

IMTS 'exceeds expectations'

Show draws more than 1,800 exhibitors and 92,000 attendees

By Daniel McCann, Senior Editor, and Alan Rooks, Editorial Director

Not since 2000 have as many people descended on Chicago's McCormick Place for the biennial International Manufacturing Technology Show (IMTS), held this year from Sept. 8 to 13.

The 92,450 attendees (more than 100,000 attended in 2000), along with 1,803 exhibiting companies surprised even IMTS organizers. "We are ecstatic that IMTS 2008 not only achieved, but exceeded expectations and objectives," said Peter Eelman, IMTS vice president of exhibitions. "Manufacturers coming to the show from around the world clearly understand that investing in the latest technology is key to being competitive."

For some companies, IMTS is an integral—and traditional—part of their business plans. Executives from Boyer Machine & Tool, Columbus, Ind., have been attending the show for nearly 5 decades. "Based on what we saw during our visit [this year], we will be continuing this trend," said Bill Boyer, company president. "And as we make our plans to diversify into very small parts, the micromanufacturing innovations we saw will become part of our purchase plans."

Aside from being a prime venue to display, scrutinize and buy state-of-the-art equipment, the show also served as an ideal occasion to announce some of the latest happenings in the manufacturing world. To wit:

AMT—The Association for Manufacturing Technology, McLean, Va., is collaborating with Oxford (U.K.) Economics Ltd. to introduce the Global Forecasting Model for Machine Tools. The model is aimed at accurately gauging machine tool consumption. Oxford



Economics, a provider of economic advice, forecasts and analytical tools, developed the model and AMT provided the funding. AMT distributed the first forecast package in the fall to IMTS exhibitors free of charge.

The report forecasts machine tool consumption for the 21 countries included in the model. The report data includes:

- A 5-year annual forecast for the 21 countries, with details about the top 10 plus regional and world totals;
- A summary of main points and issues;
- A discussion of the global outlook for the eight industrial sectors of critical importance to the machine tool industry; and
- Insights on key risks to the forecasts and a presentation of an alternative scenario.

Following the initial report, the forecast will be updated twice annually. Trade associations participating in the program can provide their members with the model's forecast data.

Kennametal Inc., Latrobe, Pa., focused on the development of its Kennametal Complete service program. The program uses application engineering and custom solutions to maximize return on investment for high-performance cutting tools, according to the company. Kennametal is partnering with its customers to improve overall shop floor performance and reduce costs and cycle times. The program focuses on process optimization, new project engineering and on-site programs, such as carbide recycling and supply-chain management.

For example, machines may often stand idle because tools are not readily available or need to be ordered, a situation that can be avoided by using automated vending software systems such as Kennametal's ToolBOSS. According to the company, the ToolBOSS system simplifies and optimizes inventory management while capturing, comparing and trending tooling costs associated with the part produced. With this data, problems are identified for continuous-



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imts recap

improvement efforts. These systems are also capable of automatically generating e-commerce replenishment orders to help minimize machine downtime.

Mori Seiki USA Inc., Rolling Meadows, Ill., reviewed several of its business operations, including the Machining Technology Laboratory. One of MTL's ongoing development projects is a process for heat treating workpieces through grinding. According to Mori Seiki, the process produces faster response time with heat treatment integrated with pre- and post-heat treatment operations, less distortion of the workpiece due to heating, a sharp drop in energy consumption and lower environmental impact because of significantly reduced carbon emissions. Mori Seiki is working on the project with Tyrolit Schleifmittelwerke Swarovski KG, Schwaz, Austria.

Work on the process began when Tyrolit, in conjunction with the University of Bremen, Germany, demonstrated the feasibility of a grinding process that surface hardens a workpiece. Mori Seiki, which is responsible for commercial development of the process, said that capability to surface-harden carbon steels has been demonstrated. Grinding conditions can be set for hardness depths of 0.5mm to 2.5mm and a hardness range from 52 to 62 HRC. Additional trials will determine the grinding conditions required to extend the range of hardness, depth and materials to which the process can be applied. Many materials suitable for flame or induction surface hardening have proven to be suitable, according to Mori Seiki.

