



THE OFFICIAL SHOW DAILY

NORTH AMERICA'S LARGEST METAL FORMING, FABRICATING, WELDING AND FINISHING EVENT



OFFICIAL SHOW NEWS | WEDNESDAY, NOVEMBER 11, 2015

Panel Explores Security Risks to Manufacturing

Tuesday's featured presentation – Enterprise Security Risks: Is Your Company Protected? – provided FABTECH attendees with a glimpse at some of the digital risk factors facing manufacturing businesses as well as some tips on approaches and actions that could help to minimize those risks.

Moderator Dominick Glavach, Principal IS Security Engineer, Concurrent Technologies Corp., guided panel members Ben Gibson, Owner, Solution Architect, SyrRoc Systems, Rob Dolci, President, Aizoon, and Jay Conolly, Director, Commercial Solutions, Prescient Edge, LLC, through a number of specific questions and issues designed to elicit thoughts and comments of greatest benefit to the audience.



Sharing thoughts on enterprise security

He began by pointing to a spectrum of cyber risks extending across all industry boundaries and then asking panel members for their thoughts on the related trends and risks for small to medium sized manufacturers.

"I like to think about things like hardware and network, middleware, which is your operating systems, and

all applications," Gibson responded. "We tend to put all this stuff in a 'fortress' and think that it's safe. But at the end of the day you have to allow people into your system in order to do business with them; whether it's a vendor, a customer, an employee, or whoever. And those 'windows and doors' that you have

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DON'T MISS TODAY!

Women of FABTECH Breakfast with Tech Tour

7:30 – 10:30 a.m.
Grand Concourse Lobby
Purchase Tickets in Registration

Keynote: Innovation and the Future of Work in Advanced Manufacturing

8:30 – 9:30 a.m.
FABTECH Theater, Grand Concourse

Panel Presentation: State of the Industry Executive Outlook: The Future of Advanced Manufacturing Technology

12:30 – 1:30 p.m.
FABTECH Theater, Grand Concourse

Professional Welding Competition

Location: Hall C, Booth C1844

Robotic Welding Competition

Location: Hall C, Booth C1835

Spin To Win

During Show Hours
Hall C, Booth C1344
Chance to Win Prizes!



Sparks fly during the Professional Welding Competition

Welding Competitions in the Spotlight at FABTECH

Attendees arriving at FABTECH on Wednesday morning will want to block out some time at 11:00 a.m. today to attend the award announcements for this year's AWS Professional Welding Competition. For the last two days, welders have been competing in Hall C1 Booth C1844 for a chance to earn prize money as well as the coveted title: "Best Welder in America."

But the AWS Professional Welding Competition is just one of three different welding competitions that have been underway at FABTECH 2015, according to Alina Blanco, senior events coordinator for the American Welding Society.

"Another one is 'Welding Wars,' which is a student competition," she explained. "It involves a team

of three and they have two hours to complete fabrication of a bird house. And the third event is Robotic Welding. It's for both professionals and students, but so far we've only gotten students competing."

Sixty welders had registered for the Professional Welding Competition as of Tuesday morning, with the likelihood that onsite registrations will raise the total number of competitors to nearly 200.

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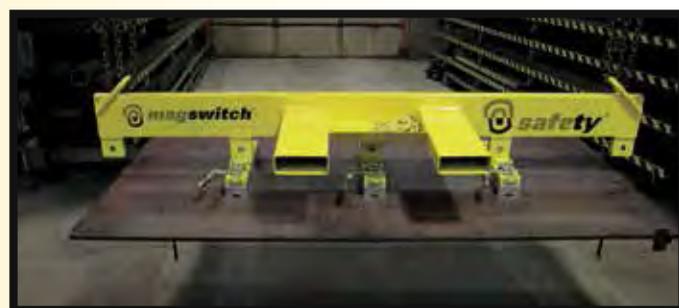
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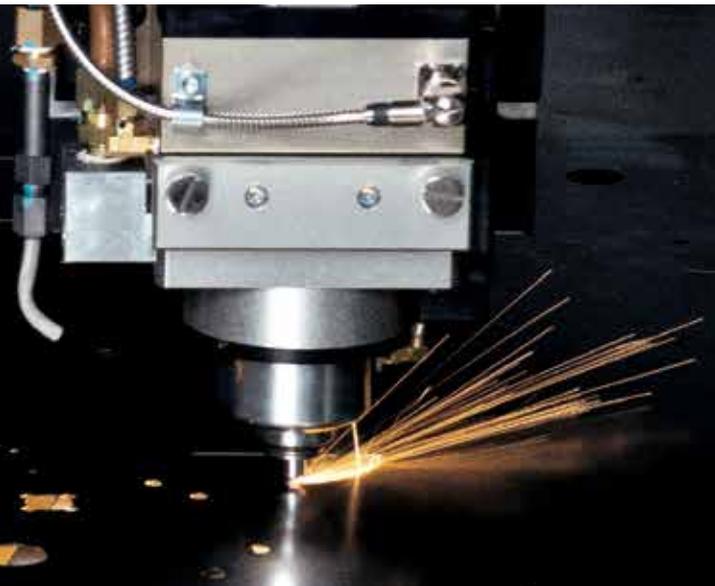
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Company Expands FABTECH Experience

For any manufacturing company, but especially one in transition, a visit to FABTECH can provide team members with an invaluable source of new ideas and an awareness of state-of-the-art industry products, services and technologies.

In the case of Lakewood Fab Tech, LLC of Holland, Michigan, more than just a few company representatives made that visit. On Monday, the company bussed nearly all of its employees to McCormick Place to spend the day at FABTECH, with about 35 staff members making the two and a half hour journey. The company also provided lunch vouchers for everyone and reserved tables for employees to share early impressions during the break.

The reason for the event,

according to Lakewood Fab Tech president Mike Miedema, stems from the company's recent changes and shift in emphasis.

"Our business is in a major transition in terms of market focus," Miedema explained. "We operated under a different name until March, when we sold a product line of machines that we used to design and build for the produce industry. We sold that to a competitor, and we are still doing a little bit of building of that equipment, but really we're transitioning to more of an industrial market of metal fabricated products and machine building; more service-based instead of product-based. So as part of that, this is an opportunity to show

everybody more about the industry as a whole – what the capabilities are and what some of the potential capital expenditures are that we may need to make in the future to expand our service capabilities."

Miedema continued, "Part of it is trying to answer the question, 'What does best-in-class look like for Lakewood going forward?' You can't answer that if you're not aware of what's going on in the industry.



At the FMA Booth – Mike Miedema, Lakewood Fab Tech President; Bryan Knott, Lakewood Fab Tech Controller; Jim Warren, FMA Senior Director, Membership, Education, Foundation; and Jerry Gunderson, FMA Product Sales Specialist

So this is a way to get the whole company aware of what's out there."

The company is also working to become established in an FMA user's group as an additional way to increase industry awareness.

Miedema said he and a few others from the company have attended FABTECH in the past, but this is the first time the company has brought all its staff members. "I think we've got a couple people that aren't riding the bus and are going on a different day so we've got some phone coverage, but everybody's pretty much here," he said.

While the company didn't make specific assignments for employees as they explored the FABTECH show floor, they did publish a list of some particular areas of interest for staff members to focus on, covering a broad spectrum of availability at FABTECH. "Currently, we don't do any finishing in-house, so there are some guys who are looking at the finishing side. It's part of a future possibility of what we might want to bring in-house," Miedema said. "On the welding side, it's a good opportunity for our guys to get a broader view of what's out there

in the welding world. We have a couple specific pieces of equipment in the forming side that we're going to be looking into. We've got a group looking at software. It almost seems like we're touching most of what's being shown here - not everything, but there's a lot of connection points."

Following the visit, the company plans to have team meetings or focus groups to ascertain and discuss "what they saw, what they learned, and what ideas we need to consider going forward," Miedema said. He summarized the company's goals for the experience as an effort to create a broader industry awareness among all employees as well as seeing it as a team building event, adding, "One of the follow-up questions, again, is, 'What does best-in-class look like for Lakewood, and what did we see that challenges our paradigm to be able to answer that question?'"



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Jenoptik Presents Fast and Precise 3D Metal Cutting Laser Machine

Jenoptik demonstrates its laser machine series for 3D metal cutting, JENOPTIK-VOTAN® BIM. North Hall, Booth N6087.



Laser cutting allows for highly efficient processing of complex metal parts. The non-contact process minimizes costs caused by set-up time or tool wear. Due to its design and high flexibility, JENOPTIK-VOTAN® BIM is the ideal, virtually wear-free tool for processing a variety of metal working parts, even if the manufacturer processes on only one laser machine, because there is no need to use special cutting dies as in the conventional processing. With a repeat accuracy of up to 50 µm, this laser machine ranks among the most precise systems of its class. Moreover, the axis movements of the robot's laser arm are up to 60 percent faster. JENOPTIK-VOTAN® BIM cuts a circle or slot in only one second. This allows for a significantly shorter cycle time compared to other robot systems.

