

MPT Expo 2019 Booth Previews

MPT Expo takes place October 15–17 at TCF CENTER (formerly the Cobo Center) in Detroit. Here are booth previews of some of the exhibitors most relevant to the gear industry.

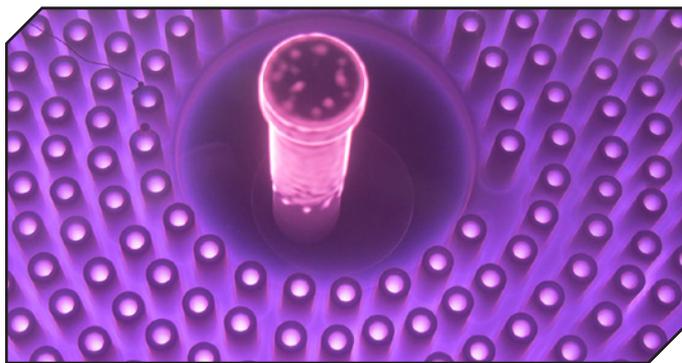
ADVANCED HEAT TREAT

BOOTH 4600

Advanced Heat Treat Corp. (AHT) will feature its heat treat solutions to help manufacturers and engineers solve wear, fatigue and corrosion challenges.

AHT will have both technical and operational personnel available to help MPT Expo attendees get their heat treat and metallurgy questions answered on-the-spot. Exhibitors include Vasko Popovski, P.E. with over 25 years of metallurgy experience and Chad Clark, 16-year AHT veteran and plant manager at the AHT site located in Monroe, MI.

The Monty recently recognized AHT founder and chief executive officer, Gary Sharp, as “the man most responsible for making plasma nitriding a mainstream process in North America.”



Aside from ion/plasma nitriding, AHT also offers gas nitriding, ferritic nitrocarburizing, UltraOx, through hardening, carburizing, induction hardening, stress relief and more. Their 20+ surface treatments, multiple locations and dozens of accreditations/certifications make AHT well-equipped to provide the capabilities and expertise engineers and buyers desire.

www.ahtcorp.com

ALD VACUUM TECHNOLOGIES

BOOTH 3200

Six years ago, “One-Piece-Flow” (OPF) for case hardening processes was introduced into the gear industry for the first time, using SyncroTherm technology. Based on low-pressure carburizing (LPC) and high-pressure gas quench (HPGQ), advantages include high quality parts, short process times, less part distortion and high environmental compatibility.

In the meantime, SyncroTherm technology has expanded to include other processes such as tool hardening, annealing, brazing and sintering. In addition, another possible use is flexible heat treatment of small batches or lots, the so-called “Small



Batch Production” (SBP).

The new SyncroTherm 2.0 now offers additional control features in order to meet all the requirements of a modern Internet of Things (IoT) setting. These include standardized interfaces for simple integration of external plant components into the SyncroTherm 2.0 furnace system and IoT-compatible interfaces (XML) for data transmission to superior customer-ERP-systems.

Target markets include the automotive industry and their suppliers, especially parts for electromobility in the OPF. The SyncroTherm technology is also used successfully in the aviation industry. The use of flexible “Small Batch Production” (SBP) broadens the application range for captive heat treaters and commercial heat treaters.

www.aldtt.net

AMERICAN GEAR MANUFACTURERS ASSOCIATION

BOOTH 3426

The American Gear Manufacturers Association will be in the center of the inaugural Motion+Power Technology Expo (MPT Expo). Everyone is invited to the booth to discuss the thought process behind the all-inclusive show and the future direction of the power transmission industry. You can direct questions to AGMA’s staff or board about standards, education, emerging technology, membership, committees and the strategy that AGMA and its members are using to move the future.

And although they want everyone to stop by their booth, AGMA encourages attendees and exhibitors to walk the entire show floor to see all the new and different companies that have come to showcase their importance in our industry. With the new Fluid Power Pavilion, the Emerging Technology Pavilion and 250 exhibitors—including over 50 new companies—attendees will be connected to the top manufacturers, suppliers, buyers and experts in the mechanical and gear power,



electric power and fluid power industries. This is the place where you can do real business.

When attendees and exhibitors need a break from making deals, AGMA highly encourages them to take an educational seminar, attend a Fall Technical Meeting session or sign up for the new Motion + Power Technology Conference (MPT Conference), where they will learn from the experts. Whether you are new to the business and want to take the “Basics of Gearing” course or are looking to expand your knowledge by taking the “Fundamental Understanding of Electro Fluid Power Technology” class, there is something for everyone across all industries. Not an engineer or operator? That is okay, the two-track MPT Conference boasts presentations from leaders on cybersecurity, IIoT, workforce, supply chain management, 3-D printing, automation, economics and more. These development tools make taking that extra person an easy choice when you can check off training for the year in just three days.

www.agma.org

BENZ

BOOTH 4608

Since 1898, Benz has been a leader in supporting manufacturers by developing industrial fluids and lubricants. During this time, their products and offerings have evolved along with the industry.

To guarantee all your metalworking and machining processes are running as smoothly and proficiently as possible, machining fluids and coolants are a necessity. Since each fluid is formulated to work with particular metals in different conditions, be sure and contact a Benz representative for the details and specifications of the appropriate lubricant for your metal cutting application.

Benz manufactures and distributes the best coolants for CNC Machines to keep your metalworking products, machines and operators in the absolute best condition! Contact Benz today!

www.benz.com

BEVEL GEARS INDIA

BOOTH 4210

Bevel Gears India has been manufacturing bevel gears and bevel gearboxes for over 40 years. The range of bevel gears, from 0.40" to over 70", is broad by international standards and

serves several industries. They also manufacture a select range of fine pitch spur, helical and worm gears.

The bevel gear expertise has broadened over the years from custom gearing to include stock bevel gears and standard cube bevel gearboxes.

The stock bevel gear program is offered in both metric and imperial versions. Customers can select from ground or lapped spiral bevels, ground or lapped Zerolls and soft or hardened straight bevel gears. Customization of stock products is an option to provide more flexibility.

Bevel gearboxes are available in standard ratios and sizes with the option to customize gear ratios, gearbox mounting requirements or housing materials for demanding applications. For power-dense applications, Bevel Gears India provides customers with high ratio hypoid gears with very high single-stage reductions. Their engineering department will be glad to review your requirements.

Applications include medical, robotics, packaging and positioning.

www.bevelgearsindia.com

BOURN & KOCH, INC.

BOOTH 3813

Bourn & Koch, Inc. will feature their newly designed 100H-T horizontal gear hobbing and turning center. Capable of producing high quality gears in a compact footprint, the 100H now features a 12-station turret to allow for turning and hobbing of workpieces in one setup. The 100H-T also features the latest BK-HMI conversational programming. The Bourn & Koch 100H has standard single- and multiple-cut cycles, Fanuc 0i-F CNC control, a power-programmable CNC hob swivel, automatic hob shift, along with crown and taper hobbing cycles. With the addition of turning, the 100H-T is designed for “one and done” gear manufacturing.