Mori Seiki patents are pending on the enabling technology. Special options and grinding wheels are required to assure safe operation.

Okuma America Corp., Charlotte, N.C., and the manufacturing solutions cooperative Partners in THINC, also of Charlotte, announced an agreement with business software developer SAP America Inc., to merge their technologies designed to streamline plant operations.

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Sandvik Coromant

Ice sculptor Tjåsa Gusfors from the Ice Hotel, Jukkasjärvi, Sweden, fashions a very cool stallion's head at the Sankvik Coromant Co. booth.

“This agreement allows the customer to generate real-time data to improve their efficiencies and gain a competitive advantage—from the shop floor to the boardroom,” said Larry Schwartz, Okuma president and COO.

THINC (THE Intelligent Numeric Control) is a multidimensional control with a standard 40GB hard drive and a built-in standard Ethernet that enables immediate access to part programs and process documentation.

The 30 members of Partners in THINC integrate their equipment and software through the plug-and-play capable to optimize manufacturing operations, cutting time and costs in the process.

SAP's Manufacturing Integration and Intelligence (MII) application integrates plant processes with business operations. It also provides alerts, key performance indicators via a single dashboard, thereby enabling production personnel to make fast decisions based on fact.

As a member of Partners in THINC, SAP will be able to integrate directly with THINC instead of relying on a stand-alone computer to provide the necessary link.

Sandvik Coromant Co., Fair Lawn,

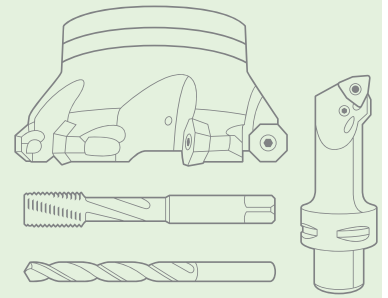
N.J., presented David Andersson with the 2008 Sandvik Coromant Materials Award for his Ph.D. thesis, which used theoretical calculations to determine point defects in advanced ceramic materials. Andersson received the award, as well as a \$5,400 prize, during a ceremony at Chicago's Museum of Science and Industry.

“The Sandvik Coromant Materials Award was founded to encourage research within the area of hard materials, and Dr. Andersson's work represents a breakthrough in the use of advanced theoretical methods for industrial materials development,” said Magnus Ekback, vice president of R&D, Sandvik Coromant. “The majority of Sandvik Coromant's cemented carbide tools are coated with advanced ceramic materials, and the continued development and understanding of coatings and their properties is crucial to our success.”

Andersson earned a Ph.D. in Materials Science and Engineering at Sweden's Royal Institute of Technology in 2007. He currently works with computer modeling and materials at the Los Alamos National Laboratory.

Seco Tools Inc., Troy, Mich., launched its new online technical support service

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with the new Seco Application Support team on-site to offer technical advice and monitor the new forum. While the technical team currently fields questions on cutting tools via phone, e-mail or fax, typically sent by distributors or field sales personnel, the online forum adds a real-time dimension that encourages additional participation by customers and other parties, according to Seco.

To submit a question about Seco's tools or machining processes, visit www.secomachiningforum.com. The forum is categorized by machining applications, component materials and FAQs. Questions are then further classified by milling, turning, holemaking, threading, Duratomic milling and Duratomic turning. Although the forum is designed for the Seco Application Support team to handle the queries, any user can respond to posted questions. Seco Tools also announced that it has established an environmental policy that includes new product development efforts, employee training in sustainability and recycling programs. The strategy is part of parent company Seco Tools AB's global program, which was established in 2006. Goals include decreasing energy consumption, waste, use of raw chemicals, environmental impact from transportation and increasing use of recycled material.

All Seco employees receive environmental training that includes recycling of paper, plastic and cutting fluids, as well as conserving energy within Seco buildings. They are also taught how to optimize computer and machine tool usage to minimize energy consumption and reduce noise.