The system concept of the JENOPTIK-VOTAN® BIM series is based on a beam guide inside the robot. This allows using laser sources with a power of up to 4 kW without having to use a complex external beam

guide. At the same time, the equidistant beam path prevents the laser beam from pumping effects, ensuring a stable beam quality. This approach allows Jenoptik to deliver its customers a technological competitive advantage.

With its metal cutting laser machine series, Jenoptik serves the automotive industry by cutting e.g. complex car body and structural parts as well as hydroformed tubes, being used for exhaust systems or car body rail manufacturing. JENOPTIK-VOTAN® BIM is simple to integrate into production lines or combined processing units.

Watch a live demonstration of the robot at Jenoptik's Booth N6087 in the North Hall.

About the Jenoptik Lasers & Material Processing Division

With its Lasers & Material Processing division, Jenoptik is one of the leading providers of laser technology and provides products and solutions along the entire



value-added chain of laser material processing – from components up to complete laser systems. In the Lasers business unit, the company has specialized in high-quality semiconductor lasers, reliable diode lasers as modules or systems as well as innovative solid-state lasers such as disk and fiber lasers. This product portfolio makes Jenoptik the ideal partner for the entire pulse width range, from cw to fs. In the field of high-power diode lasers, the company is acknowledged as a worldwide quality leader.

In the Laser Processing Systems business unit, Jenoptik develops and manufactures laser machines which are integrated into its customers' production lines as a part of their process optimization and automation. They serve for the processing of plastics and metals. Jenoptik laser systems ensure processing at maximum efficiency, precision and safety. In addition, customers can try out various laser sources and machines at the Application Center, thus finding the optimal solution for their application. The product portfolio is rounded off with energy-efficient and environmentally friendly exhaust cleaning systems for residue-free removal of pollutants during laser processing and other industrial processes. ■



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KAAST Machine Tools Fabrication Machine Innovation



KAAST Machine Tools will be exhibiting several fabrication machines at FABTECH Booth S1777, many of which are new or have been significantly revised with new production features or improved safety systems. The CNC hydraulic Press Brakes now feature a new, easier to use control and faster speeds up to 1,200"/min for better overall efficiency. The Eccentric Presses now include a new 160-ton size and offer a motorized ram adjustment for reduced set-up time. KAAST automatic Bandsaws are as reliable as ever, but now include more swivel-head mitering options in both dual-column and scissor-type configurations. Our plate and profile rolls are now offered with some new 4-roll options for improved pre-bending and reduced waste.

KAAST Machine Tools, Inc., Ardmore, Pennsylvania is the North American headquarters for KAAST Werkzeugmaschinen GmbH of Neumünster, Germany. We import a wide variety of fabrication and chip-making machine tools. Our focus is to provide high-quality, reliable machines at competitive prices. ■

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Attendees Continue Active Searches

The enthusiasm seen during opening day of FABTECH remained elevated on Tuesday, as attendees continued to seek out networking opportunities, specific equipment or technology, and, in some cases, visualize their futures.

JEFF AVERY, supervisor at McKee Foods in Collegedale, Tennessee, is attending FABTECH for the first time and with a specific purpose in mind. “I’m supervisor in the machine shop and the sheet metal area, and we’re looking for a machine to deburr our parts quickly, the ones we cut on the laser,” he said. When asked if he found what he was looking for after the first day, he answered, “We found probably five different ones yesterday, at least five, but we were only here about three hours. There’s probably more than that.”

Avery explained that his company’s machine shop, the sheet metal and fabrication group, builds the equipment that is



Jeff Avery

used to make Little Debbie products. “We build [the equipment] from raw material, weld it together, assemble it and install it in the plants where they make it,” he said.

Three others representing the company are also attending FABTECH according to Avery, all looking for specific things such as saws for cutting metal and a new water jet. “So we’ve got a few side things that we’re looking at,” he said, “but the main thing we came for was the deburring machine.” He feels that he accomplished his goal and that the

FABTECH experience met his expectations. “It’s all kinds of people and machines, and everything that we need and more,” he said.

JENNIFER SHAFT is a technical writer with Paladin Attachments in Dexter, Michigan. “We make construction



Jennifer Shaft

and agriculture attachments such as buckets, sweepers, flail mowers, that type of thing,” she said. Also a first-time attendee, she’s working on a specific project.

“We’re trying to find 3-D scanners for field use, so I’m trying to see what technology is out there and available so that we can do some reverse engineering of the prime mover mounts that we mount our attachments to.”

She’s spending a few days at the event

and said she has had some success gathering information and arranging follow-up contacts, but continues to look for more, adding that exploring the booths has yielded excellent information. “Everyone that I’ve talked to has been very informative, very



Steven Cox

helpful,” she said.

For **STEVEN COX**, quality control manager at J & D Fabrication in Santa Maria, California, coming to FABTECH involved obtaining new equipment for the small, family-owned company. “We’re using structural steel and there’s a couple

automated machines that we’re looking at,” he said. “We’ve been dealing with a couple companies and I just wanted to get out here and see who can offer us the best for what we want to accomplish. We’re trying to use more automated equipment. It’s a lot faster than manual labor, so it’s more efficient, and that way we can compete a little bit better.”

He added that his company is looking to upsize a bit and upgrade their equipment. “We’re at the point where we’re going to get something new,” he said.

Cox was successful in finding what he was looking for during the first day, leaving him more

time to explore in subsequent days. “I knew who I wanted to talk to, so I went and talked to them and I did accomplish my goals,” he said. “Now I’m just walking around looking for new stuff, and enjoying it. There’s so much to see.”

KAY LANE is buyer for Jones Metal Products of West Lafayette, Ohio. “We’ve been in business since 1923 and we are a hydroform company,” she said. “We make all types of products. We’re large into aerospace products, but we also make musical instruments, cookware, anything that can be hydroformed using sheet metals.” She added that they work with cold-rolled steels, brass and bronze, different forms of aluminum and titanium.

Lane said her attendance at FABTECH is two-fold. It provides



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BOOTH S3552

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From Feeding to Finishing: We Bring Your Coil Processing Operations Together

At the LaserCoil booth, S4584, we invite you to build your own coil processing line. Whether you need stacking, feeding, leveling, blanking, washing and electrostatic oiling, continuous cut-to-length (CTL), oscillating dies and shears, high-speed laser-blanking, multi-blanking, edge trimming, slitting, stacking, packaging or even retrofits – you’ll get a hands-on experience in assembling a solution best-suited to your operational needs. Materials capability includes mild steel, high-strength steel, stainless, copper, pre-painted metals and aluminum.

Automatic Feed Company, LaserCoil Technologies and Georg have joined their competencies, partnering to provide a depth and breadth of coil processing technology that is unparalleled. Together, these three companies have over 150 years of combined manufacturing experience with multiple innovations launched along the way, including the fastest edge trimming and recoiling line, capable of reaching up to 1800 m/min.

At FABTECH, this group is focused on promoting its latest technology — LaserCoil’s new dual-head coil-fed laser cutting system, which allows a shared balancing of the workload to decrease processing time and improve productivity by up to 85 percent as compared to a single head system. These flexible systems have the ability to cut shapes that range from complex body side outers to simple chevron and scroll cuts, delivering part-ready components for stacking at the end of the line as scrap is automatically shed during the cutting process.