Also on display will be the fully remanufactured CNC Fellows 10-4 with electronic guide and CNC backoff allowing for crown and taper. Numerous mechanical guides and cams are no longer required to shape a wide array of gears on a Fellows 10-4. Bourn & Koch has long provided quality OEM remanufactures of Fellows 10-4 gear shapers, but has now engineered their electronic guide and CNC backoff software into the machine, which is operable through their conversational programming. The addition of electronic guide and CNC backoff offers an efficient and affordable entry into the world of advanced gear shaping.

Bourn & Koch will also feature their 25H gear hobber in their booth. Designed for the economical hobbing of fine pitch gears up to 25 mm, the 25H is a compact machine capable of producing high quality gears for a wide variety of applications and industries.

www.bourn-koch.com

CINCINNATI GEARING SYSTEMS

BOOTH 3018

Cincinnati Gearing Systems is recognized for precision gear and transmission design and manufacturing. More than just a gear manufacturer, CGS offers customers 100 years of gear design and manufacturing experience, producing reliable, high quality, cost effective products for a wide range of power transmission applications.

cincinnati gearing systems.com

CIRCLE GEAR AND MACHINE COMPANY

BOOTH 4318

Circle Gear specializes in quality custom gearing in small to medium lot sizes. They are one of the only companies in the country that will reverse engineer and manufacture spiral bevel gear sets. Circle Gear services include bevel gears (straight and spiral up to 36" diameter), spur gears, helical gears, herringbones (up to 60" diameter), internals, racks,

sprockets, worm and worm gears and all other types of power transmission products. Circle provides servicing on splines (involute and straight-sided, internal and external). They offer reverse engineering as well as breakdown services on many products. Circle Gear currently resides in a 125,000 sq. ft. full service production facility. They also house a full service gearbox rebuild division, QRS (Quality Reducer Service). QRS specializes in rebuilds of all major brands of gear reducers as well as manufacturing of custom designed units.

www.circlegear.com

CUMI AMERICA INC.

BOOTH 4139

Achieve higher precision and productivity with high performance ceramic grains for gear grinding. Time tested and compatible with all major gear grinding machines, CUMI grinding wheels are now represented by a dedicated North American sales office.

www.cumiusa.com

DTR CORPORATION

BOOTH 3818

DTR is a supplier of high-performance, long-life gear manufacturing tools for small and large gear cutting applications. Established in 1976, DTR is one of the world's largest producers of cutting tools, shipping to more than 20 countries. DTR offers a full line of gear cutting tools, including hobs, carbide hobs, shaper cutters, milling cutters, chamfering and deburring tools, broaches and master gears.

Every tool is precision-made using high speed steel, premium powder metal or carbide, along with the latest in coatings, to achieve superior cutting and long life.

www.dtrtool.com

DURA-BAR

BOOTH 2937

Dura-Bar continuous cast gray and ductile iron is an alternative to steel, castings and aluminum that offers reliability and improved profitability for many

applications, including gears.

Engineered to machine fast and consistently, Dura-Bar is customizable and available in a wide variety of sizes and shapes in the standard ASTM A48 and ASTM A536 gray and ductile iron grades.

Recently, Dura-Bar has added a tube portfolio with the launch of Dura-Tube. The new tube portfolio, produced utilizing either a proprietary continuous cast process or trepanned process, is now available in a selection of sizes and grades. The flexibility to choose Dura-Tube provides customers with options to select tube products to specifically meet requirements such as wall thickness, concentricity and even volume.

www.dura-bar.com

DVS TECHNOLOGY AMERICA

BOOTH 4007

Präwema internal gear honing machines offer significantly higher quality for internal gears. Finer tooth flank surfaces provide for gear noise level reduction and are ideal for gear parts running at high torque. Twin-spindle machines are available for higher output or further machine processes like hard turning or grinding.

The Pittler SkiveLine machines offer turning, milling, drilling, gear cutting, deburring and more in one machine. Stable gear cutting with Pittler skiving technology can be used for ring gear and step pinion machining, as well as many other applications.

www.dvs-technology.com

EMUGE

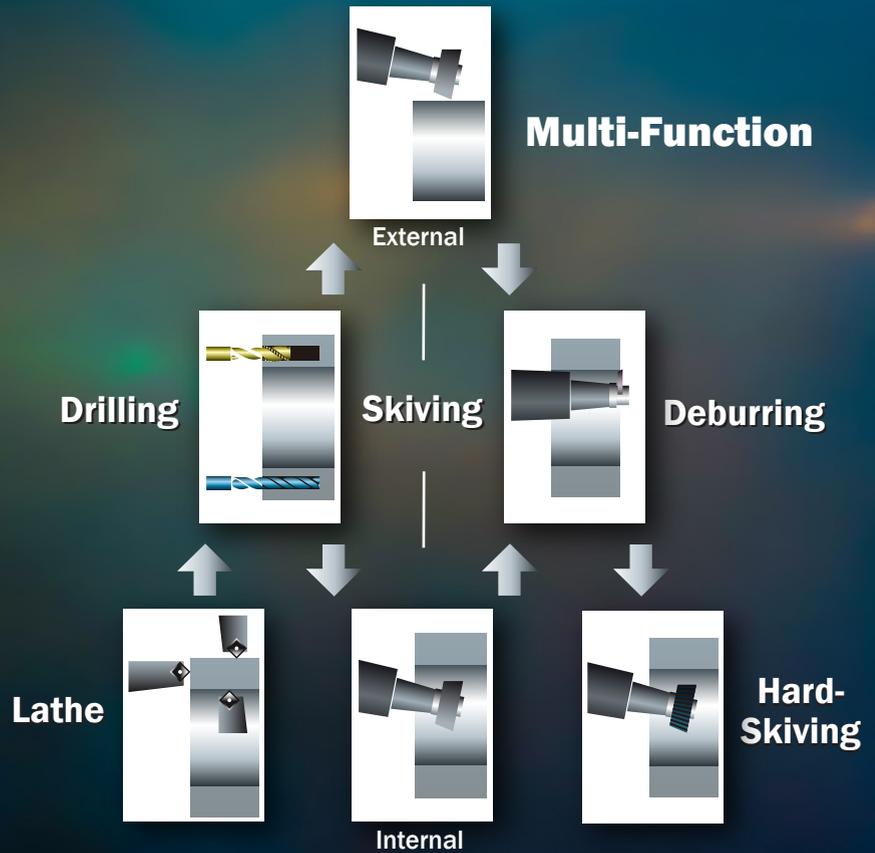
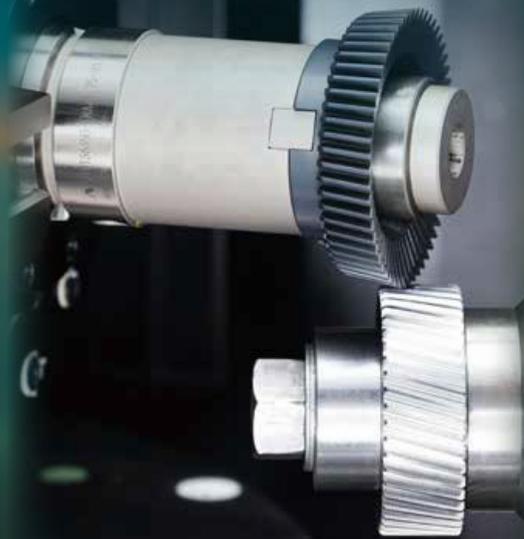
BOOTH 3307

In addition to Emuge's portfolio of rotary cutting tool solutions, they also design and build precision clamping devices for specific customer applications. Emuge's workholding division specializes in providing highly accurate, almost maintenance-free customized solutions for applications from low volume job shops to high volume automotive production environments.