Seco Tools Inc. is also implementing an insert recycling program, part of the parent company's goal of having 30 percent of the tungsten used in its tool manufacturing coming from recycling. Customers that participate in Seco's recycling program will receive credit for scrap materials. Seco hopes to reclaim 100 percent of its carbide and PCD- and PCBN-tipped cemented-carbide inserts. The company also plans to manage raw material recycling, which will reduce its reliance upon foreign suppliers.

Sunnen Products Co., St. Louis-based manufacturer of honing systems and abrasives, received an Export Achievement Award from The U.S. Department of Commerce's Commercial Service during a Sept. 10 ceremony at IMTS.

The award is presented to companies that have benefitted from Commercial Service assistance to make an initial export sale or expand into new markets. Mary Joyce, Midwest network director for U.S. Commercial Service in Chicago, presented the award to Sunnen's management team. "U.S. manufacturers like Sunnen Products represent some of the best and most innovative companies whose products are working to keep America at the forefront of global trade and competitiveness," said Joyce.

Sunnen's products are used to enhance the performance of fuel injectors, small engines, gears, hydraulic components, diesel engines and oil field equipment. More than 50 percent of the company's \$100 million in sales are export related, and Sunnen has offices in eight foreign countries.

Sunnen has benefitted from the export counseling and the matchmaking services of the U.S. Commercial Service to make new sales to Brazil, India and Italy. The company's most recent global expansion occurred in 2007 with the opening of a facility in France.

Walter North America, Waukesha, Wis., announced a rebranding of the company's products. Walter, Walter Titex and Walter Prototyp are now "competence" brands under the Walter corporate brand. The program is being implemented worldwide by Walter North America's parent company, Walter AG, Tübingen, Germany, and involves new logos and packaging for the company's products. The Walter competence brand focuses on carbide and PCD inserts for turning, drilling and milling. Walter Titex provides high-performance drilling and boring tools made of HSS and carbide, while the Walter Prototyp brand specializes in HSS and solid-carbide threading and milling tools.

To receive additional information about the products described here, refer to the Information Services card (pages 3 and 4) or request information at www.ctemag.com



GRINDING MACHINE. Rollomatic Inc.'s GrindSmart Nano6 is a compact 6-axis grinding center for manufacturing cutting tools from 0.0004" to 0.078" in diameter. The machine features an integrated robot loader and the company's new operator panel with 15" screen. Suitable for short and long runs, the machine can produce miniature cutting tools for the electronics, semiconductor, deburring and dental industries.

Rollomatic Inc.
www.rollomaticusa.com
IS #440



ENDMILLS. OSG Tap & Die Inc.'s Blizzard Ball endmills are for rough and finish contouring in aluminum workpieces. The cutters reportedly feature a refined geometry and ultrasmooth flute gullets. In-house testing yielded 45 percent higher metal-removal rates when roughing and imparted fine surface finishes when finishing vs. the competition, according to the company.

OSG Tap & Die Inc.
www.osgtool.com
IS #441



HYDRAULIC CHUCKS. Iscar Metals Inc.'s Hydrofit hydraulic chucks are for stationary or rotating tools up to 15,000 rpm. Runout accuracy is 0.003mm. The chucks require moderate hand torque with an Allen key to clamp and unclamp the tool in the spindle. Styles are available for common HSK, DIN and SC machine interfaces and to handle four shank types.

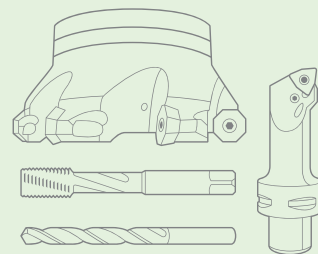
Iscar Metals Inc.
www.iscarmetals.com
IS #442



LIFTING MAGNETS. Eriez Magnetics's SafeHold RPL series permanent lifting magnets can lift and transfer steel and iron without slings, hooks or cables. The magnets are said to allow users to lift more weight per volume of magnet. Featuring a two-pole design, the magnets can lift flat plates and round materials. Continuous power is supplied until the magnet is turned off, and no DC power supply or batteries are required.