Whereas other coil-fed laser cutting systems require special coil feed and/or special stacking solutions, LaserCoil systems work with traditional feed and stacking equipment and can be integrated with existing blanking line automation to simply replace the press, or supplied along with new automation

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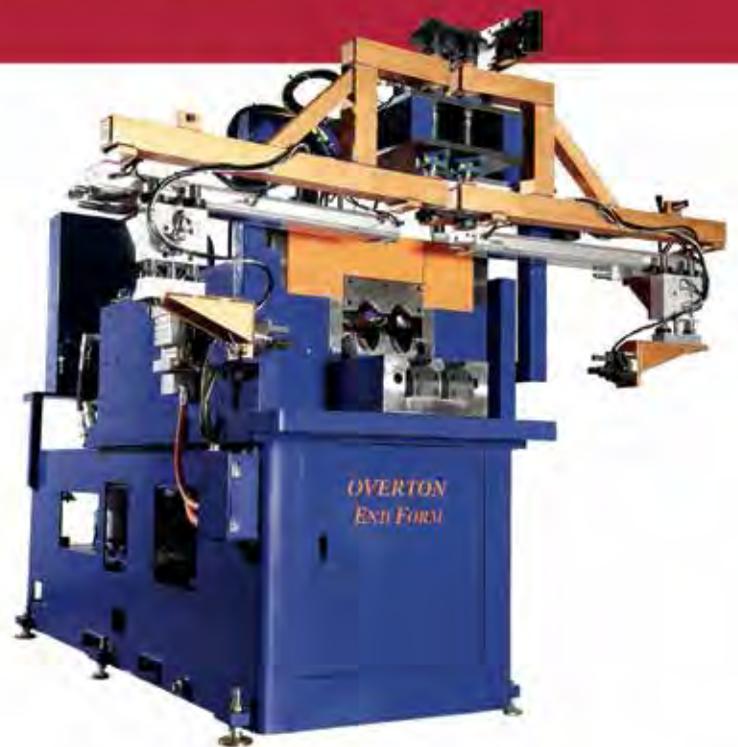
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Amada is the first manufacturer of advanced metalworking machinery to develop its own fiber laser oscillator. Joint development between Amada and JDSU has resulted in the optimum high-powered fiber laser source designed specifically for cutting. Conventional fiber laser cutting systems require changing the focus lens in order to cut a full range of material thicknesses. In marked contrast, ENSIS is engineered to automatically provide the optimal beam configuration based on the material being cut. Continuous processing combined with automatic

changes to beam configuration, result in unprecedented productivity and versatility.

Solid-state technology does not require laser gas to generate the laser beam — thereby reducing environmentally harmful emissions. In addition, the power requirements for ENSIS are substantially less than CO2 systems. Since there are no optics to keep cool, a smaller, more efficient chiller further enhances cost savings. In addition, the oscillator is designed as an integrated unit resulting in a size reduction of 50%. This integrated design allows ENSIS to deliver a high-power, high-quality laser beam in a remarkably small footprint — substantially improving shop floor efficiency and productivity.



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- Full range cutting capability without lens change (ensures continuous automated processing from thin-to-thick materials)
- Improved oscillator design provides increased energy efficiency (integrated design also results in a size reduction of 50%)

Amada is committed to the ongoing development of new machine technologies that achieve the highest levels of performance and enable manufacturers to reduce operating costs, while becoming environmentally responsible. As a world-leading provider of telecom-grade pump diode and fiber laser technology, JDSU's expertise compliments Amada's strengths. To maximize efficiency and remain at the leading edge of technology, Amada and JDSU have set up branch offices in their respective R&D centers. As advancement in fiber laser technology continues at a rapid pace, especially in sheet metal processing, Amada remains committed to joint development opportunities of lasers (including welding). ENSIS, Latin for sword, represents a revolutionary achievement between the two companies to develop and refine laser cutting systems specifically designed for cutting sheet metal (patent jointly held between Amada and JDSU).

With the dramatic increase in productivity achieved with the ENSIS AJ, automated material handling is more important than ever to realize full machine potential. Amada's ASFH compact tower system maximizes material storage while minimizing the impact on valuable floor space. This is achieved because ASFH is designed to occupy space directly above the laser's shuttle table. This design approach takes advantage of the vertical space in fabricators' facilities and can be configured with a specified number of raw material pallets and finished parts/skeleton pallets. This system is not designed to accommodate multiple lasers. However, it is available in a dual tower configuration when a single tower is not sufficient. Designed and built at Amada's Brea, CA facility, ASFH is engineered to maximize productivity and increase profits by reducing both lead-times and costs. ■

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ENSIS 3015 AJ Fiber Laser with ASFH Automation



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AWS WELDING CCAI FMA SME PMA METALFORM

Booth S901

AMADA

Manufacturing Day 2015 Exceeded All Expectations

National Co-producers Already Strategizing for 2016

The fourth annual Manufacturing Day was Oct. 2 and celebrations continued throughout the U.S. during the entire month

of October. The event continues to grow at a rate that exceeds expectation. In 2015 2,558 events were held across North America. This is a 35% increase over the 1,684 events that occurred in 2014.



Manufacturer & Business Association (MBA), Erie, Penn. welcomed 1,300 students during its two-day Expo

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The challenges faced by manufacturing in recruiting and hiring people with the appropriate skills for the positions needed in today's highly technological manufacturing environment continue to mount. Manufacturing Day provides every manufacturer an opportunity to share their company's story and show off their facilities to an audience from their local community that includes students, teachers, counselors, parents, elected officials and the general community population in a way that can and is changing public perception of the manufacturing sector and putting old myths to rest.

The national co-producers of Manufacturing Day are the Fabricators & Manufacturers Association (FMA), the National Association of Manufacturers (NAM), the Manufacturing Institute (MI) and the National Institute of Standards and Technology's (NIST) Hollings Manufacturing Extension Partnership (MEP).

New to Manufacturing Day this year is a collaboration under which Deloitte has produced and is administering an "exit survey" program designed to measure how effective Manufacturing Day events can be in moving the needle on public perception. According to Ed Youdell, president and CEO of FMA, this measuring of effectiveness is the next logical step in building Manufacturing Day as a game-changer when it comes to redeveloping the industry's workforce. "Our first goal was to gain sufficient participation so that MFG DAY events would be available almost everywhere and

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continued on page 30



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- **IMTS 2016**
Chicago, IL — September 12-17, 2016
- **FABTECH 2016**
Las Vegas, NV — November 16-18, 2016

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3D/ADDITIVE MANUFACTURING PAVILION IN THE GRAND CONCOURSE

Don't miss the exciting 3D/Additive Manufacturing Pavilion in the Grand Concourse. Attendees can see live equipment and products on display from a host of exhibitors and check out the FABTECH Lion Project. This unique project was a collaboration between the Art Institute of Chicago, Exact Metrology, Met L Flo and Linear Mold & Engineering, Inc. to produce miniature replicas of the iconic lions that flank the museum using 3D/Additive technology.

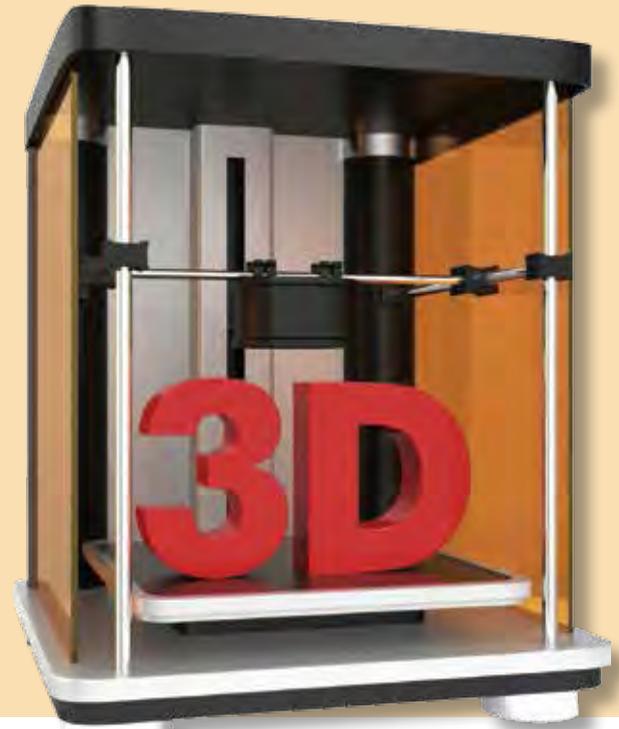
An array of additive-made parts will be also be on display from these FABTECH exhibitors:

Cincinnati Inc., Booth N9000

Stratasys, Booth N6000

GPI Prototype & Manufacturing Services, Booth N5000

3rd Dimension Industrial 3D Printing, Booth N4000



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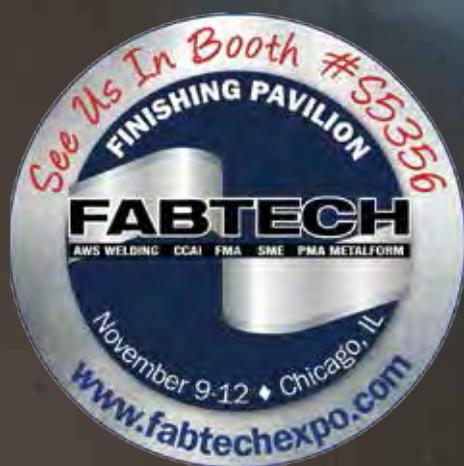
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Amada's C1 AJ — Punch/Fiber Laser Combination



The LC 2515 C1 AJ is a revolutionary punch/fiber laser combination machine equipped with a Multi-Purpose Turret (MPT) and automated material handling to ensure maximum productivity while reducing secondary operations.

