity cranes, lathes, ovens, VPI tanks and boring mills. With this equipment, TPS is capable of repairing electric motors up to 5,000 horsepower and wind turbine generators to meet developmental demands of 5 MW and larger. Additionally, the facility performs complex industrial gearbox repairs to the standards of Philadelphia Gear, the gear brand that stands at the center of the Timken Power Systems portfolio.



The well-equipped facility features: fifty-ton crane lift capacity with 35 feet clearance under hook; twenty work station jib cranes; large-capacity vacuum pressurized impregnation (VPI) system with a 10-foot diameter and 24-inch shaft well, capable of processing a rotor/shaft length up to 14 feet; large-capacity burn and bake capability; enhanced machining capability provided by a 70-inch swing lathe, 60-inch horizontal boring mill, surface grinder and a 72-inch radial drill press; large-capacity dynamic balance capability on isolated and thickened slab; magnetic particle inspection; large-capacity 5,000 horsepower motor and gearbox test center capability; and dedicated production

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“Our team has been eager to expand deeper into the Northwest market. We’ve been a leader in the wind market sector for some time and we recognize the larger industrial opportunity here,” said Nathaniel Glessner, Timken manager of the Pasco facility. “It’s exciting to now be able to develop that potential and offer existing customers larger motor/generator repair capacity as well as introduce new capabilities to a broader market.”

Don Jordan

AWARDED THE HIGH HONOR OF ASM FELLOW

Solar Atmospheres’ Corporate Metallurgist, Don Jordan, was recently awarded the high honor of ASM Fellow (FASM) at the ASM Awards Dinner held Oct. 6, 2015 during the MS&T15 Conference in Columbus, OH.

According to ASM, “The honor of Fellow represents recognition of distinguished contributions in the field of materials science and engineering, and develops a broadly based forum for technical and professional leaders to serve as advisors to the Society.”

Don’s citation read: “For sustained technical excellence in a career that includes development of wear and corrosion resistant materials for Navy submarines and outstanding leadership in the development and implementation of novel vacuum heat treatment technology for surface treatment of metals.”



“Obviously I am honored, yet I am privileged to work with the Solar R&D Team; they make me look good,” Jordan said.

Jordan is a 27-year member of ASM International and has served in every executive position of the Philadelphia Liberty Bell Chapter, including 2002-03 Chairperson. As evidence of Jordan’s service and commitment to the ASM Philadelphia Chapter, he has received: two President’s Awards (2004 & 2007); Adolph Schaeffer Special Achievement Award (2005); Philadelphia Chapter Distinguished Service Award (2008); Delaware Valley Materials Person of the Year Award (2010); Albert Sauveur Lecture Award (2013); and Meritorious Service Award (2014). Jordan also is a member of: NACE, SAE & the Aerospace Metals Engineering Committee (AMEC), and APMI.

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Christian Dalton

HIRED AS EXPANITE'S NORTH AMERICAN SALES MANAGER

Since the opening of the 6500 ft² production-, laboratory- and test center in Hillerød, Denmark, in 2013, Expanite has been experiencing growth in the European markets.

During 2015, the company has seen a number of new customers in the USA and Canada, and it has therefore been natural to establish a subsidiary—Expanite Inc.—and at the same time open a new treatment center in Ohio.

Expanite can now offer its North American customers the same superior gaseous surface hardening treatment options as in Europe. Customers can choose to have their material processed in our facilities in Ohio on a day-to-day basis or opt for a fully automatic solution installed directly in their production line thereby eliminating the cost, logistics and risks involved in shipping the parts for hardening.

Expanite is also expanding its presence in North America by welcoming **Christian Dalton** as new North American sales manager. Christian Dalton has a Ph.D. in Material Science and Engineering from Case Western Reserve University. With the addition of Christian Dalton, the opening of Expanite Inc and the new treatment center, the company is ready for the continued expansion of the Expanite's processes as the leading techniques for hardening of stainless steel.



Romax and Comet Solutions

ENTER INTO PARTNERSHIP TO AID USERS OF ROMAXDESIGNER



Romax Technology Ltd. and Comet Solutions, Inc. recently announced a partnership between the two companies. Specifically, the agreement will provide users of RomaxDesigner software with the ability to create automated simulation processes that integrate CAD, FEA, Romax and others.

RomaxDesigner enables users to quickly and accurately perform detailed analyses of critical performance attributes, including durability, efficiency and dynamics, including advanced features such as manufacturing variation and planetary sideband analysis.

Comet provides simulation automation and standardization processes by integrating the variety of tools used by gearbox/transmission product engineers, including CAD, finite element meshers, RomaxDesigner, structural analysis tools, fatigue life tools, packaging/tolerancing tools, and other detailed gear design tools. By integrating data and tools within a single automation environment that includes optimization capabilities, Comet

enhances the system analysis aspects of RomaxDesigner, providing product engineers with a capability to explore the interactions between flexible structural components, such as housings and planetary carriers, and the resulting gear, bearing and overall system performance.

“Romax is widely recognized as a leading global provider of integrated software and services for gearbox, bearings and driveline systems,” said Dan Meyer, Comet Solutions president and CEO. “Comet further extends the capabilities of RomaxDesigner creating an integrated and automated design and analysis environment. This allows users to invoke a variety of software tools for faster design evaluation. While we are naturally excited by this partnership, the true beneficiaries are the world's gearbox and drivetrain communities who will see sustained improvements in, design integrity, and time to market.”

DMG MORI USA

LAUNCHES CUSTOMER-CENTRIC SALES AND SERVICE MODEL

DMG MORI recently launched a direct-to-customer sales and service model in the United States. The company will double its existing local service and sales centers to 27 locations across the country in close proximity to customers. This expansion will enable DMG MORI USA's sales and service teams to more efficiently and effectively serve more than 13,000 customers and nearly 100,000 machine tool users across industries including aerospace, automotive and medical industries.

The new model will connect DMG MORI USA employees closely to customers and will speed up critical processes, such as managing local service support and sharing new product improvements based on the feedback of U.S. customers. It also maximizes the company's ability to quickly reach and service machines, and take immediate action on customer feedback. This direct sales and service model is part of an effort by DMG MORI to closely partner with customers.

“DMG MORI USA will partner on a very localized basis with our customers to improve value and outcomes, and ensure they're fully connected to the innovative power we can offer through our global size and scale,” said Dr. Thorsten Schmidt, who will lead DMG MORI USA as chief executive officer. “This transition also opens great opportunities for DMG MORI employees who will now have the freedom to work directly with customers, co-create advancements and deliver insight-driven solutions.”

The move to more localized service accompanies several internal DMG MORI USA leadership changes. DMG MORI's Global Executive Board selected Schmidt to lead DMG MORI USA, calling upon Schmidt's more than 13 years of leadership experience within the company to run the U.S. market.

Schmidt will be supported by a management team of leaders currently working at DMG MORI USA. Current President and CEO Mark Mohr will support the new sales and service organization as president of the DMG MORI Manufacturing plant in Davis, CA, utilizing his knowledge of customer needs in future product developments.