Due to its interchangeable clamping element designs, Emuge can adapt its installed precision clamping devices to meet new, evolving customer

NACHI

GMS200 Skiving Machining Center for Gears



- High Efficiency Gear Skiving & Integrated Processing for Reduced Production Time
- Superior Workability & Operability

Nachi America Inc.

715 Pushville Rd., Greenwood, IN 46143

ml-nai.machinetools@nachi.com • www.nachiamerica.com

requirements. Adaptable workholding solutions eliminate the need for an entirely new workholding device, saving cost and streamlining the manufacturing process. Attendees can learn more about these adaptable workholding solutions, and discuss any of their custom clamping application needs at the Emuge booth. (www.emuge.com/products/precision-workholding)

“Our workholding group stays close to our customers to learn about their unique challenges and production environments. Doing so helps us develop the best solutions for their applications,” David Jones, precision workholding product manager, Emuge Corp., said.

www.emuge.com

ERS ENGINEERING BOOTH 3741

ERS Engineering Corp. will present Through Surface Hardening (TSH) technology—a unique metallurgy process that makes it possible to replace carburizing with induction hardening for a wide range of complexly shaped components, including parts previously thought to be unsuitable for induction hardening.



“The implementation of this technology provides a unique opportunity to the manufacturers who produce case hardened components to achieve two major goals,” Semyon Brayman, president of ERS, said. “First, to substantially reduce the production cost; and second, to significantly improve the quality of produced components.”

TSH is well suited for induction surface hardening helical bull gears, spiral bevel gears, crown wheel style hypoid gears, helical side gears and other gears and gear-like components. Applicability

of the TSH technology is not limited to gears. Bushings, transmission shafts, kingpins, ball joints, driveshafts and differential crosses and bearings are also good candidates.

www.ersengine.com

EURO-TECH CORP. BOOTH 3209

Featuring Mytec mechanical & hydraulic expansion arbors & chucks; and Frenco spline gaging. Today’s solutions for efficiency and power density are often a combination of mechanical, fluid power, electric, and hybrid technologies.

Today’s gears and splines are precision items produced through special tools with very tight tolerances. When you need to inspect manufactured work pieces you need even more accurate measuring and inspection equipment. For over 40 years Frenco has committed itself to the challenge of providing customized solutions for individual gear and spline inspection requirements.

Euro-Tech is the exclusive North American distributor of the Frenco product line including master gears and master wheels, setting masters, artifacts, profiled clamping systems and gear and spline production; also instruments for size production including measuring pins and ball inserts, indicating gages including rocking type, face stop and profiled guiding body and special indicating gages.

eurotechcorp.com

www.frenco.com

FOREST CITY GEAR BOOTH 3418

Forest City Gear is a family-owned and operated business and has been in the gear manufacturing industry since 1955. Industries across the globe have placed their trust in Forest City Gear and their ability to do what others can’t. Every day they manufacture custom gears across a diverse array of industries covering an equally diverse range of applications. These applications span land, sea, air and space. Forest City Gear was chosen to produce all the gears and splines in the Mars Rover where failure simply wasn’t an option. Forest City also regularly

supports everything from telescopes, artificial elbows, aircraft, automotive, racing, medical implants, industrial equipment, marine applications and more. Be assured that when your gears made at Forest City arrive on your dock, they will not just meet your expectations; they will exceed it.

If you’d like to learn more of what they can do for your organization, contact them to arrange a “walk through the forest,” where you can tour their plant and see for yourself the difference a Forest City Gear will make in your application.

www.forestcitygear.com

FVA BOOTH 4237

The *FVA-Workbench* is a manufacturer-neutral software solution for the modeling, parameterization, and calculation of transmission systems. It bundles more than 50 years of research and development from the FVA (German Research Association for Drive Technology) expert network into a single platform and makes this accumulated knowledge directly available for practical application



This unique software includes the latest results from the FVA research network—new calculation methods for fast, precise results. Thanks to powerful performance and intuitive operation, the new *FVA-Workbench* is easy to use and accelerates development processes significantly. Individual gearbox components and complete systems can be developed in the shortest time possible.

www.fva-service.de

GALDABINI BOOTH 3339

Galdabini’s PAS vertical straighteners are electromechanical machines designed for straightening short and medium length shafts. Their innovative C-shaped frame and the movable table holding



workpieces are two important features which are ideal for producing large quantities of parts as small batches.

The electromechanical technology enables energy saving and reduced floor space, flexible layout, low noise level, accessibility from three sides and reduced maintenance. PAS machines are the best technical straightening solution to achieve accurate tolerances in short cycle times.

The straightening process is fully automatic and 100% of parts are monitored and controlled; production statistics generated by machine software allow all the most significant production data (cycle time, initial and final tolerance..) to be recorded.

www.galdabini.us

GEAR MOTIONS BOOTH 3531

Gear Motions will introduce new, non-backdriveable gearbox technology. Attendees can view demonstrations of the never-before-seen, patented technology at their booth.

Gear Motions will also unveil its plan for a substantial new equipment investment. The precision manufacturer plans to add three new Reishauer robotic gear grinders to its facilities in Syracuse, New York, and Buffalo, New York, over the next two years. The first, a Reishauer RZ 260, is expected to be installed by the end of 2019. The new machines will further expand the company's gear grinding capacity and add new capabilities such as twist control and super finishing.

Gear Motions' top sales and engineering staff will be on-site and available to discuss customers' precision manufacturing needs and project specifications.

www.gearmotions.com

GLEASON BOOTH 3400

Gleason Corporation will showcase a wide array of new design, manufacturing and inspection technologies for cylindrical and bevel gears.

KISSsoft's Release 2019 includes: *KISSdesign*, an instrument that allows intuitive concept design at system level; an interface to the latest bearing data from SKF; and power skiving manufacturability evaluation based on workpiece and tool data. The interface between *GEMS* and *KISSsoft* provides an exchange of gear and system information between the two software packages. This allows the user to realistically evaluate and optimize every type of bevel and hypoid gear — with a closed loop between the design and manufacturing software.

Gleason will demonstrate the 260GX Threaded Wheel Grinding Machine with twist-control and polish grinding, software-guided single tool setup and "closed loop readiness" with a multi-functional automation system including Gleason's new GRSL Gear Roll Testing System with laser technology for fast and reliable 100% in-process gear inspection. The completely integrated solution interfaces directly with the grinding machine for automatic correction of tooth size, profile and lead angle as well as lead crowning.

Gleason's new GRSL Gear Rolling System with laser technology provides both double flank roll testing as well as analytical index and involute measurement and a new lead measurement feature on all teeth for full, analytical and functional in-process inspection. The GRSL can be employed as either a stand-alone or a fully integrated, automated solution. Real time analytics and process trend analysis are clearly visible over the production run, allowing for automatic closed loop corrections on Gleason process equipment. Users can also sort by defect so gears for rework or scrap are tracked by characteristic.