The LC 2515 C1 AJ is engineered for high-speed productivity — combining the forces of a 22-ton turret punch press with the flexibility of a 2kW fiber laser. To maximize punching productivity in conjunction with laser cutting, the C1 AJ features a 49-station MPT (Multi-Purpose Turret). In addition to ensuring maximum speed, the highly-efficient fiber laser uses approximately a third of the electricity when compared to a CO2 system.

The laser head moves in the Y-axis via a direct drive servomechanism for maximum speed and accuracy and is isolated from punching vibration to help maintain beam integrity and cut quality. Reliability is further enhanced by a gap near the laser axis which is engineered to allow cutting gas and slag to escape without impacting processing. A cartridge-type lens provides for simple and fast lens changes. In addition, the use of non-contact sensor technology ensures that the laser beam remains focused on the sheet, thereby guaranteeing maximum quality and consistent cutting operations.

Unique features of the MPT include four tapping tool stations and three innovative die lift stations. The die stations automatically lift to facilitate upward forms while reducing material scratches and preventing downward forms from hitting the forming dies during sheet movements. In addition, a brush table automatically lifts to support material and provide scratch-free processing — eliminating the need for secondary finishing.

Additional Features

- AMNC touchscreen control with a 900 cut condition database
- Barcode reader for rapid program loading
- 49 station MPT or 46 (4 auto index) provides flexible production
- MPT also provides unique forming and tapping functions
- Patented bridge frame construction
- Compact and ergonomic safety enclosure
- Energy saving — ECO Cut and reduced power consumption
- Rapid changeover between synchronized punch and laser
- Flexible table design
- Compact footprint

Non-Stop Productivity

To keep pace with the inherent high-speed processing of fiber laser technology, Amada provides a variety of automated material handling systems. One example, the ASR 3015N TK, extends unattended operation to multiple shifts. Its compact tower design produces floor space savings while providing reliable and extremely efficient material storage and handling. Speed and productivity are mathematically predictable and no longer linked to personnel motivation. Preprogrammed commands allow the system to work around the clock with a minimum amount of operator intervention. Flexibility to produce smaller lot sizes in a variety of material types and thicknesses is provided by the additional shelves of the automated tower. In addition, an integrated TK (Take Out) system provides automated single-part

separation and sorting. The highly-reliable TK system removes the part from the skeleton the instant it is cut free. Then, the part is precisely stacked.

In summary, the LC 2515 C1 AJ represents the next evolution in punch/fiber laser technology — providing maximum productivity and versatility. Equipped with ASR 3015N TK material handling options enables the C1 AJ to cost-effectively produce smaller lot sizes in a variety of material types and thicknesses or operate lights-out for extended production runs. ■

Stop by booth #S901 to find out more about the LC 2515 C1 AJ and the full range of innovation offered by Amada.



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FABTECH Specials

Wide range of machinery at **Booth S1777** for immediate shipping



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\$79,900
or \$1,147/mo

HPB 3100/175

10' x 190 ton, 4 axis, crowning

8.5' x 110 ton, 4 axis – \$69,900

3' x 44 ton – \$36,950



~~\$28,900~~
\$24,900
or \$497/mo

PBH 80 NC

3" angle with NC control

Hydraulic: 2.4" – \$19,200 • 2" – \$11,770

Mechanical: 2" – \$5,760 • 1" – \$4,990



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\$19,900
or \$397/mo

HBS 460 C

18" capacity – Semi automatic

Auto: 15" – \$21,900 • 9" – \$10,400

Semi auto: 13" – \$15,900 • 12.5" – \$10,900

Semi auto: 11" – \$9,940 • 9" – \$8,500



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\$19,800
or \$395/mo

RBD-3M 15/7 H

5' x 1/4" hydraulic

5' x 1/8" – \$13,640 • 3' x 3/16" – \$12,590

6' x 16 Ga – \$8,400 • 4' x 12 Ga – \$8,150



~~\$119,900~~
\$104,900
or \$1,506/mo

KSP 160

176 ton, Eccentric press

88 ton – \$69,900



~~\$8,400~~
\$6,900
or \$137/mo

HPA 60

60 ton workshop press

100 ton – \$9,900 • 30 ton – \$6,700

Prices valid November 9–12, 2015. Subject to prior sale.

EDUCATION PROGRAM

WEDNESDAY, NOVEMBER 11		SCHEDULE-AT-A-GLANCE	
TECHNOLOGY	8:00 AM – 10:00 AM	10:30 AM – 12:30 PM	1:30 PM – 3:30 PM
FINISHING	C70: NEW! Optimizing a Batch Powder Coating Operation I Room S404A	C80: NEW! Painting Over Hot Dip Galvanizing I Room S404A	C90: NEW! Powder Coating Color Change & Transfer Efficiency B Room S404A
	C71: NEW! Troubleshooting for E-Coat Imperfections A Room S405A	C81: Efficient Curing with Infrared B Room S405A	C91: NEW! Getting the Most Out of Your Pretreatment I Room S405A
	C72: NEW! Modernizing the Abrasive Air Blast Facility with Tech Tour I Room S405B	C82: NEW! Safety Codes & Compliance: How Important is It? I Room S405B	C92: NEW! Saving Costs on Your Plating Line I Room S405B
STAMPING	S70: NEW! Lubrication Technology I Room S405A	S80: NEW! Pressroom Safety and Performance B Room S405A	S90: NEW! Eddy Current vs. Variable Frequency Drives Applications B Room S405A
LASERS & CUTTING	F70: NEW! Laser Beam and Process Monitoring I Room S403A	F80: NEW! Innovations in Industrial System Technology I I Room S403A	F90: NEW! Innovations in Industrial System Technology II I Room S403A
LEAN	F71: Lean Tools: Flow and Pull I Room S403B	F81: Lean Tools: 5S Workplace Organization and Standardization I Room S403B	F91: Lean Principle: Visual Workplace I Room S403B
MANAGEMENT	F72: NEW! Workforce: Build Accountability and Delegation Strategies for Effective Management B Room S401A	F82: NEW! Workforce: Managing Labor Risk and Cost I Room S401A	F92: NEW! Closing the Skills Gap: Demystifying Relationships Between Employers and Schools B Room S401A
	F73: NEW! Exit and Succession Planning for Business Owners I Room S401BC	F83: NEW! Direct Sales or Outsourcing; Which is Better for Your Business? B Room S401BC	F93: NEW! Marketing Strategies and Powerful Tools to Enhance Your Presence in the Market Place B Room S401BC
JOB SHOP SOLUTIONS	F74: NEW! Structural Fabrication Technology I Room S503A	F84: NEW! Metallurgy 101 B Room 503A	F94: NEW! Improving Environmental Working Conditions in the Job Shop B Room S503A
AUTOMATION	F75: NEW! Automating the Shop Floor I Room S401D	F85: NEW! Modernizing Maintenance and Inspection B Room S401D	
FORMING & FABRICATING	F76: NEW! Operational Press Brakes: the Four Pillars of Tonnage I Room S402BC	F86: NEW! Improving Your Operation with Lubricants B Room S402BC	F96: Optimizing Production of Your Punching Machine I Room S402BC
TUBE & PIPE	F77: Tube Production I Room S405B	F87: Bending Tube B Room S405B	F97: NEW! Testing and Inspection of Tube and Pipe I Room S405B
WELDING			
SEMINARS	W18: ASME Section IX, B31.1 & B31.3 Code Clinic – Day 2 • Room N131		8:30 AM – 4:30 PM
	W19: Corrosion of Welds: Causes and Cures • Room N128		1:00 PM – 5:00 PM
	W20: Visual Inspection Workshop • Room N134.....		8:30 AM – 4:30 PM
	W21: Preview of the New Part B Weldments • Room N133		8:30 AM – 5:30 PM
	W22: Welding of Stainless Steel (Basics) • Room N129		8:30 AM – 4:30 PM
CONFERENCES	W26: So You're the New Welding Engineer – Day 2 • Room N227B.....		8:00 AM – 5:00 PM
	W27: Electron Beam Welding Conference – Day 2 • Room N227B		9:00 AM – 5:00 PM
RWMA SCHOOL	W29: RWMA Resistance Welding School – Day 1 • Room N227A		7:45 AM – 5:00 PM
PROFESSIONAL PROGRAM	W32: Session 10: Plenary Session • Room N138.....		8:00 AM – 10:00 AM
	Session 11: Progresses in Filler Metals • Room N139		10:00 AM – 12:00 PM
	Session 12: Solidification (Professor John C. Lippold Symposium) • Room N140.....		10:00 AM – 12:00 PM
	Session 13: Modeling • Room N138.....		2:00 PM – 6:00 PM
	Session 14: Sensing and Control of Welding Processes • Room N139		2:00 PM – 6:00 PM
Session 15: Alloys for Power Generation (Professor John C. Lippold Symposium) • Room N140		2:00 PM – 5:30 PM	
EDUCATIONAL SESSIONS	W37: AWS Education Sessions Room N137		8:00 AM – 4:00 PM
SPECIAL PROGRAMS	Robotic Arc Welding Competition – Day 3		9:00 AM – 3:00 PM
	AWS Professional Welders Competition – Day 3.....		9:00 AM – 3:00 PM
	Welding Wars Competition – Day 3.....		9:00 AM – 3:00 PM
	Thermal Spray Wire Arc Demonstration (Hourly) – Day 3		9:00 AM – 3:00 PM

