

Hannover Fair Welcomes World Leaders, Global Gear Manufacturers



International visitors discuss the latest technology. backlash planetary gearheads that can bolt onto servomotors, will occupy most of their programming.

“This show is always one of our better forums as we sell worldwide. Hannover always has a significant European presence, but there are a great deal of Asian and South American customers as well,” says Tom Provencher, Mijno’s director of sales and marketing.

Leading power transmission manufacturers include Animatics, Dana Corp. Formsprag Clutch, Marland Clutch and Pacific Bearing. The American Gear Manufacturers Association will have a booth to promote the activities of the U.S. gear market.

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Thousands walk the halls at Hannover Fair.

During April 11–15, Hannover, Germany, will host the largest international contingent of industrial automation technology professionals. Hannover Fair 2005 encompasses 11 trade fairs within a single venue. The Hannover Convention Center will welcome participants from 60 countries to the following pavilions:

- INTERKAMA—process automation
- Factory automation
- Motion, drive and automation
- Digital factory
- MicroTechnology
- Research & Technology
- Energy
- ComVac—compressed air and vacuum technology
- Surface Technology plus Powder Coating Europe
- Subcontracting
- Industrial Services & Repair

Professionals in all of these disciplines will have the opportunity to hear German Chancellor Gerhard Schröder and Russian President Vladimir Putin officially open the exposition on April 10. The following day, the two will lead the Russian-German Business Symposium in Hall 13.

Gear buyers worldwide can browse products from ATA Gears, Bonfiglioli Riduttori, Brevini, Davall Gear, Flender, Great Taiwan Gear, Hansen Transmissions, IMS Gear, Metso Drives, Mijno Precision Gearing, Ronson Gears, SEW Eurodrive, Textron Power Transmission and many more.

Mijno Precision Gearing is planning on displaying two product lines at Hannover Fair 2005. The precision rack and pinion product line, which is now operating at quality levels up to AGMA 12, and low

SAE Marks 100th Anniversary at the 2005 Congress

The Society of Automotive Engineers will be celebrating its 100th anniversary at the SAE 2005 World Congress and Exhibition, which will be held April 11-14 at Detroit's Cobo Center. The annual event features a trade show with more than 500 auto industry manufacturers and suppliers, as well as a technical congress featuring presentations in more than 275 individual sessions.

Both the expo and the congress are organized into technology pavilions:

- **Electronics Technology**
- **Environment/Emissions**
- **High Performance**
- **Materials**
- **Safety/Testing**
- **Propulsion/Powertrain**

Gear industry exhibitors will include major OEM manufacturers, such as Getrag, Aisin Drivetrain and the transmission divisions of many leading automobile manufacturers. Other gear manufacturing companies exhibiting include Flywheel Ring Gears Pvt. Ltd., Gajra Gears Pvt. Ltd., GNA Axles Ltd., Graziano Trasmissioni SpA, Hi-Tech Gears Ltd., Hota Industrial Mfg. Co. Ltd., Jiangxi Jiangling Gear Co. Ltd., mG miniGears and Suhner Manufacturing.

"Our company decided to exhibit at the congress because we are looking to expand our business further into automotive," says Arthur Pantelides, general manager of mG miniGears North America, located in Virginia Beach, VA. "Currently, we are supplying Tier 1 companies with precision gears and mechanisms. We feel we can expand on our unique capabilities of producing precision powdered metal gears, cut metal gears as well as assemblies, and provide customers with overall gearing and actuator solutions."

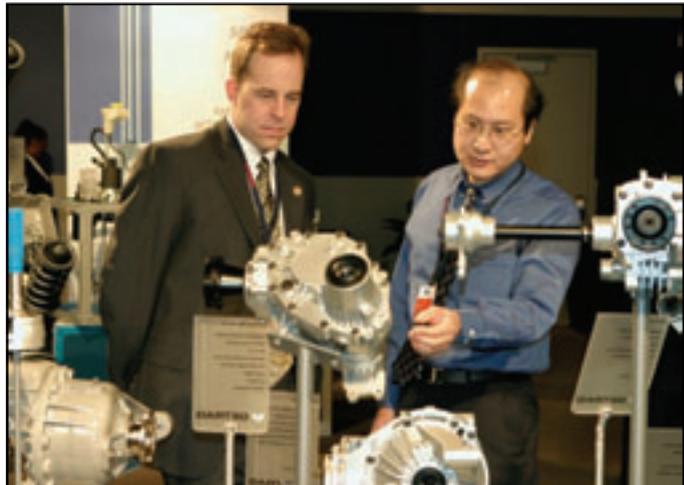
Ted Karmazin, sales manager for Solo World Partners of Grosse Ile, MI, says his company has exhibited at the SAE World Congress for the last 10 years. Solo represents a number of medium- to large-volume manufacturers in the Far

East, including Hota Industrial Mfg. and Shanghai Automotive. Solo will display a variety of steel gears, shafts, CNC machined parts and powdered metal parts for engines, differentials, transmissions and other powertrain components. The company emphasizes the low cost and high quality of the manufacturers it represents. Parts are manufactured at ISO-9000 and ISO-16949 registered facilities, Karmazin says.