The 300GMSL Gear Metrology System combines standard tactile probing



methods for cylindrical and bevel gears with the power of non-contact laser scanning of tooth flank forms. The integration of laser scanning and associated 3-D graphics with a CAD interface considerably expands both the functionality and the range of applications for the machine platform and is designed for thorough gear analysis and development. Achieving a more complete analysis of process variable changes becomes much more intuitive with the high-resolution topographical surface mapping capability. A new host of tools for the detection and analysis of gear noise makes the 300GMSL well suited to addressing noise in today's eDrive transmissions. The 300GMSL is "Closed Loop ready" to network to many of Gleason's Hard Finishing Machines.

The latest edition of the Genesis gear hobbing machine family incorporates the newly developed chamfer hobbing, which produces precise chamfers according to customer specifications while minimizing tool cost-per-piece. Gleason will also demonstrate the integration of tool and machine workflows, reducing manual data input and minimizing input errors, tracking every aspect of tool information from supplier to machine, to crib, to sharpening, to end of tool life.

Gleason presents two new workholding products: The new generation of expanding and contracting hydraulic production arbors; and new, modular standard workholding featuring quick-change workholding solutions for cylindrical gear bores ranging from 18 to 100 mm in diameter.

Gleason diamond dressing tools can be re-plated multiple times to extend tool life and maintain the highest precision. With 30+ years of experience in diamond plating technology, Gleason can address every gear related dressing solution in the market including solutions for polished surfaces or asymmetrical gears. Tools can be equipped with RFID, barcode or QR technology to integrate in 4.0 tool management environments.



Gleason will present a host of new service offerings: The Gleason SPN Program (Safety-Productivity-Networking), a simple and economic field service alternative to a complete re-control of old Siemens 840D pl and many models of Gleason Metrology Inspection machines; Gleason Fingerprint, which diagnoses machine problems and potentially prevents downtime of installations; Tool-to-Machine communication adds intelligence to tool management, reduces manual data input and minimizes input errors; The new Gleason Academy platform of theoretical training classes and operator training in tutorial style.

www.gleason.com

GMTA – GERMAN MACHINE TOOLS OF AMERICA

BOOTH 4439

GMTA will feature its Proficator line of gear pointing, rounding, cutting, Scudding, Hard Scudding, deburring and polygon machine tools for North America. The highly modular machines are used for polygon and slot facing, shifter stop machining, chamfering and

deburring of highly complex automotive and other powertrain gears. “Hard Scudding” allows the machining of green and hardened gears on the same machine, using the same programs.

While Proficator GmbH & Co. KG introduced the concept of Hard Scudding in 2015, it expanded scudding technology with “Micro-Finishing.” Micro-Finishing takes place after the Hard Scudding process has been completed. The process takes a high quality Hard Scudding part and improves its surface quality. Additionally, this is a completely dry machining process and requires no cutting fluids or MQL technology. The total cycle time for finishing a ring gear via Hard Scudding and Micro-Finishing is approximately 64 seconds, but the cycle time could be decreased by 10%, keeping it under one minute for all automotive gear rings.

Micro-Finishing technology is aimed at making a quieter gear and the super-finishing process reduces friction, increases pitting resistance and the life of gears. This process uses a high quality diamond plated tool, designed to remove only a small amount of part material. The resulting part greatly increases surface quality on the gear teeth.

The Micro-Finishing technology can be applied as a “stand-alone” process on a Scudding machine, a sequential process where Hard Scudding and Micro-Finishing are completed using a tandem tool set-up or it can be applied on a double Proficator machine. The processes of Hard Scudding and Micro-Finishing can be completed simultaneously.

gmtamerica.com

GWJ BOOTH 3934

GWJ Technology offers professional software development for mechanical engineering to support engineers and designers in their daily work — from standard software for classical machine elements with 3-D CAD integration modules to the determination of whole systems up to a complex special software for 5-axis milling of gears. Several of GWJ’s various software suites will be on display.

GWJ will introduce a lot of features, including a new and enhanced

calculation for cylindrical gear pairs. The new version now supports the strength calculation of plastic gears. Ultra-clean steels and plastic materials were also added to the material database. In addition, the profile modifications can be dimensioned and the user gets recommendations for the flank modifications. The definition of load spectra has been extended and new options for the dimensioning of the profile shift coefficients were integrated. A calculation with a fixed center distance independently of the profile shift sum is also available. Additionally, the calculation of the load capacity according to AGMA has been updated.

Furthermore, a new calculation module for Hirth couplings will be introduced. Besides the generation of several gears and shafts, the 3-D CAD plugins offer the possibility to import shaft geometries in the calculation.

There is also a new version of the *SystemManager* software. The new version provides multiple enhancements that make the life of engineers easier than ever before. For example, the support of 3-D elastic gear bodies and 3-D elastic bearing rings, the import of background graphics of shafts, the import of shaft geometries such as 2-D DXF, 3-D STEP or the direct link between the face load coefficient with load capacity calculation with the load spectrum, extended parameter variation, new diagram functions, template file directory, periodic gear forces in the harmonic response, advanced results for planetary gear trains, and updated bearing database for SKF and Schaeffler (INA/FAG) bearings or the new exchange format REXS for the data exchange of systems between different software solutions like *Bearinx*, *SystemManager* and, in the future, e.g. multiple-body simulation tools.

During the exhibition, GWJ will give insight into the new calculation module for face gears, a part of the special software *GearEngineer*.

www.gwj.de

HAINBUCH AMERICA

BOOTH 3203

Stop by booth 3203 to see Hainbuch's lineup of job shop mandrels for gear cutting, hobbing, grinding and shaping. The Mando G211 segmented mandrel for gear cutting features a slim interference contour; rigid radial clamping with pull-back effect; large clamping range and vibration damping due to vulcanized clamping bushings; integrated flushing channels and more.

www.hainbuchamerica.com

HANIK CORPORATION

BOOTH 2407

Hanik Corporation is your source for Schnyder precision gear cutting tools, made in Switzerland. Schnyder hobs are available in up to 4A Quality.

www.hanikcorp.com
www.schnyder.com

HELIOS GEAR

BOOTH 3213

Helios solutions include the Helios Hera series of CNC gear hobbing machines from YG Tech. Hera machines offer several attractive features: Fanuc or Siemens CNC; high-speed hob heads with automatic retraction during power failure; direct-drive torque motors; friendly dialog programming for easy operating and quick training; re-hobbing (skiving); world-class construction and components; and compact footprints.

Helios will show the Hera 90 CNC gear hobbing machine. This machine features a unified, versatile gantry automation system for easy and productive hobbing of spur gears, helical



gears and splines. It also features a high-swivel head for worm and thread milling. Manufacturers of parts up to 90 mm (3.543 in) diameter and 3 module (8.5 DP) should visit the Helios booth to see the machine in action.

Gear manufacturers can also see the Hera 350 CNC gear hobbing machine. With the series' same high-quality feature set, the Hera 350 enables profitable vertical hobbing of spur gears, helical gears and other hobbled profiles. The machine is rated at 6 module (4.3 DP) and 350 mm (13.780 in) diameter for automatic loading (additional capacity is available for manually loaded parts).

The Helios TM 200-R3 gear deburring machine from Tecnomacchine deburrs parts up to 200 mm (7.874 in) in diameter with high-speed tool spindles. With five workstations and a unified, flexible automation system, the TM 200-R3 offers manufacturers a productive brushing, deburring and/or chamfering solution that enables consistent quality and reclaimed labor. Manufacturers can visit the Helios booth to see this machine produce deburred parts in as little as every 20 seconds.