AWS Headquarters, Room N229

FABTECH Headquarters (FMA, SME, PMA, CCAI), Room S402A

B = Basic **I** = Intermediate **A** = Advanced

Don't Miss The Special Events Scheduled for FABTECH 2015

MONDAY, NOVEMBER 9

9:00 – 10:00 AM **Keynote Presentation:** Running a Winning Organization
LOCATION: Grand Ballroom

12:30 – 1:30 PM **Featured Panel Session:** What Additive Manufacturing/3-D Printing Means for the Metal Fabrication Industry, FABTECH Theater | LOCATION: FABTECH Theater, Grand Concourse

Media Sponsor: **AMazing**
additivemanufacturing.com

TUESDAY, NOVEMBER 10

12:30 – 1:30 PM **Featured Panel Session:** Enterprise Security Risks: Is Your Company Protected?
LOCATION: FABTECH Theater, Grand Concourse

5:30 – 7:30 PM **FABTECH Industry Night**
LOCATION: Lucky Strike, Downtown Chicago
Advance Ticket Price: \$50
Special Appearance by Jeanette Lee, famous "Black Widow" Professional Pool Player



WEDNESDAY, NOVEMBER 11

7:30 – 10:30 AM **Women of FABTECH Breakfast with Tech Tour**
LOCATION: Grand Concourse Lobby

8:30 – 9:30 AM **Keynote Presentation:** Innovation in the Future of Work in Advanced Manufacturing
LOCATION: FABTECH Theater, Grand Concourse

Media Sponsor: 

12:30 – 1:30 PM **Featured Panel Session:** State of the Industry Executive Outlook: Advanced Manufacturing
LOCATION: FABTECH Theater, Grand Concourse

MONDAY, NOVEMBER 9 - WEDNESDAY, NOVEMBER 11

Professional Welding Competition: Competition runs during show hours Nov. 9-10, Winners announced on Nov. 11 at 11:00 AM
LOCATION: Hall C1, Booth C1844

Robotic Welding Competition: Competition runs during show hours Nov. 9-11
LOCATION: Hall C1, Booth C1835



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Welding and Cutting Products Set New Standards for Productivity, Performance

ESAB welding and cutting products and system solutions set new standards for productivity, reliability, durability, portability, and flexibility. With one of the most diverse offerings in the industry, ESAB can address any welding and cutting requirement. At FABTECH booth N6074, ESAB showcases a broad scope of products and solutions – all designed to improve performance and lower the cost of operation.

New Game-changing Multi-process Welder

The Rebel™ EMP 215ic is a welding system that offers true multi-process arc performance, 120V/230V primary input power flexibility, lightweight portability, a groundbreaking operator interface and exclusive sMIG (“smart MIG”) technology that learns and adapts to the operator’s technique. Rebel’s breakthrough design was inspired by professional welders and combines versatility, performance and ease of use in the best go-anywhere, weld-anything machine on the market today. Dare to rebel – experience Rebel at FABTECH!

New WeldCloud™ Data Management Platform Allows Continuous Improvement

The WeldCloud software platform captures and analyzes data so users can maximize asset utilization, improve documentation and QA processes, and monitor and drive machine/operator productivity. Secure, robust and scalable, WeldCloud operates within a user’s firewalls, automatically transmitting and storing data from power sources via Wi-Fi or cellular network. WeldCloud can be customized to fit application needs and integrates with ESAB’s DataLeap solution for end-to-end traceability from cutting to welding. See WeldCloud in action at FABTECH.

Complete, High Productivity Automated Welding Systems

ESAB welding automation solutions put high quality, high capacity, and much higher productivity within reach. At FABTECH, see a complete state-of-the-arc robotic cell featuring the new Aristo® power source combined with ESAB’s unique tandem Swift Arc Transfer (SAT™) MIG welding process for travel speeds well beyond the limits of normal spray arc welding. Also on display, an automated Column & Boom system featuring the innovative ICE™ process for SAW. ICE exploits the excess heat from the Twin SAW process to melt an additional non-powered welding electrode, doubling the productivity of most SAW applications.

Manual Plasma Cutters Offer True Performance, True Cut Capacity

Master the art of manual cutting with the Thermal Dynamics® Cutmaster® TRUE™ series of hand-held plasma cutters. With the TRUE series, the recommended cut capacity is the true cut capacity, so there’s no need to “buy up” to a larger system. A recommended cut has a smooth

cut face with little or no dross and requires little or no rework or grinding – all of which improve productivity and quality.

Cutting Automation Solutions for Every Shop

ESAB has a cutting automation solution for every process: plasma, oxy-fuel, waterjet and laser cutting. The Crossbow is the perfect entry point into automated plasma or oxy-fuel cutting, featuring a fully-integrated CNC in a compact, portable system. SGX is a plasma/oxy-fuel system designed for performance, speed and accuracy and engineered for easy operation. Experience these systems and Columbus® CAD/CAM programming/nesting software and advanced DataLeap production management software at FABTECH.

Premium-quality Filler Metals Optimize Performance

ESAB continues to set the standard in filler metals with premium-quality wires and rods for everyday welding, as well as solutions that increase productivity, meet stringent code requirements and deliver specialized properties for specific applications. Learn how ESAB filler metals can help increase productivity, lower total cost of ownership and improve the welding experience. On display at FABTECH, new Stoody® nickel-based tungsten carbide hardfacing wires, new Stoody all-position CO₂ Flux-Cored nickel super alloy wire, and more.

Visit ESAB at FABTECH booth N6074 or learn more at esab.com/fabtech2015.

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TRUMPF Demonstrates Products and Features that Boost Your Business

TRUMPF products making their North American debut at FABTECH 2015 include: the TruBend Center 5000 enabling bend geometries not possible with a traditional panel bender, the TruLaser 2030 fiber with LiftMaster Shuttle offering a variety of flexible integrated automation options, the new TruPunch 5000 with SheetMaster, and TruTops Boost software featuring all-in-one design and programming. Learn about features that “Boost” productivity and efficiency, like Drop&Cut for intuitive processing of remnants and Smart Punch Monitoring that automatically detects a broken punch. Experience Industry 4.0 and how it can impact your profitability today and tomorrow.

The TruLaser 2030 fiber with new LiftMaster Shuttle will be on display at the TRUMPF booth S1701. Featured with the energy-efficient fully integrated 4kW TruDisk laser, the TruLaser 2030 fiber offers flexible and economic laser processing across a variety of materials and thicknesses. With a 60 inch x 120 inch working range, optimum energy efficiency, and minimal space requirements, it is highly suitable for job shops that run up to three shifts per day as well as for first-time laser users looking to add laser cutting capabilities to their business. To boost productivity even further, TRUMPF will present the TruLaser 2030 fiber with highly flexible automation for loading and unloading. This enables customers to run production either with the standard pallet changer or with the innovative LiftMaster Shuttle for complete lights-out production.

Additional highlights include: the TruLaser 5030 fiber 8kW and TruLaser 3030 fiber with LiftMaster Compact and PartMaster for ergonomic part removal, the new TruMark 5050 fiber laser marking system, TruBend 5130



and TruBend 3100 precision press brakes, TruLaser Cell 3000 multi-axis laser cutting and welding system, and our line of portable power tools. The TruServices team will be on hand to demonstrate how TRUMPF supports the entire life cycle of your equipment with first class training, service agreements, financing, tooling, consumables, and more. ■

Visit booth S1701 and get the “Boost” that only TRUMPF can provide.

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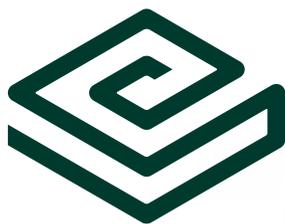


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BC80
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ELECT102
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New XRF Analyzer Designed to Speed and Simplify Metal Chemistry Analysis

Thermo Scientific Niton XL5 handheld XRF analyzer is smaller and lighter than existing XRF alloy analyzers

Managers, operators and quality control personnel in the fabrication, positive material identification and

scrap metal industries can now assess the chemical composition of metals with a new analyzer that is smaller and lighter than any x-ray fluorescence (XRF) alloy analyzer on the market today.

