

MPIF

ANNOUNCES DESIGN EXCELLENCE AWARD WINNERS

The winners in the 2017 Powder Metallurgy (PM) Design Excellence Awards competition, sponsored by the Metal Powder Industries Federation (MPIF), demonstrate outstanding examples of PM's diversity. These component fabricators use PM's flexibility to push forward new concepts and process controls and demonstrate the inexhaustible well of capabilities PM can marshal in the service of component design.

Designers continue to choose PM for critical applications such as auto engines and transmissions, medical devices, consumer products, military applications, and more.

Eight Grand Prizes and 10 Awards of Distinction have been given in this year's competition during the 2017 International Conference on Powder Metallurgy & Particulate Materials (PowderMet2017).

GRAND PRIZES

The Grand Prize in the Automotive—Transmission Category was awarded to GKN Sinter Metals, Auburn Hills, Michigan, for a planetary carrier assembly made for Ford Motor Company. The sinter-brazed copper-steel assembly, comprised of a cage and a flanged hub, goes into the all-new 10-speed transmission for the Ford F-150 pickup. The finished carrier assembly requires only simple milling and turning operations to hold the tight tolerances on the bearing bores, pinion pin shaft holes, and thrust faces.

The Grand Prize in the Automotive—Engine Category went to Phillips-Medisize, Menomonie, Wisconsin, for a four-slot fuel valve seat made for Delphi. The metal injection molded (MIM) part goes into the Multec3.5 compressed natural gas (CNG) fuel injector that satisfies the market's need for a low-cost, low-pressure port fuel injector. It is currently used by several small-engine and automotive applications, including after-

market CNG conversions for trucks and cars, helping contribute to a reduction in greenhouse-gas emissions.

The Grand Prize in the Automotive—Chassis Category was won by GKN Sinter Metals, Auburn Hills, Michigan, for a copper-steel output pulley made for Nidec Automotive Motor Americas. The part goes into an electric reclining mechanism in a minivan-rear-seat application. The part offers a lot of functionality in the small-footprint mechanism—the groove for cable retention, the cam for radial movement, and stops at both ends.

The Grand Prize in the Aerospace/Military Category was won by Dynacast Portland, Wilsonville, Oregon, for a MIM 17-4 PH canard made for UTC Aerospace Systems and Raytheon Company. The stainless steel part is used on the Talon, an add-on guidance and control package that transforms a legacy 2.75-inch Hydra-70 unguided rocket into a low-cost, precision-guided weapon. Three canards on each Talon act as the primary flight control surfaces. The MIM canard underwent a stringent qualification process.

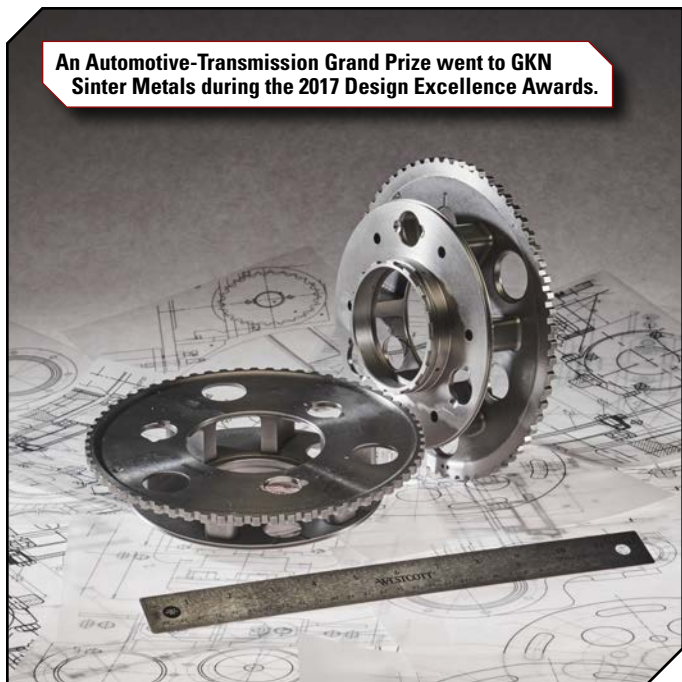
The Grand Prize in the Hand Tools/Recreation Category went to FMS Corporation, Minneapolis, Minnesota, for a 30-tooth drive sprocket fabricated from sinter-hardened steel with a proprietary machining additive, made for Polaris Industries, Inc. The part goes into a motorcycle where it is driven by the output shaft of the transmission and in turn drives the rear wheel via a toothed pulley. Other than tapping, the part is formed completely net shape, which offered cost savings over the previously machined part.

The Grand Prize in the Hardware/Appliance Category was awarded to Indo-MIM Pvt. Ltd, India, for three MIM parts—upper stop ring, stop ring, and stop sleeve—made for Grohe, Germany. The parts go into the valve of a bath shower temperature controller unit. Made of MIM-316L stainless steel, all three complex parts are fabricated close to net shape, and special ceramic setters are employed for enhanced shape retention during sintering.