Lastly, as part of Helios's partnership with Kapp Technologies, the PGM 165 gear inspection machine will also be demonstrated. This CNC analytical measuring machine can inspect parts up to 180 mm (7.087 in) diameter using Renishaw 3-D probe technology and *Penta Gear Metrology* software.

In addition to machine tools, Helios offers manufacturers cutting and abrasive tools, including hobs, milling cutters, shaper cutters, generating grinding wheels, form grinding wheels, bevel gear grinding cups, diamond dressing gears and more. Gear manufacturers can also benefit from Helios's services, such as gear cutting tool resharpening and recoating, contract inspection and application engineering.

www.heliosgearproducts.com

HOBSOURCE

BOOTH 4401

HobSource delivers quality tools whether you hob, shape, skive, shave, broach or mill. Each tool is manufactured to exacting quality standards in ISO/QS facilities from the latest grades

of high speed steel and carbide using CAD/CAM technology and state of the art CNC equipment. If you demand performance, reliability and dependability from your tools and vendors, HobSource challenges you to try their tools.

www.hobsource.com

INDEX TECHNOLOGIES INC.

BOOTH 3327

Gear manufacturers need tools returned quickly. Index Technologies sharpens your perishable assets to meet or surpass original sharpening specifications. Offering hob sharpening and skive cutter sharpening. Visit the booth to see the company's skive cutter sharpening machine in action.

www.indextechnologiesinc.com

INNOVATIVE RACK & GEAR CO.

BOOTH 2907

Innovative Rack & Gear Co., Inc. is a custom manufacturer of gear racks and gears to OEMs and suppliers in a variety of industries, including machine tool, automation, construction, mining, healthcare, aerospace and others. Investments in the latest technologies for precision gear rack manufacturing and highly skilled craftsmen are the reasons



why Innovative Rack & Gear should be your quality source for gears, especially precision hard-cut and precision soft-cut gear racks. The recent acquisition of a Wenzel CMM ensures the accuracy and quality that customers have come to expect as well as being certified to ISO 9001:2015.

www.gearacks.com

JAMES ENGINEERING

BOOTH 2726

Robots and full-time CAD/CAM programmers are not required to achieve fast, consistent, precise results. James Engineering will highlight the variety of part types, shapes and sizes the MAX System can easily be programmed to process and execute in seconds using the simple Select—Enter—Cycle—Start interface to its unlimited number of part-processing recipes.



Today's MAX System is a tested and proven innovation, which routinely applies its patented Focused Deburring skillset at speeds and production volumes that not only keep up with, but surpass CNC milling rates, while also producing finish quality and structural enforcements no other finishing solution can deliver. James Engineering's CNC-style, multi-axis MAX System was first introduced in 2008, and a prototype of today's second-generation series was first demonstrated at AGMA's 2017 Gear Expo.

www.james-engineering.com

KLINGELNBERG

BOOTH 3631

Klingelberg will unveil leading-edge technology with the P 26 precision measuring center and optical measuring technology. At the same time, Klingelberg will demonstrate its expertise in the "non-gear" sector.

To be equipped for all measurement



tasks, Klingelberg combines Hispeed Optoscan optical measuring technology with the established, high-precision 3-D Nanoscan probing system. This system incorporates maximum precision with the required robustness for a production environment. Thanks to the high-speed changeover feature, the optimal measurement system can be used for every task. Optical measuring technology can be used for digitizing an entire, possibly unknown component or measuring splines quickly yet completely. The high measurement speed of the optical system with a high point density allows for measurements that would be time-intensive if performed with a tactile system. The tactile 3-D Nanoscan is designed to capture individual, high-precision measured values. For a rapidly generated, dense point cloud, Hispeed Optoscan is available. Roughness measuring technology is also available.

Klingelberg also offers solutions in the "non-gear" sector. Whether turning blanks, ground workpieces or rolling bearings — Klingelberg G variant precision measuring centers are specifically designed for use in the production process of axially symmetrical components.

The G series precision measuring centers are suited to production processes that require not just dimensional measurement tasks, but also complex form and surface measurements in large numbers.

Klingelberg G variant precision measuring centers are designed for use on the shop floor, including applications in the automotive and commercial vehicle industries, machine building and plant engineering, and the manufacture of rolling bearings.

The expo team will also be informing visitors about the exhibit highlights presented at EMO Hannover 2019. Among others, these include the Oerlikon G 35 Bevel Gear Grinding Machine for the aviation industry and the Höfler Viper 500 MFM cycloid grinding machine, which is of special interest to the robot industry.

Specifically tailored to the requirements of the aviation industry, the newly developed Oerlikon G 35 bevel gear grinding machine incorporates two vertical grinding spindles.

The Viper 500 MFM makes it possible to mass-produce high-precision cycloid gearings without requiring complex pairing of components. In combination with the precision measuring centers and closed loop technology, Klingelberg now has a complete system for the production of highly accurate cycloid gearings. In the



cycloid grinding cell, the processing machine and the precision measuring center are connected by automation. Thanks to the use of *GearEngine*, this cycloid grinding cell is "fit" for Industry 4.0 processes. Combined with closed loop, this gives rise to an autonomous, self-optimizing production system that makes it possible to utilize the machining and measuring capacity of the machines to optimal effect.

www.klingelberg.com



MANDO G211

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LIEBHERR

BOOTH 3413

Based on the proven LGG 280 generating grinding machine, Liebherr is presenting the larger LGG 400 M model at Motion + Power Technology Expo. Furthermore, Liebherr will showcase its line of gear measuring machines.

The LGG 400 M has been developed with an eye towards aerospace and job shop customers. It fits into the same footprint as its little sister, the LGG 280, but has grown in height. With a different housing and a column extension, it is capable of machining long shafts because the travel of the main and counter column has been extended.

“Our users can utilize a variety of grinding heads for internal and external gears,” says Oliver Kraft, Manager Development and Design of Gear Cutting Machines at Liebherr-Verzahntechnik GmbH. “They can perform generating grinding with high productivity on workpieces up to 280 millimeter in diameter or profile grinding on even larger components up to 400 millimeters. This means even greater flexibility than its sister machine.”

Long shafts with small diameters have come into demand, required by customers in the aerospace and jobs hop industries—often for short runs. Liebherr offers an optional crane for optimal handling of large parts. “We have ergonomically adapted the machines overall,” Kraft explains. “Due to the height, we have incorporated fold-out stair steps so workers are better able to reach the working area. Large viewing windows provide the operator with the best possible overview of the working area and the process.”

For the first time, Liebherr will be presenting its extended product portfolio in the US. The WGT series of measuring technology closed the gap in the closed-loop sector. The four-axis measuring devices are equipped with high-precision mechanic and electronics, which are controlled by intelligent and user-friendly software. The combination of granite guides and air cushioning creates maximum precision with wear-free mechanics. In addition to the gear inspection machine options available as standard, customer-specific solutions

are also available, such as extending the travel range on the Z-axis, longer tailstocks to accommodate long shafts, and rotary tables adapted to the payload. Liebherr will exhibit the gear measuring machine WGT 280.

www.liebherr.com

LOUIS BÉLET

BOOTH 3033

Facing a demand from the watchmaking world for gear cutting solutions, Louis Bélet started producing tools with special profiles in the late 1980s. Currently, the profiling sector at Louis Bélet consists of several dozen machines, allowing customer requests to be met within very short lead times, even for special profiles!