The Thermo Scientific Niton XL5 analyzer is designed to provide results rapidly and with a high level of accuracy. Weighing only 2.8 pounds (1.3 kilograms), the compact Niton XL5 analyzer enables operators to access difficult-to-reach areas to maximize test coverage, reducing user fatigue and providing exceptionally low limits of detection (LODs). Other features include a new electronics processor that enables real-time results display, and a hot-swappable battery and travel charger for improved operator efficiency in the field.



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With over 150 years of combined manufacturing experience, together we provide coil processing technology depth and breadth that is unparalleled. Now launching the LaserCoil dual-head laser cutting system—achieve production speeds that challenge mechanical blanking, eliminate die cost and maintenance, improve quality and boost flexibility.

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Visit **Booth S4584** to learn more



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“Precise quality control testing of metal chemistry is becoming increasingly important, especially in the high-growth metals fabrication market,” said Howard Kopech, vice president/general manager, portable analytical instruments for Thermo Fisher Scientific. “We designed the Niton XL5 analyzer to increase user productivity and confidence while providing a powerful solution to help our customers achieve increased levels of quality assurance, quality control and analytical performance.”

The Niton XL5 analyzer provides enhanced communication capabilities through Bluetooth and GPS connectivity. The Thermo Scientific NitonConnect companion PC software delivers easy data transfer and remote viewing functionality when the analyzer is mounted in a test stand.

continued on page 30

FROM FEEDING TO FINISHING: WE BRING YOUR COIL PROCESSING OPERATIONS TOGETHER

continued from page 9

as a completely new line or even combined with refurbished feeding lines, whether it uses side- or end-of-line stacking — for steel and aluminum. Add an AFCO or Georg feed line to the front of the blanking operations or configure a complete CTL for in-die shearing capability. And with Georg you also experience the best in slitter and packaging line technology.

Get everything you need for a complete coil processing solution from an experienced team, capable of reaching strip widths of up to 2.8m for aluminum processing. In addition this team can also support you with grinding machines, turning lathes and other machine tool equipment. Learn more by visiting booth S4584, where you can piece together a complete coil processing line with Automatic Feed Company, LaserCoil Technologies and Georg. www.feeding2finishing.com ■

Automatic Feed Co., LaserCoil Technologies and Georg partner in booth S4584, highlighting LaserCoil's new dual-head coil-fed laser cutting system, while providing attendees the ability to piece together their own coil processing line.

Did You Know?

More than 500 new products debut at FABTECH 2015. Refer to the Official Show Directory, New Product section for a list of new products on display by exhibitor name and technology. Or, look for the New Product Lightbulb decal in front of those exhibitors showcasing new products.



FABTECH Bistro

Reserve a seat at the FABTECH Bistro and you will always have a convenient place to eat, meet and network. Tickets can be pre-purchased at fabtechbistro.com, or on-site in the FABTECH Bistro Booth on Level 2.5.



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November 9-12, 2015 at
FABTECH Booth #S2980

Nordson Launches Mobile Spray System

Nordson is launching the Encore® HD mobile spray system this week at FABTECH 2015. The Encore HD Mobile Spray System features Nordson's fourth generation dense phase spray technology. High density, low velocity products are designed for superior process control. This allows the Encore HD mobile system to achieve a highly dense phase spray, a more diluted mixture, or anything in between. HD technology delivers a high concentration of powder, but uses very little air. As a result, it provides greater transfer efficiency, less overspray and superior cured finish quality for every conceivable part type. With a decade of experience, over 20 HDLV technology patents, and more than 800 global HD installations, Nordson leads the industry in dense phase technology and expertise.

The Encore HD Mobile Spray System achieves all the benefits of dense phase powder spray technology in a powerful, mobile unit. Many Nordson customers are realizing the benefits of HD:

- Cut color change time by 50%
- Capable of saving 45% in powder material
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continued on page 28



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NORDSON LAUNCHES MOBILE SPRAY SYSTEM

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“Nordson customers are realizing the real benefits behind HD technology,” says Kelly Gregart, product line manager, Nordson powder coating systems.

“Compared to traditional venturi systems, the Encore HD mobile system gives you the best process control and lowest operating costs,” she says. “It’s a truly innovative system.”

The Encore HD Mobile Spray System provides a more lightweight, better-balanced gun, on-gun controls for fast, easy adjustments, nozzles that are compatible with the entire Encore gun family (XT, LT and HD)

and the ability to spray even the most challenging coating materials.

At FABTECH 2015, Nordson will feature its newest liquid painting technology, the Iso-Flo® VC unit. Nordson Iso-Flo voltage block systems provide an easy, safe cost-effective solution for electrostatically charged waterborne painting. The new Iso-Flo VC allows the operator to control the amount of coating volume contained within the Iso-Flo pump. This makes the VC configuration ideal for applications with small paint volume requirements or frequent color changes. For materials with heavy solids, the VC design lets the user set a volume that can be sprayed before settling of solids becomes a problem. The Iso-Flo VC system joins a complete family of manual and automatic liquid dispensing solutions from Nordson.

Finally, Nordson will display a full line of UV Curing technologies at the show, including the Cool Wave® 2 system. The Cool Wave system is a microwave-powered ultraviolet (UV) curing system designed for the most demanding production environments. ■

For more information on powder coating, liquid spraying or UV curing technologies, visit Nordson at booth S5324 at FABTECH 2015 or nordson.com/ics.

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MANUFACTURING DAY 2015 EXCEEDS ALL EXPECTATIONS

continued from page 12

with more than 2,500 events we are well on our way to achieving that," he said. "But logically, everywhere from the White House to the local town square, people want to know if this kind of activity really makes a difference. The collaboration with Deloitte and the ability to use their expertise in creating and

deploying this kind of exit survey, with the same questions being asked of every event attendee will enable us to measure our effectiveness over time."

The concept of declaring October as Manufacturing Month has been employed in many states across the U.S. and all across Canada. For that reason the Deloitte survey was kept active through the end of October and results will be announced before the end of November.

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NEW XRF ANALYZER DESIGNED TO SPEED AND SIMPLIFY METAL CHEMISTRY ANALYSIS

continued from page 24

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- A new powerful 5W x-ray tube to provide improved detection of light elements;
- Micro and macro cameras for enhanced data collection;
- Customizable profiles that can be created for different applications prior to testing;
- A new user interface and display that includes a touchscreen with swiping functionality; and
- Improved ingress protection for rugged environments.

The Niton XL5 analyzer is part of the family of Thermo Scientific handheld XRF analyzers that includes the existing Niton XL2 and Niton XL3 series. In addition, the new Thermo Scientific Niton XL2 100G complements the instrument portfolio by providing rapid general metals identification in a value platform, designed to give customers cost-efficient, reliable, real-time results in the field. More information on the Thermo Scientific Niton XL5 handheld analyzer can be found by visiting www.thermoscientific.com/XL5. ■

About Thermo Fisher Scientific

Thermo Fisher Scientific Inc. is the world leader in serving science, with revenues of \$17 billion and approximately 50,000 employees in 50 countries. Its mission is to enable customers to make the world healthier, cleaner and safer. Thermo Fisher Scientific Inc. helps customers accelerate life sciences research, solve complex analytical challenges, improve patient diagnostics and increase laboratory productivity. Through premier brands – Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific and Unity Lab Services – the company can offer an unmatched combination of innovative technologies, purchasing convenience and comprehensive support. For more information, please visit www.thermofisher.com.

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Introducing the new CobraMig 300 aluminum push-pull MIG welder with "CobraLoc". CobraLoc allows the users to unlock the feeder from the power supply, giving them full portability. Additionally, the Detachable digital wire feeder allows for Rail or Boom applications. Interface extensions of 25', 50' or more provide remote adjustments of the power supply. Extending the capabilities even further.....

MK has developed a NEW series of Digital push-pull guns. The X Series digital gun gives the user ultimate control at their fingertips. Remotely changing the parameters or switch between memory programs directly from the gun. By combining feeder separation length and gun cable length, operations can now be managed directly at the gun, allowing complete control 100' or more from the power supply.

Mazak Optonics Corporation: Intelligent Technology

Mazak Optonics Corporation is a major supplier of laser-cutting systems, offering 50 laser models and leading the industry in the implementation of emerging laser technologies. The company's 50,000 sq. ft. North American Headquarters are located in Elgin, Illinois, and feature a 30,000 sq. ft. laser technology center housing up to 18 machines for demonstrations and training.

Mazak Optonics Corporation will focus on Intelligent Laser Technology at FABTECH Chicago in booth S3101. The Mazak Optonics booth will showcase four fiber generator laser machines. The highlights will be the launch of the OPTIPLEX NEXUS 3015 Fiber and the OPTIPLEX 6kW Fiber.