Eriez Magnetics
www.eriez.com
IS #443

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WWW.WALTER-TOOLS.COM



TURNING INSERTS. Kennametal Inc.'s Beyond turning inserts feature a new surface treatment that improves edge toughness and reduces friction and workpiece sticking, according to the company. The product line is comprised of five new grades and 22 geometries for turning steel, three new grades and 10 geometries for turning cast iron and three new grades and eight geometries for turning stainless steel.

[Kennametal Inc.](#)

www.kennametal.com

IS #444



WIRE EDM. Makino's DUO series wire EDMs have dual wire-guide options, a dual spark generator, dual anchored ballscrews and dual high-pressure flush pumps. Two models are available. The DUO 43 has a 74.8"x102.3" footprint and X-, Y- and Z-axis travels of 17.7", 12.0" and 12.6", respectively. The DUO 64 measures 82.7"x122" and has X-, Y- and Z-axis travels of 25.6", 15.7" and 16.5", respectively.

[Makino](#)

www.makino.com

IS #445



POWER SHRINK CHUCKS. Haimer USA's high-power shrink-fit chucks are available in two types. Short (65mm-long) shrink-fit chucks minimize runout and are for heavy-duty or high-speed machining. Extended shrink-fit chucks have a steep-angle or hollow-shank taper with a large diameter, which makes them rigid. These chucks are available in 130mm and 160mm lengths and have a concentricity of 0.00012".

[Haimer USA](#)

www.haimer-usa.com

IS #446



WIPER INSERT. Sandvik Coromant Co.'s new WMX wiper insert combines a main radius with multiple complementary radii and integrates a new chipbreaker geometry. This design reportedly widens feed rate and chipbreaking ranges, reducing machining times by about 30 percent. According to the company, end users can increase productivity in semifinish and rough machining applications and impart fine surface finishes when finishing.

[Sandvik Coromant Co.](#)

www.coromant.sandvik.com/us

IS #447



SAW BLADES. Onsrud Cutter LP now offers saw blades for cutting plastic and nonferrous metals. The company used its knowledge of routing to develop the blade product line. Blades and dado sets for various sawing machines are available. The German-produced blades are true running with low vibration for accurate, clean cutting, according to the company.

[Onsrud Cutter LP](#)

www.onsrud.com

IS #448



LATHE. Haas Automation Inc.'s SL-20APL lathe has an integrated automatic parts loader. The lathe has a maximum cutting capacity of 10.3"x20" and maximum swing of 23" over the front apron. Standard bar capacity is 2". It has a 4,000-rpm, dual-drive spindle and provides 154 ft.-lbs. of torque. Equipped with an A2-6 spindle nose, the machine features an 8" hydraulic, 3-jaw chuck and a 10-station, bolt-on tool turret.

[Haas Automation Inc.](#)

www.haascnc.com

IS #449



MILLING MACHINE. Sodick's AZ150 high-speed mill features a 120,000-rpm turbine-air spindle and counterbalanced linear motor drives with cross roller guide drives on the X and Y axes. The machine provides 3-nanometer resolution and can impart mirror finishes as fine as 0.6 rms. Machining accuracy is from 5 to 100 nanometers, axis travel is 6"x6"x4" and maximum work height is 11 lbs. The machine uses shrink-fit toolholders (HSK-E32).

Sodick
www.sodick.com
 IS #450



TOOLHOLDER. T.M. Smith Tool International Corp.'s Slim Line Smith Sync toolholder provides 0.8mm compression, 0.8mm tension and 1,000-psi coolant capability. Suitable for close conditions, the holder's body diameter is 24mm. It is made with through-hardened high-alloy bearing steel and the company's precision ball drive.

T.M. Smith Tool International Corp.
www.tmsmith.com
 IS #451



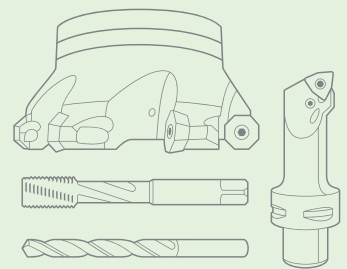
TOOL SETTING SYSTEM. Marposs Corp.'s Mida Laser 75P is a noncontact, programmable cutting tool setting system. A programmable feature enables the system to be adapted to the tool type under verification, to the same rotation speed as used during machining and to the desired measuring cycle. Its shutter design permits operation when coolant is present, according to the company.