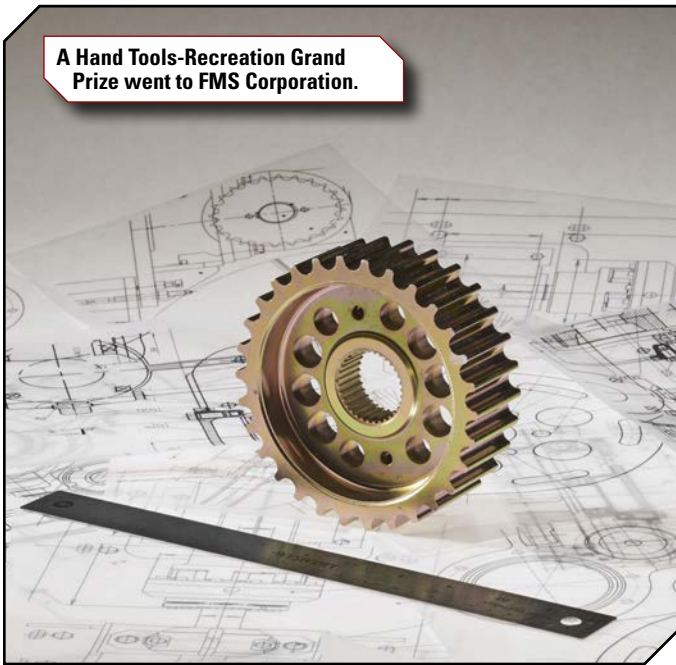
The Grand Prize in the Medical/Dental Category went to ARC Group Worldwide, Longmont, Colorado, for a MIM surgical keel punch made for Paragon Medical. The part functions as a broach to remove bone during knee surgery. Made from MIM 17-4 PH stainless steel, the part is molded and sintered to net shape with no additional coining, machining, or other post-processing to alter its shape.

The Grand Prize in the Industrial Motors/Controls & Hydraulics Category was won by FMS Corporation, Minneapolis, Minnesota, for a stainless steel fitting. The fitting provides a latching mechanism to easily move a safety pin on a hydraulic lever up and out of the way. An innovative ramp design acts as a cam surface to move the pin from one position to the other.

An Automotive-Transmission Grand Prize went to GKN Sinter Metals during the 2017 Design Excellence Awards.



A Hand Tools-Recreation Grand Prize went to FMS Corporation.



AWARDS OF DISTINCTION

Winners included Stackpole International, Keystone Powdered Metal Co., Burgess-Norton Mfg. Co. Inc., NetShape Technologies, Indo-MIM Pvt. Ltd., FMS Corporation, ARC Group Worldwide, ASCO Sintering Co., and Capstan. (www.mpif.org)

Autodesk

ANNOUNCES NEW PRESIDENT AND CEO

Autodesk, Inc. recently announced that its board of directors has appointed **Andrew Anagnost**, current interim co-chief executive officer and chief marketing officer, as the company's new president and CEO, effective immediately. He will also join Autodesk's board of directors.

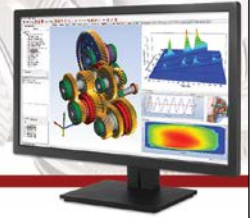
"The board and I are delighted that Andrew will lead Autodesk into its next stage of growth," said Crawford W. Beveridge, chairman of the board of Autodesk. "Andrew has been instrumental in the development and execution of Autodesk's successful business model transition, and with his leadership, we are confident that our move to the cloud and subscription will continue to be successful."

Anagnost, who holds a Ph.D. in aeronautical engineering and computer sci-



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ence from Stanford University, began his career at Lockheed Aeronautical Systems Company and as an NRC fellow at NASA Ames Research Center. After joining Autodesk in 1997, he held various technical and strategic roles.

He led engineering for Autodesk Inventor, the company's 3D model-based product design and engineering tool, growing revenue five-fold during his tenure. As senior vice president of business strategy and marketing, he led the company's successful transition to a subscription business model, and drove adoption of Autodesk's cloud technologies.

"This is an exciting time for Autodesk, and I am thrilled to be taking on the CEO role," said Anagnost. "Autodesk transformed the design industry by bringing CAD to the PC 35 years ago, and in the last 10 years became the clear technology leader. We were first to bring design to the cloud and mobile, and now we're bringing construction and manufacturing to the cloud as well. I can't wait to lead Autodesk into our next phase of growth, where we will combine business and product innovation to become an even more customer-focused company."

(www.autodesk.com)

Zeiss Industrial Metrology

HINTS AT MEASURING LAB OF THE FUTURE

At the Control 2017 trade fair, Zeiss discussed quality and inspection and how the measuring lab can be networked intelligently in the future.



"Networked intelligent systems that enable the results to be correlated in real time, calculated and visualized: these will become even more important in the Smart Factory," says Andrzej Grzesiak, senior director of metrology systems at ZEISS. CMMs provide 'a master plan' for the other measuring methods because of their extreme precision. Even small, networked solutions enable the metrology engineer to digitalize their day-to-day measuring jobs and network data to make analyses more reliable and efficient. The metrology engineer can then transfer comprehensive information derived from the quality data to the manufacturing and design departments.