OPTIPLEX NEXUS 3015 Fiber

OPTIPLEX NEXUS 3015 Fiber

The OPTIPLEX NEXUS 3015 Fiber combines cutting-edge laser technology with an economical investment. This machine is a 2D system that utilizes rugged construction and an innovative design to deliver high performance for fabrication job shops and production environments. OPTIPLEX NEXUS

3015 Fiber is designed to integrate Intelligent Setup and Monitoring Functions. It delivers many features normally available to only the highest technology machines. These features simplify operation and reduce operator dependency. OPTIPLEX NEXUS 3015 Fiber offers a large side access door, flexible design that is available with an automated two pallet design. This durable 26,000 pound machine incorporates a helical rack and pinion positioning system that features solid throughput and high accuracy. This laser has been engineered to be utilized with Mazak's extensive range of automated material handling systems. The OPTIPLEX NEXUS 3015 Fiber is equipped with the new cutting-edge Preview 3 control with 15" touch screen includes integrated tech tables that simplify operation. OPTIPLEX NEXUS Fiber 3015 is available in 2.0kW, 3.0kW, and 4.0kW configurations.



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OPTIPLEX 6kW Fiber

The OPTIPLEX 6kW Fiber laser-cutting machines integrate POWER+ exclusive technology. The OPTIPLEX 6kW Fiber features Intelligent Technology that delivers high cutting speeds, maximum throughput and uncompromised quality. It incorporates a Multi-

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MANUFACTURING DAY 2015 EXCEEDS ALL EXPECTATIONS

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2,000 students over two days attended the Southern Colorado Manufacturing Expo, visiting with 97 exhibitors and having an opportunity to build and race solar powered car models.

The Erie Expo included many "hands-on" activities like this virtual welding station

Selected Highlights from MFG DAY 2015

- More than 100,000 students from across North America participated in a "virtual" MFG DAY event produced through a collaboration between Alcoa and Discovery Education. This virtual field trip took students on a tour of the Alcoa Power & Propulsion plant in Michigan.
- The state of Florida came in as the number one state in the union for MFG DAY events for the second year in a row with 235 events! The top five states rounded out with Ohio (181), Michigan (176), California (157) and Iowa (139).
- The city of Erie, Penn. held a two-day Manufacturing Day celebration, starting on October 1 at the Bayfront Convention Center in Erie. More than 1,300 students and 500 area manufacturing representatives attended.
- Macomb County, Mich. assembled a full-day event that included 44 manufacturing company tours that welcomed 1,800 students and their teacher chaperones.
- Los Angeles Valley College in the San Fernando Valley hosted its first MFG DAY celebration, welcoming 300 guests who networked with and learned about careers from 25 participating manufacturers.

It's Never Too Soon to Plan for Next Year

If there is one consistent comment expressed by companies that have hosted events it is: "we wish we'd started planning sooner." The official date for MFG DAY 2016 is Friday, Oct. 7. But with more and more cities and states (even the whole of Canada) declaring that the month of October is Manufacturing Month, companies can plan a Manufacturing Day event on any day in October that works best for

them and their community. The important thing is to get started planning and get ready to post an event on the official 2016 national calendar as soon as the website changes over to the new event year (currently planned for March 1, 2016). ■

Visit the website now and get inspired by the many Success Stories and Photo Galleries that have been posted there. View the many resources available to help event hosts create a plan. Everything you need to get started is at www.mfgday.com.



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Magswitch Follows Guiding Principle: “Productivity Follows Activity”

Many of our business partners and customers are located all over the world and for some, FABTECH is the only time of the year we get to see them face-to-face.

2015 has been a tough year for many of our customers, principally those reliant on energy-related industries. We have customers down by 60% year on year, yet for Magswitch in the FABTECH market, we are on target

to grow 100% in North America. At Magswitch we have a single guiding principle: “productivity follows activity”. It’s easy in a down market to fail to follow this principle.



Magswitch achieved this growth with a great team of focused people, our distribution partners, our partner ORS Nasco as well as our capable team focused on our Preferred Dealer program in North America. We expanded our field support for Preferred Dealer training and their major customer sales calls. We rolled out our first Magswitch demonstration trailer and stepped up our marketing support. The timing was perfect as field sales personnel were looking for something new to get in the doors with customers who were reluctant to commit to spending. We know that if you demonstrate Magswitch, customers will buy it. We were able to capitalize on the down market to create product visibility. This was made easy because the product line improves efficiency, provides a safer work place and does not require technical training to operate.

Magswitch has continued to invest in expanding our business. We moved our world headquarters into a new 22,000 sq. ft. facility in Lafayette, Colorado, expanded manufacturing capability with a new, larger factory, and committed to building a larger distribution

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MAGSWITCH FOLLOWS GUIDING PRINCIPLE: "PRODUCTIVITY FOLLOWS ACTIVITY"

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and R&D facility in Germany. To support the needs of our automotive customers, we established an office in Detroit, Michigan. New marketing and sales tools were also integrated including a demo trailer in the gulf region.



This year at FABTECH Magswitch will introduce the first in our new MagDrill line, "The Disruptor 30". The drill series showcases innovative new patented designs by drilling on pipe and providing superior performance on thin material.

Magswitch will have our largest display ever including demonstrations of our welding and fabrication tools, hand Lifters and heavy lifting solutions. An interactive display will feature our new line of "light weight" shipbuilding and boatbuilding accessories.

I have spoken about our growth, our new facilities and our new technologies. Our most valuable resource is the team of young people blended with experienced industry veterans who work together to make us who we are. I like to say that we hire young people because they don't know what can't be done. I am proud of what this team has accomplished this year and I can't wait until next year where we can debut the next generation in Magswitch "smart" technology. We are busy now developing groundbreaking new technology that will be "Changing

the way things are done" in your business for many years to come.

I look forward to seeing you at the Magswitch Booth N14061. ■

David Morton is the CEO of Magswitch and lives in Colorado, where Magswitch Worldwide is headquartered.



New Breakthrough Flexwave Welder Technology Booth #N18025

Combines Both CDW & MFC Welder Capabilities

The Flexwave Welder is a combination of an advanced Capacitor Discharge Welder (CDW) and a 1500Hz Bipolar Medium Frequency Converter (MFC), comprised of four IGBTs.

Provides Better Quality Parts

The feature of CDW that provides less thermal distortion with its large current in a shorter weld time is combined with the stability of MFC supported by its constant current feedback.

Makes It Easy To Set Weld Parameters

While the weld current for CDW is configured by increasing or decreasing the charging voltage, which makes it more difficult for operators to understand the welding parameter setting, the Flexwave allows direct configuration of weld current values.

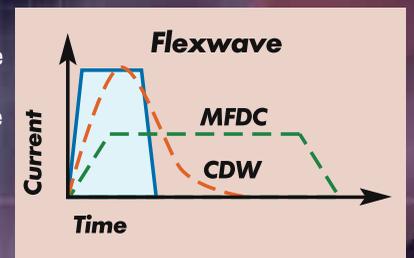
Provides Energy Savings And Shortens Cycle Times

A typical CDW wasted the end portion of the weld current wave without any use. The Flexwave technology has the ability to manage the current flow to just what is required for the optimum weld, thereby achieving a shorter charge time for the next spot weld and generating energy savings as a by-product.



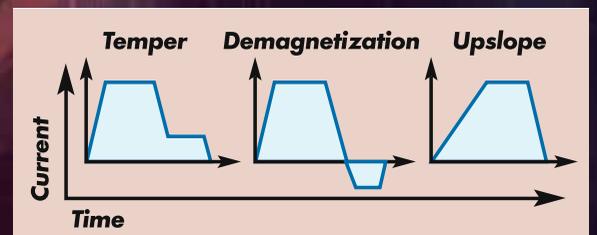
Optimizes Weld Nugget Quality

As for weldability, a large current in a shorter weld time allows welding with less thermal distortion or indentation, even for materials such as aluminum that have high thermal conductivity as well as a thermal diffusion tendency. Additionally, the constant current feedback of the MFC function provides stable welding without fluctuations of weld current. This even includes the conditions of projection welding, which tends to display load variations because of protrusion changes, or even for high tensile materials, which tends to cause fit-up gaps because of its hardness. As another benefit, the capacitor is always fully charged, providing the fastest current start-up required by projection welding every time.



Maximizes Waveform Flexibility

Waveform of current can be freely programmed in polarity at every 1 ms, allowing necessary welding parameter settings such as tempering, demagnetization, upslope, etc. Also, if the controller unit of your single-phase AC welder is replaced with the controller unit of Flexwave, it can be used as a Flexwave welder as well.



Flexwave series includes N1CP-050, N1CP-100, and N1CP-150 with the maximum weld current of 50,000, 100,000, and 150,000 amps respectively.