Marposs Corp.
www.marposs.com
 IS #452



COMBINATION TOOL. Walter USA Inc.'s Xtra-tec B4012C point drill can drill and chamfer in one operation. The two 45° chamfering inserts are indexable and T-shaped. Drilling depth meets DIN requirements for tapped holes using blind-hole threads (DIN 8378/8379). The drill can also produce through-holes in materials less than 2.5 diameters thick and is available in a diameter range of 12mm to 29mm.

Walter USA Inc.
www.walter-tools.com
 IS #453



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 HAPPEN IF YOU'RE
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MEASUREMENT TOOL. Leica Geosystems AG's Absolute Tracker laser tracker is 2' tall and weighs 48 lbs. The tracker combines the measurement principles of an absolute distance meter and an interferometer. Integration time is 0.2 seconds. Warm-up times of 6 minutes from a cold start and 3 minutes from a warm start are typical. The heat-emitting components are mounted away from the head, and sensor temperature is continually regulated.

[Leica Geosystems AG
www.leica-geosystems.com/metrology](http://www.leica-geosystems.com/metrology)
IS #454



AUTOMATED WORK CELL. GF AgieCharmilles' Automation Cell is an integrated industrial robot that loads and unloads workpieces into and out of machining centers. The cell features a Fanuc robot that travels on a rail between tool magazines, machines and the CMM inspection area. After workpiece position and orientation are detected by a CMM, the robot picks up and delivers the work to 2- and 4-jaw chucks integrated into the machines.

[GF AgieCharmilles
www.gfac.com/us](http://www.gfac.com/us)
IS #455



VERTICAL MACHINING CENTER. Bridgeport, a member of The Hardinge Group, offers its 5-axis XR 600 5AX vertical machining center. The VMC features a bridge-style design and 45mm fixed, pretensioned, double-nut cooled ballscrews on all linear axes. It also has a 600mm-dia. integrated dual-axis rotary table with 150° tilt and 5-arc second accuracy. The 48-tool carousel-type automatic toolchanger provides a 4.9-second chip-to-chip change time.

[Bridgeport
www.hardinge.com](http://www.hardinge.com)
IS #456



LINEAR GUIDES. NSK Precision America Inc.'s HA series linear guides are for machining centers, high-precision lathes and grinding machines. The slides minimize posture changes in the bearing that normally result from ball passage vibration or rail waviness, according to the company. The ball recirculation components reportedly ensure smooth ball movement and minimal passage vibration, and the guides offer greater counterbore depth of the rail mounting hole to reduce rail deflection.

[NSK Precision America Inc.
www.nskprecision.com](http://www.nskprecision.com)
IS #457



COOLANT FLUSH DISKS. Rego-Fix offers ER coolant flush disks for nonthrough-coolant tools. Equipped with a long nose that acts like a directional spray nozzle, the disks direct coolant down the tool shaft to the cutting edge. They are compatible with the company's collets and coolant nuts, and can be interchanged with sealing disks, according to the required tool shank diameter. The disks are from 0.125" to 0.75" and 3.0mm to 20.0mm in diameter.

[Rego-Fix Tool Corp.
www.rego-fix.com](http://www.rego-fix.com)
IS #458



MULTITASK MACHINE. Mazak Corp.'s Integrex e-420H-II machine features a 40-hp, 2,500-rpm main turning spindle. It also utilizes a 30-hp, 12,000-rpm integral motor milling spindle, which rotates 240° (-30° to 210°) in the B-axis for straight or angled cutting and contouring. Turning feed rates of 0.1 ipr are possible when cutting S45C steel, according to the company. Machining capacity is 26.38" in diameter and 120.47" in length.

[Mazak Corp.
www.mazakusa.com](http://www.mazakusa.com)
IS #459