The technical presentations at the SAE Congress will also include many gear-related topics.

For example, Saul Herscovici, president of Power Engineering & Manufacturing (PEM) Ltd. of Waterloo, IA, will be presenting "Increased Power Density, Efficiency and Durability with Megagears and Unimegears."

Megagears and Unimegears are trade names for gear designs developed by PEM Ltd. The company uses computer software to determine high pressure-angle designs that provide a larger area of



contact, Herscovici says. "Through many years of research, we have increased the power density of gears 35-45%."

Complete information on attending the SAE 2005 World Congress & Exhibition is available using the contact information below:

SAE International
400 Commonwealth Dr.
Warrendale, PA 15096-0001
Phone: (877) SAE-CONG or (724) 772-4027
E-mail: CustomerService@sae.org
Internet: www.sae.org/congress

EVENTS

To Retain Quality: Gear Training from AGMA

You've got a new salesman, two new machine operators, and a 22-year-old engineer. They've been working for months, learning their jobs, but their training hasn't been as systematic as you'd like. You've also got a manager returning to the shop floor after five years in a front office. He should have a refresher in gear manufacturing.

They all need formal training. The operators and manager especially need training in troubleshooting. But you don't have the time.

AGMA does, though.

"Our class recognizes that most people directly involved in the gear manufacturing process have little or no formal education in the theory of gear geometry and its relationship with the process," says Geoff Ashcroft. "We feel that this knowledge is fundamental to retaining a quality manufacturing process."

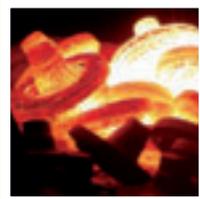
Ashcroft, a gear manufacturing consultant, is an instructor for AGMA's Training School for Gear Manufacturing. He teaches the school's basic course through his company, Gear Consulting Group LLC, which is AGMA's contractor for this and similar programs.

The course, to be held June 13-15, provides classroom training in gears and their nomenclature, inspection principles, gear manufacturing processes—especially hobbing and shaping—and emphasizes troubleshooting.

"The emphasis is on the relationships between the three distinct aspects of gear production: making the teeth, inspection of the result and relating these two aspects through the underlying geometry," Ashcroft says. "This is essential for an understanding of why things go wrong and how to fix them."



Past students included machinists, technicians, engineers, quality managers, sales reps, managers and executives. The course is usually taught at Richard J. Daley College in Chicago and provides classroom and hands-on training. The June course will be held at Liebherr Gear Technology Co., located in Saline, MI.



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The course costs \$750 per person and covers classroom sessions, course manual and AGMA certificate of completion.

This course has been presented by Gear Consulting Group at other locations, including Gleason Corp.'s facility in Novi, MI. Gear Consulting Group also plans to provide the course Sept. 14–16 at Contour Hardening Inc., located in Indianapolis, IN.

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More Than the Fundamentals: Gleason's Gear School

In a gear fundamentals course, students could expect to learn about spur and helical gears, the involute profile, and the mechanics of hobbing and shaping. But could they expect to learn what causes extreme ar than 12 teeth and a helix angle of more than 60 degrees?

They might not expect to, but they did at the course held Feb. 7–10 at Gleason Cutting Tools Corp.

The gears with lead variations were

among several real-world manufacturing problems brought by attendees and discussed in class at Gleason Cutting Tools Corp., located in Loves Park, IL. Other problems involved tool wear, tool life, and catastrophic failures, with students asking how to troubleshoot the problems.

Called a gear fundamentals course, Gleason's program goes beyond basic explanations of the various types of parallel-axis gears and their gear manufacturing processes. Attendees at the February course learned what aspects of the gear cutting tool affect what aspects of the gear and which features of machine control affect which gear features. They learned, for example, about AGMA hob specifications and their relationships to gear specifications.



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Given throughout the year, the four-day course is designed for people who are new to gear manufacturing and covers gear types and ratios, gear tooth systems, general formulas, gear manufacturing methods, and inspection, both functional and analytical. It also covers high speed steels and the differences between tool tolerance and gear tolerance. The course is taught by Gleason employees involved in engineering, production and inspection. Moreover, students can tour the facility so they can see the practical applicability of their lessons.

The course costs \$895 per person. The cost covers handbook, all class materials, all lunches and one group dinner. It doesn't include hotel room, though hotel arrangements are made for attendees by Gleason Cutting Tools. For the February course, students stayed at Cliffbreakers Hotel and took hotel shuttles between it and Gleason Cutting Tools' nearby facility.