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Cyber Panel

continued from page 1

to open create security risks. And I think that's where you really need to make sure that you're 'guarding the doors' if you will."

"We tend to think of the perimeter as being the network and the hardware," he added. "But the vulnerabilities are coming through things like your mobile applications. And we all know that we have employees now who bring their own device. We have our web pages, which serve our customers. And we have software which was written even two or three years ago with best practices that now has security vulnerabilities."

"Most businesses think that if their network and hardware is secure then they should be in pretty good shape, not realizing that somebody could sneak through the front door or the side door," he said.

From his perspective as company president, Dolci concurred with the outlined threat environment, adding his assertion that 160,000 pieces of malware are introduced over the Internet every day.

"That's a huge amount of attacks," he said. "They come in from a lot of different countries and it is cheaper by the day to develop

that malware. So I think that small and medium sized companies are being flooded with possible threats."

Several of the panel members emphasized the role of policies and procedures to help small businesses protect against enterprise risks.

"It's not as complicated as it seems," Conolly offered. "I think the first part is just being able to go back and self-reflect on the policies you currently have in place right now; how you are vetting new hires – whether they are right out of high school or senior executives; how you are vetting vendors and suppliers; and then what controls do you have in place to continuously monitor these and recognize if something is going to occur."

"It's being able to create a security culture," he said.

Other issues addressed during the featured presentation ranged from measuring loss in a small to medium sized manufacturing business to the significance of "The Cloud" in providing enhanced levels of cyber security.

Panel members characterized the periodic use of outside expertise as a company "hygiene effort" that is in some ways "similar to medical physicals" undertaken by employees.

Dolci returned to that analogy in his takeaway message, offering, "The world of cyber security is extremely complicated. But more than that, it is evolving super fast. So the ability to have a cyber security expert in house is probably limited from an effectiveness point of view. So my take is to have your [physical] safety officer inside and then rely on 'the doctor' outside a couple times a year."

"There is a community out there," Gibson asserted. "When you go back to your businesses, you have hired people to secure the physical perimeter of your factory or your company – whether it's a security guard or the Brinks guy. And you think about 'regular crime' and keeping terrorism and other dangers away."

He continued, "And there is a similar community dealing with cyber security every day. Moreover, it is very accessible to you when you work with people who have that expertise and let them help you keep your systems secure."

He concluded, "There are people who can help you. There is a community that can help you. Don't feel like you're all alone. This is a very solvable problem."

Welding Competition

continued from page 1

"This competition is trying to get the image of welding out there and show people what it's all about," offered Tony Brosio, 2015 AWS Professional Welding Competition Chairman. "A lot of these people are into welding and a lot of them aren't. We've had some competitors with very little welding experience who work in a small shop where they aren't exposed to a whole lot of welding. But they are still giving it a shot in the competition."

"We've had quite a few women competing this year," he said. "We've also had quite a few students who have just gotten out in the industry, and they either want to show their buddies or their manager what they can do. Plus there's a \$2,500 first place possibility, which is pretty good."

"Welding Wars is designed to get young people involved in welding," said Martica Ventura, director of operations and education services for the American Welding Society. "On off years we have a welding competition for students but this year it's on the fabrication side. So we're trying to get kids interested and into the field."

According to James Greer, Welding Wars Committee Chairman, the seven competing teams (21 students) are being tasked to build a birdhouse off of a print, after viewing an example "tacked up but not welded."

"They are given the welding symbols here," Greer said. "And the students have to interpret very – and I mean very – difficult welding symbols to complete the project. There is also a sequence of operations that makes it even more difficult, with both technical knowledge and welding skills being part of the judging. We also look at safety and how the teams work together. So it's tough."

Greer noted that the seven teams registered for the event were competing for "the best prizes by far" among the three welding competitions, with the top three teams receiving "multi-thousand dollar" welding machines that were donated for the competition.

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Attendees

continued from page 8

an opportunity for her to connect with her raw materials suppliers who have booths at the show, as well as others in the local area. In addition, she said, “FABTECH is a couple days to walk the show and see what’s out there. We have others that come from our company that focus on equipment. I don’t focus on equipment so much, but I’m looking at everything else. I buy raw material supplies as well as maintenance supplies, lubricants, safety supplies, a multitude of items. So this is just a big mall for me. I never know what I might find. It’s new technology, but standard as well. I capture everything from safety supplies all the way up to equipment, and everything in between.”

In addition to exploring the show floor, Land intends to take part in the Wednesday morning networking event celebrating women in the manufacturing sector.

Several students from Illinois Welding School in Romeoville, Illinois, attended FABTECH Tuesday, including **TYLER NEWCOMB**, **DYLAN PETROVIC** and **KYLE CHERRY**. “I’m hoping to see the different fabrication companies and virtual welding simulators,” said Cherry. They also were eager to view the welding competitions occurring in Hall C during the show.

The students explained their welding courses include programs in production welding specialist, structural welding specialist and pipefitting specialist. After completing the program, “They help you find a job, or you can find one on your own,” Cherry said. “But a lot of companies are looking to hire us because we are experienced welders and we have a lot of hours. If you’re in [course]104, you have over 900 hours.”

When asked what attracted him to welding, Cherry said, “Construction. I was looking for a construction job and I looked into welding, and it was actually the most high-in-demand job in construction. So few people think about it, but yet, you need it because so many things need to be welded.”

And the one thing Cherry wants to see while he’s at FABTECH? “What my future is going to look like,” he said.



Tyler Newcomb, Dylan Petrovic, Kyle Cherry

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Robotic Welding Enters the FABTECH Arena

One of the newest events at FABTECH is the Robotic Welding Competition in Hall C Booth C1835. Being held for the first time at FABTECH 2015, the event requires participants to complete both a timed written test and hands-on practical test.

According to Martica Ventura, director of operations and education services for the American Welding Society, 15 participants have registered for the inaugural 2015 event.

“Robotics is a new industry – a

new up and coming thing in the United States,” she said. “Other countries are better known for their robotic welding. For example, we have a gentleman who is flying in some people from China who *do* robotic competitions. And we’re just starting that now.”

Down on the show floor, James Manning, trainer and curriculum developer for Miller Welding Automation, explained some of the competition specifics. His company is one of several manufacturers supporting the competition.

“We want to get young people involved in robotic welding, which is why our company is here,” he explained.

Noting that participants are able to choose their competition platform between three different robotic welding systems, he acknowledged some flexibility in the selection process.

“Although we want them to use whichever robot they are experienced on, we have had it where, if they are not experienced with the robot, we can take 15 or 20 minutes and teach them how to move the robot around,” he said. “That way they can still be part of the competition. So you don’t have to know about the robot. You can come down here and we can give you a crash course on moving the robot, then see if you can actually program it.”

In addition to promoting robotic welding, Manning said that the event is also directed toward raising awareness of the new AWS cross-certification for robotic welding.

“So this competition is kind of a steppingstone to get people to understand what the qualification is; getting certified; and as part of that process producing more robotic welders,” he said.

He added that “Young people who understand welding and who have gone through some type of training, as far as a college course or even customer-supplied training, are the ones who really do well in this competition.”

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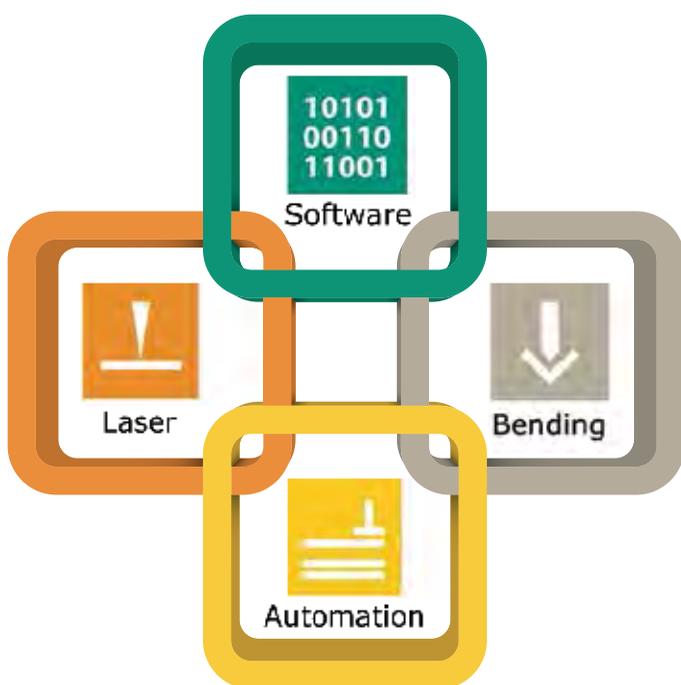
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