At the heart of these networked solutions is the range of measuring systems available for capturing the surface shape of industrially manufactured products. In addition to traditional CMMs with contact and optical sensors, other systems are now being used successfully to perform measuring jobs. This is why

the term "coordinate measuring system" is now being established in the relevant standards. Rather than being threatened with extinction, these systems will become more and more important in the manufacturing process.

All this will happen in spite of—or, better yet, because of—the increased use of other measuring techniques, such as at-line optical measurements. Increasingly the greatest challenge is being able to compare the results from these different technologies. If all the effects of these various technologies are considered, then comparability is possible. However, this requires considerable time and effort. Thus it is all the more important that today's software solutions, such as *Zeiss PiWeb*, correlate the results in real time and visualize these data.

With Zeiss solutions, the measurements in the entire product development process can be optimized, saving operators a significant amount of time when creating the necessary measurement plans with *Zeiss Calypso PMI* software. For the first time, it is possible to automatically combine the product and manufacturing information (PMI), which is increasingly standard in the CAD model, with the specified dimension, form and position tolerances in a single measurement plan. This drastically reduces the metrology engineer's workload, and these measuring experts can then invest this extra capacity in defect analysis and prevention, ultimately lowering the reject rate and increasing manufacturing efficiency. (www.zeiss.com)

Machine Tool Builders (MTB)

LAUNCHES DIABLO FURNACES HEAT TREATING COMPANY

Machine Tools Builders (MTB) has launched a spinoff company to build a new line of heat treating furnaces to better service their customers. The new operation, Diablo Furnaces, saved five employees from the unemployment lines and Diablo is looking to add more.

MTB was founded in 1995 to rebuild and re-control—add new controls to modernize machinery—large machines that make gears or work on gears.

The company does this work for large national conglomerates such as Boeing and Caterpillar but also for local firms including Forest City Gear and Rockford Toolcraft.



Several years ago, MTB saw an opportunity to break into a related industry. When a gear is finished it has to be baked in a furnace to make it harder. Without the heat treating, the soft metal would wear down in a day.

Machine Tool Builders began servicing and refurbishing heat treating furnaces. Many of those furnaces were built by a decades-old Rockford firm. When that company closed suddenly and its assets sold to a Michigan company, MTB added key personnel from that firm and began using that institutional

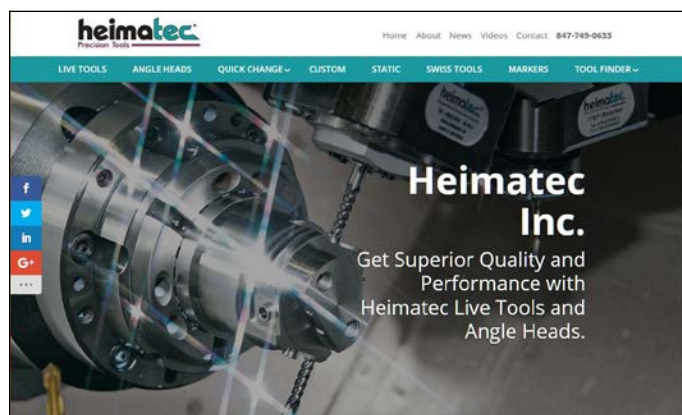
knowledge to design and build new furnaces under the name Diablo Furnaces. Diablo builds internal quench, temper/draw, box and car bottom furnaces that are custom built for each customer, based on material, temperature range, volume and available floor space.

Diablo launched in February with five employees and a goal to do \$6 million in sales this year. The company was 50 percent towards that goal by the end of April. Diablo now needs more workers to keep up with market demand.

(www.machinetoolbuilders.com)

Heimatec

INTRODUCES NEW WEBSITE



Heimatec recently announced the rollout of its new website.

The new site offers an in-depth look at the company's extensive lines of standard and machine brand tooling, including the new Tecnicrafts line of collets and guide bushings, specifically designed for the Swiss machine tool market.

The site includes dozens of downloadable PDF catalogs, as well as an online tool search feature and videos of various live tool demonstrations. A "Contact" page offers customers the option to inquire directly from the site, and easy access to local manufacturer's representative information. The site is easy-to-navigate and is mobile phone friendly.

Also included in the website is a dropdown section on custom designed tooling, which Heimatec offers in addition to its standard tooling and machine brand specific line. Tooling experts work directly with customers to design solutions to suit specific requirements for all CNC lathes, helping to solve the most challenging applications in multiple markets served by the company.

Heimatec tools offer the highest precision and most advanced technology available in the machine tool accessory market. The company is acknowledged as a world leader in live tools, angle heads and multi-spindle drill heads. With over 40,000 designs in its database, Heimatec offers the widest range of live tooling in the industry.

Heimatec North American distribution headquarters are located in Prospect Heights, Illinois (Chicagoland area) with world headquarters and all manufacturing based in Germany. A team of manufacturers' representatives covers the North American market for Heimatec.

(www.heimatecinc.com)

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