The class is kept small, no more than 15 people, so instructors can address students' individual concerns. In February, the class consisted of 11 attendees. They included machine operators, engineers, managers and a quality control supervisor.

The course will be held again April 11-14. Gleason Cutting Tools can also provide the course at gear factories and other facilities. The company also offers a second course on advanced gear process dynamics.

As for the gears with lead variations, John Lange recommended looking at three factors: face-to-bore clamping surface perpendicularity in the gear blank, wobble in the hobber's fixture, and the fixturing in the inspection machine. An instructor, Lange is product manager, regional products—Americas for Gleason Cutting Tools and has been in the gear industry since 1970.

Lange didn't know whether one, two or all three factors were responsible, but he was sure that looking at them would solve the lead problem.

"One hundred percent," he said. "Those are the things that cause it."

**For more information,
contact the Gear School Coordinator:
Gleason Cutting Tools Corp.
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Loves Park, IL 61111
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Fax: (815) 282-0281
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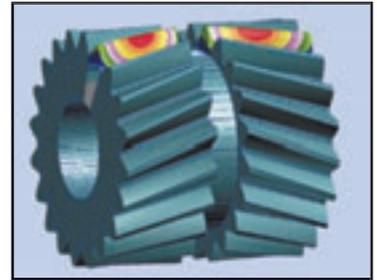
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EVENTS

Papers Being Chosen for International Gear Conference



More than 100 abstracts have been selected to be developed into technical papers for the 3rd International Conference on Gears, scheduled for Sept. 14–16 in Munich, Germany.

"The presentations are expected to emphasize future trends in the design, development and applications of gears and transmissions," said Heyjo Jacobi, product manager—conferences for VDI Wissensforum (the VDI Center for Advanced Training). Jacobi, who holds a doctorate in mechanical engineering, is responsible for the conference.

The abstracts were selected among 220 submitted by authors from 25 countries in Europe, North America and Asia.

"The highest amount of abstracts we have ever gotten," Jacobi said. "The high amount of potential presentations gives us again the opportunity to increase the scientific and technical level of the conference."

The center chose the best 110 abstracts, asking selected authors to develop their summaries into technical papers for presentation. The abstracts covered gear design, production, testing, industrial applications, and research and development.

The conference allows gear researchers to present the most recent results of their work, teaching attendees about the state of the art. "The conference will offer participants the opportunity to discuss these results in detail and share their experience," Jacobi said.

The conference will be held in Munich, the capital of Bavaria. Jacobi described Bavaria as a center of the automotive industry in southern Germany.

Jacobi said he expects more than 300 people to take part in the conference, about 50 more than participated in the last conference, held in 2002. The conference's program and registration form will be available by April 15.

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EVENTS



Dan Bailey, Fred Sowinski, Marilyn Bergmann, Stan and Zdenska Sitta at AGMA's Old Goats' Dinner.

AGMA Toasts Past Presidents

The Pfister Hotel in Milwaukee, WI, hosted the "Old Goats' Dinner" honoring past American Gear Manufacturers Association presidents on October 2-3.

The dinner was held alongside the association's fall technical meeting. Current AGMA chairman Fred Sowinski presented a posthumous award of excellence to former AGMA president Bob Bergmann. His widow, Marilyn, was present to accept the award on behalf of her late husband's 35-year contribution to the gear industry.

Other former AGMA presidents in attendance were Stan Sitta and Dan Bailey.

April 4-7—WESTEC '05 Annual Exposition and Conference. Los Angeles Convention Center, Los Angeles, CA. The West Coast's largest manufacturing and metalworking exhibit. Seminar topics include lean manufacturing, prototype deburring, and global manufacturing. Registration is free. For more information, contact the Society of Manufacturing Engineers on the Internet at www.sme.org.

April 26-27—Plastic Gear Technology Seminar. Universal Technical Systems facility, Rockford, IL. An introductory course in plastic gearing. Attendees will discuss case studies involving The Ohio State University's Gear Lab, the engineering plastics material operations at Ticona, tooling and parts manufacturing at UFE, and plastic and metal gear design at Universal Technical Systems. \$1,250. For more information, contact Universal Technical Systems by telephone at (800) 435-7887 or on the Internet at www.uts.com.

May 24-26—EASTEC Advanced Productivity Expo. Eastern States Expo Center, West Springfield, MA. An annual manufacturing event that will introduce the Smart Machining & Job Shop Center as well as the Lean Manufacturing and Quality Resource Center. Sponsored by the Society of Manufacturing Engineers. Registration is free. For more information, contact SME by telephone at (800) 733-3976 or on the Internet at www.sme.org.

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