“Today’s world is moving in the direction of miniaturization. Coming from the watchmaking world, Louis Bélet is ideally positioned to face these challenges, both in terms of dimension of course, but also in terms of lead time and quality,” Pierre Falbriard, R&D manager at Louis Bélet, said.

“Markets such as medical, connectivity, aeronautics and automotive are facing this megatrend on a daily basis and Louis Bélet can give them the necessary expertise in the field of cutting tools,” Hervé Baour, international BDM at Louis Bélet, said.

Louis Bélet’s know-how allows them to produce the highest quality tools for cutting gears exceeding 2500 DP, 25 being the largest dimension currently achievable.

They will also present a lecture on the theme of micro-skiving. Of course, power-skiving is a proven technology, but for a fine toothing, no solution was available on the market so far.

The product expertise offered by this

company of 150 employees doesn’t just cover gear cutting tools. Louis Bélet also markets more traditional precision cutting tools such as drills, mills or shape tools, with the same quest for perfection and precision.

www.lbsa.ch

MACHINE TOOL BUILDERS

BOOTH 3407

Originally established in 1995 as a service organization, MTB has since evolved into a world class machinery rebuilder, and has begun to move towards the new machinery business.

As a technology driven firm, the staff of MTB offers a wide array of experience in mechanical and electrical engineering, electronic controls, and software design. This knowledge is coupled with an eye for innovation and a genuine desire to provide the service you need when you need it.

MTB represents Burri grinding and dressing machines, Donner+Pfister measurement and gear grinding products, Senjo-Seiki deburring and chamfering machines, and Diablo Furnaces (stop by their booth at the co-located ASM Heat Treat show in booth #1318).

www.machinetoolbuilders.com

MCINNES ROLLED RINGS

BOOTH 2922

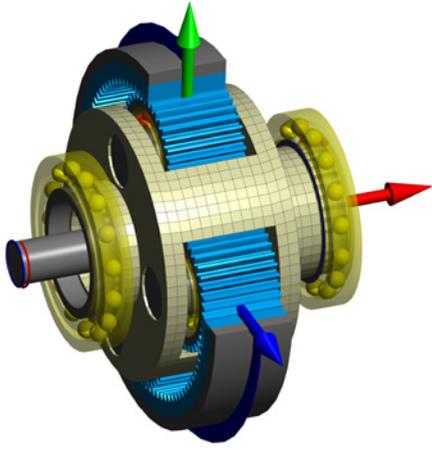
McInnes Rolled Rings specializes in seamless rolled rings from 4”-144” diameter and forged discs up to 54” diameter in carbon, alloy and stainless steel. Their ISO 9001, AS9100 and ABS certified plant in Erie, PA combines the latest in ring rolling technology with experienced people, aimed at providing the best value and the fastest deliveries in the industry.

www.mcinnesorlledrings.com

MESYS

BOOTH 3933

Mesys will show new features of its shaft system calculation version 07/2019. The fully coupled system calculation has new features in its FEA integration which allows elastic gear bodies and elastic



bearing rings in addition to elastic housings, shafts and planet carriers. In the latest version centrifugal expansion and contact for elastic bearing rings were added.

Harmonic response can now be calculated using periodic displacements in addition to periodic forces. One use case is the calculation of dynamic gear forces based on transmission error. Another use case is considering a base excitation from the housing.

The parameter variation has a new optimization step allowing to maximize or minimize parameters based on multiple constraints. This can be used to let the software calculate maximum permissible forces for example.

The REXS data exchange format version 1.1 allows to exchange data with other CAE programs.

Bearing databases with catalog data from Schaeffler and SKF were updated, several databases for spindle bearings including internal geometry are available on request from GMN, IBC, CSC and HQW.

www.mesys.ag

MITSUBISHI HEAVY INDUSTRIES

BOOTH 4239

Mitsubishi Heavy Industries will follow the world debut of the new ZE26C at CIMT in China with the market launch of the new model in North America.

The ZE26C will respond to needs for higher speed and precision especially in the transmission systems of electric vehicles and the reduction gears used in robots. The ZE26C was developed

to finish hardened and tempered gears with outer diameters up to 260 mm. Superior performance has been achieved by making improvements to the ZE-B series of widely acclaimed gear grinding machines. Specifically, the ZE26C's grinding precision and stability have been enhanced by increasing the rigidity of the column, table and grinding wheel head, coupled with revamping of the spindle structure. In addition, by increasing cutting speed and reducing idle (non-cutting) time by roughly 50% compared to earlier models, the ZE26C boosts high-volume production capability and promotes lower running costs.



Furthermore, by expanding the maximum wheel width to 160 mm, frequency of wheel replacement is reduced and simultaneous mounting of standard and polishing grinding wheels is simplified, enabling response to a variety of in-factory needs and higher operational performance. Also, adoption of water-soluble coolant (optional) improves environmental performance while also enhancing energy savings.

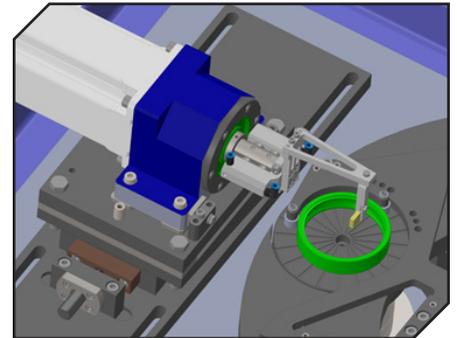
The new ZE26C will be on display and perform a gear grinding demonstration (dry run). A demonstration will also be given of Mitsubishi's Diascope monitoring system, which uses IoT technology to give visibility of real-time production status.

www.mitsubishigearcenter.com

NAGEL PRECISION BOOTH 4308

Nagel will showcase their comprehensive line of honing, superfinishing, face grinding and deep hole drilling equipment.

Nagel has developed a new series of flexible stone superfinishers to finish inner and outer bearing races. The machines are custom designed to meet customer specifications and can be equipped with either Siemens or Allen Bradley controls. The ultra light finishing stone holder is mounted directly on a heavy duty servo oscillator and can attain oscillating speeds of up to 45 HZ. Directly coupled servo part driver can reach speeds of up to 3000 rpm. Multiple finishing heads can be mounted to achieve desired quality and output.



The key features of the new machine are: ability to change over rapidly from one part type to another and minimize non cutting idle time (part load/unload) during the machine cycle. The superfinishing heads are mounted on an X and Z servo axis for automatic positioning to accommodate part diameter and thickness change. Patent pending part drive system can handle a range of part diameters without any changeover. The new system encompasses a number of industry features to make the machine more flexible and productive.

www.nagelusa.com

NORTON | SAINT-GOBAIN ABRASIVES

BOOTH 2607

The new Norton Xtrimum range of gear solutions is designed for high performance gear grinding in extreme, tight tolerance environments. The newly structured portfolio of gear grinding products is specifically designed by category to provide higher profile accuracy, supreme form holding and burn-free grinding in worm, profile, and bevel applications. Highlighting the new range is an innovative dual-worm wheel design that enables two operations in one grinding wheel, substantially saving time and cost.

“In today’s increasingly stringent industry requirements for higher accuracy and improved surface finishes, our new high performance Xtrimum grinding wheels are engineered to deliver the highest quality gear grinding solutions,” said Jim Gaffney, senior product manager, Norton Saint-Gobain

Norton Xtrimum Dual-Worm Grinding Wheels feature a unique design with a high-performance vitrified bond section for grinding and a fine-grit resin section for polishing the gear teeth, enabling one wheel to perform what traditionally required two wheels. Substantial savings in wheel costs and productivity via the elimination of wheel swapping, can be achieved with the Norton design. In addition, improved surface finishes of $R_z = 1.0$ mm and $R_{pk} = 0.05$ mm, and reduced harmonics (noise) are realized. The Norton Xtrimum Dual-Worm Grinding wheels can also be adapted to existing machines.

www.nortonabrasives.com

OELHELD

BOOTH 3803

Oelheld is adding SintoGrind TC-X 630 as the new entry level product to its flagship and perennial best-selling SintoGrind series. SintoGrind TC-X 630 is made from the latest generation of GTL base oils. GTL stands for Gas to Liquid. GTL technology converts natural gas — the cleanest-burning fossil fuel — into high quality liquid products

that would be otherwise be made from crude oil. GTL base oils are colorless and odorless. They contain almost none of the impurities found in crude oil, such as sulfur, aromatics and nitrogen.

SintoGrind TC-X 630 will set new standards in its product and price class. The product is designed for flute grinding, profile grinding and outside and inside diameter grinding. SintoGrind TC-X 630 works on a wide variety of materials including tungsten carbide, HSS, PCD, CBN, cermet and ceramics. SintoGrind TC-X 630 contains no hazardous elements and exhibits stable viscosity over a wide temperature spectrum.

www.oelheld.com

PENTA GEAR METROLOGY LLC

BOOTH 3607

Penta Gear Metrology, a brand of Kapp-Niles, offers analytical gear inspection machines for workpieces up to 450 mm diameter, as well as a wide variety of master gears, spline gages and functional inspection equipment, including double-flank testers and gages for measuring dimension-over-pins or dimension-over-balls.

In addition, Penta Gear’s ISO 17025/A2LA-accredited laboratory offers contract inspection services, reverse engineering and gage certification.

Ask about Penta Gear’s REPOWER program to find out how your older analytical inspection machine can be given new life.

pentagear.com

PHILADELPHIA GEAR

BOOTH 4033

Philadelphia Gear and other experts that are a part of the Timken Power Systems team join forces to feature seven brands that combine to provide an entire industrial drivetrain solution. Drawing on a global pool of engineering expertise and technological advancements, Timken Power Systems provides end-users with a single trusted source for comprehensive electro-mechanical equipment support. From designing custom control systems to gearbox expertise to comprehensive



bearing repair solutions, they can maximize your powertrain and rotating equipment’s reliability and performance.

Through a network of independently ISO-certified regional service and manufacturing centers, they focus on providing local expertise at a national level to minimize your downtime and reduce your cost of repair.

www.philagear.com

PRESRITE

BOOTH 4200

Presrite specializes in the near-net forging of gears. Typical stock allowances range from .004" to .060" on the gear flanks. With presses up to 6,000 tons of capacity and a state-of-the-art tech center, Presrite offers design, engineering and die-making production solutions.

www.presrite.com

PROTO MANUFACTURING

BOOTH 4328

Proto offers laboratory as well as portable and ultra-portable x-ray diffraction systems for the measurement of retained austenite and residual stress.

www.protoxrd.com

REISHAUER

BOOTH 2913

Reishauer presents a sophisticated gear grinding process monitoring system. All process data of each workpiece are recorded and remain 100% traceable.

The dressing and grinding process are measured and monitored by smart real-time data processing and tested algorithms. For each workpiece, all data generated during dressing and grinding are recorded and stored in a database and remain 100% traceable. Using the stored process and tooling data, including workpiece identification via DMC, offers



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can improve your gear production and achieve critical metrics.

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the means of comprehensive analysis. Due to process interaction, and using preset evaluation limits, workpieces that exceed or fall short of these limits are automatically removed.

Recurring automatic testing cycles measure and evaluate all the relevant grinding machine axes involved in the process, thus enabling early detection of electromechanical deviations. Maintenance costs are optimized both in terms of planning and diagnosis, and some potential EOL anomalies may be avoided.

www.reishauer.com

REM SURFACE ENGINEERING

BOOTH 4510

REM Surface Engineering, the inventor of the ISF Process, the Rapid ISF Process, the Extreme ISF Process, and the REM Process, provides surface engineering solutions for aerospace, heavy equipment and off highway and industrial gearing.

REM's isotropic superfinishing technologies are value adding and performance enhancing improvements to conventional machining operations such as grinding and lapping. Founded in 1965 in Southington, CT by Robert Michaud, REM Surface Engineering



is a family-owned company that has proudly been serving their partners and customers for over 50 years. REM Surface Engineering operates four locations in Brenham, TX, Southington, CT, Merrillville, IN and St. Neots, UK that provide products and services globally.

www.remchem.com

ROTECTOOLS LTD.

BOOTH 3131

Learn more about Affolter's line of compact hobbing machines, including the AF110Plus, the most powerful gear hobbing center in Affolter's GEAR line. The 7-axis AF110Plus is designed for parts up to 90 mm length and 60 mm diameter, with modules up to 1.5 mm.

roTECTOOLS.com

SMT

BOOTH 4227

SMT is a globally integrated provider of mechanical transmission engineering services and software development. Over the past 16 years SMT has grown from a collective of experienced and passionate engineers into an international enterprise serving all sectors of the transmission and driveline development industry.

SMT engineers have knowledge of the full development process of automotive, industrial, aerospace, energy and marine transmissions and are able to advise on all aspects of transmission design, analysis and optimization. Having worked with leading international companies on a wide array of engineering projects, SMT can deliver fully integrated technical solutions for the design, development and manufacture of entire drivetrain, gearboxes and transmission systems.

MASTA is a complete suite of CAE software for the design, simulation & analysis of driveline systems from concept through to manufacture.

www.smartmt.com

SOLAR MANUFACTURING

BOOTH 2013

Since 2002, Solar Manufacturing has introduced technology in the heat treating industry with advances in hot zone

designs, improved energy efficiency, state-of-the-art furnace automation and control systems and high-performance gas quenching. They will be showcasing their SolarVac control innovations at ASM Heat Treat 2019 for the benefit of their customers — a new, thermally efficient and extremely strong hot zone design and a new integrated furnace



control system.

www.solarmfg.com

SOUTHERN GEAR

BOOTH 4228

Southern Gear is a custom precision gear and gearbox manufacturer providing quality gears to demanding industries including aerospace, defense, marine and medical. Their AS 9100- and ISO 9001-certified facilities house nearly 150 machines ready to manufacture precision gears and gearboxes including bevel, helical, spur, face, ring, internal, anti-backlash, worm and worm gears, racks, splines, sprockets and more.

Southern Gear is equipped to perform every type of machining at their plant including: turning, milling, grinding and gear cutting/grinding. Parts are manufactured in their plant, under their control and under their AS 9100 D quality system and lean manufacturing pro-



cesses. Southern Gear's total management of the entire production sequence allows them to increase efficiency and optimize quality in order supply mission-critical parts to the aerospace and other demanding industries on time and

on budget.

Southern Gear's engineers and machinists have an average of 26 years of experience, and their employees have been with the company an average of 17 years.

A veteran-owned company in business for more than 60 years, Southern Gear offers a wide variety of precision gear manufacturing, from bevel to worm gears, from prototype to assembly, from aerospace to medical.

www.southerngear.com

STAR SU

BOOTH 4013

Star SU will present advanced manufacturing solutions from both machine tools and cutting tools.

Star SU will introduce their hobbing and shaping machine portfolio through the newly created company Samputensili CLC S.r.l. Star SU will interactively display the CLC 260 H and CLC 500 H — two high performance modular horizontal gear hobbing/milling machines, which can be customized for any type of gear, shaft and worms up to a total length of 5000 mm.

The new Star NXT linear CNC tool and cutter grinding machine sharpens both straight and spiral gash hob designs up to 8" OD x 10" OAL. With a small footprint and maximized grind zone, the NXT also sharpens disk, shank and helical type shaper cutters, Scudding cutters



and a wide range of round tools, making it a versatile tool room machine.

In addition, Star SU's complete library of gear manufacturing machinery solutions will be available, including the Samputensili SG 160 Skygrind — the first gear dry grinding machine in the world



with a patented process, which totally eliminates the need for cutting oils during the grinding of gears after heat treatment with a significant reduction in the cost of consumables and a considerable improvement of environmental impact.

Star SU offers a wide variety of gear cutting tools, precision tool re-sharpening services, and advanced coatings from Oerlikon Balzers, including Alcrona Pro and Balanit Altensa, the high-speed coating solution that realizes productivity gains and efficiency.

Star SU will also feature their innovative Scudding cutters manufactured to produce gear and spline teeth for reduced cycle times and tool costs.

Also on display will be Star SU's complete round tool offerings, including gundrills, design and build solid carbide drills, and precision reamers. Addressing the fluid power industry, they will showcase a selection of cavity/port tool solutions including one shot cavity machining.

Lastly, Star SU offers a wide variety of tungsten carbide blanks and preforms from H.B. Carbide. Using only the highest quality raw materials and employing state-of-the-art, computer controlled vacuum sinter-hipping furnaces, these cemented carbide preforms can be used for cutting tools, dies and wear parts in a variety of specialized applications.

www.star-su.com

UNITED TOOL SUPPLY

BOOTH 4614

United Tool Supply's booth will be full of their latest product advancements, in combination with the products that have made their business what it's been for the last four decades. Showcased in their booth will be their Unite-A-Matic PD gauge, Surf-A-Matic surface finish gauge, and their newest product, the Roll-A-Matic PD Runout gauge. United Tool Supply's product lines will be proudly displayed and demonstrated to show the industry what they have to offer moving into the new decade.

The company's featured product this year, the Roll-A-Matic, is a shop hardened PD Runout Inspection gauge designed with the customer's needs in mind. A flexible design allows United Tool Supply the ability to use customer's existing masters and interchangeable locators to inspect multiple parts on one gauge. The gauge can be manually operated or motor-driven, with an indicator or paired with a linear gauge/LVDT probe to output the data digitally to a PC. This solution is a simple, accurate, repeatable gauge to facilitate in-process checks on the shop floor during the manufacturing process.

www.unite-a-matic.com

VIKING FORGE

BOOTH 2610

Viking Forge, LLC will display near net shaped and flashless forged gear blanks manufactured from their closed die, hot forging mechanical press lines. Producing high precision forged products from 1 to 95 lbs, 3" to 14" in diameter and up to 10" in length, Viking Forge is dedicated to using advanced technology to further the science of forging for the benefit of their customers.

Viking's proficiency begins with engineering, where their highly skilled and experienced staff develop forging designs that meet or exceed customer expectations. 3-D CAD modeling, material flow simulation and Solid Modeling System technologies allow engineers to calculate the exacting requirements of how the steel forging process will affect the final product. These process steps reduce

multiple prototyping, controlling costs and lead times. Sales management and engineering staff will be in attendance to discuss these advantages with you.

www.viking-forge.com

WFL MILLTURN

BOOTH 4309

WFL focuses on complete machining with a full range of Millturn machines with the ability to machine complex parts up to very big components. More than twenty different machining methods can be performed.

The Millturn design concept is very robust and rigid with a massive cast iron bed. The main spindle as well as the high precision turning-boring-milling unit are extremely powerful. Gear manufacturing is all about keeping high quality demands, profile accuracy and reliability.

WFL's can help you to transfer your traditional machining into flexible and complete machining of gears. The methods are supported by specific software cycles under the FLANX umbrella. Hobbing, skiving, profile milling, InvoMilling and gear skiving are all available. In addition, the highly sophisticated *InvoMilling CAD/CAM* software can be offered due to a collaboration with Sandvik Coromant. With



these manufacturing methods, virtually all machining challenges for gear manufacturing can be covered. Moreover, the ability to measure the gears in the machine improves the efficiency and reduces risk of error.

Machining of parts with gear or spline features does not mean any compromise compared with conventional machining using a gear hobber. Very tight quality demands will be kept and the possibility to machine all tasks in a single set-up gives major advantages when it comes to lead-times.

www.wfl.at

GEAR TECHNOLOGY

BOOTH 3826

ASK-THE-EXPERT
LIVE!

**ASK the
EXPERT LIVE**
is coming to
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in Detroit, MI.

Come and get solutions to your gear-related challenges from top experts, live and in person at MPT Expo

Gear Manufacturing, Tuesday, Oct 15, 10:30 a.m.

- Dr.-Ing. Andreas Mehr, Gear Grinding and Shaping Technology Development, Liebherr.
- Dr.-Ing. Hartmuth Muller, Head of Technology and Innovation, Klingelberg.
- Dr.-Ing. Deniz Sari, Sales Manager Middle Europe, Samputensili
- Dr. Hermann J. Stadtfeld, VP Bevel Gear Technology and R&D, Gleason

Gear Design, Tuesday, Oct 15, 2:30 p.m.

- Charles Schultz, President Beyta Gear Services (also Gear Technology technical editor and author of Gear Talk with Chuck on the geartechnology.com blog).
- Prof. Dr.-Ing. Karsten Stahl, Director of the Gear Research Center (FZG) at the Technical University of Munich.
- Frank Uherek, Principal Engineer, Gear Engineering Software Development, Rexnord.

Lubrication, Wednesday, Oct 16, 10:30 a.m.

- Paul Conley, Chief Technologies, SKF.
- Sib Hamid, VP, Director of Operations and Corporate Director of Technology, Lubriplate.
- Dr.-Ing. Thomas Tobie, Head of the Department Load Carrying Capacity of Gears at the Gear Research Center (FZG) at the Technical University of Munich.

Bearings, Wednesday, Oct 16, 2:30 p.m.

- Mike Allega, Application Engineer Specialist, Timken.
- George Lutzow, Manager Application Engineering, SKF.
- Jitesh Modi, Engineering Director, Transmission Applications North America, Schaeffler Group USA Inc.
- Chris Napoleon, President, Napoleon Engineering Services.

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