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SHOW DAILY

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

OFFICIAL SHOW NEWS | THURSDAY, NOVEMBER 13, 2014

Panel Offers Tips on Developing Partnerships

Industry leaders from Caterpillar Corporation, Batesville Tool & Die and Blue Bird Corporation had some great advice for small- and mid-size supply companies that want to develop business relationships with large manufacturers.

“We want to work with you,” said David Whelan, Senior Vice President of Supply Chain for Blue Bird at the “State of the Industry” meeting Wednesday afternoon. “Do you have a solution for me? Are you willing to work with me to help me meet my goals?”

“Bring your ‘A’ game,” said Todd Henry of Caterpillar. “We want to know about quality controls, overall costs of doing business with you,



frequency of delivery, management methods and philosophy, financial health and your ability to deliver on time, 100% of the time.”

Jody Fledderman, president and CEO of Indiana and Mexico based Batesville Tool & Die, Inc., acknowledged that getting your foot in the door isn't easy unless you bring along some innovative thinking.

“You have to bring something special to the table,” he said. “We

are always looking to reduce our supply base as much as possible. But, we will talk to companies who will bring new ideas and new processes to our attention.”

All three leaders encouraged attendees to do their homework. “Know who your customer is,” Henry said. “Most businesses are cyclical. The best time to offer services to a large manufacturing company is during a New Product Introduction (NPI) cycle,” he noted. “If you have a service or innovation that is going to help us meet our manufacturing goals and deadlines, we are willing to listen.”

Henry, Fledderman, and Whelan

continued on page 26

DON'T MISS TODAY!

Keynote – Transforming Your Manufacturing Business for the New Digital Age

Mike Walton, Head of Manufacturing, Google for Work
8:30 a.m., Thomas Murphy Ballroom, Bldg. B, Level 5

Additive Manufacturing/ 3D Printing Resource Center

Hall A, Booth A2427

Manufacturing Talk Radio

Live Broadcast: 1:00 p.m.,
Hall B, Booth B5438

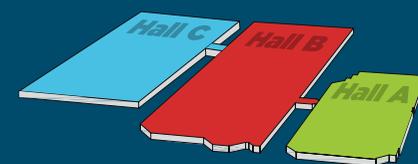
AWS U.S. Invitational Welding Trials

Hall A, Booth A3338

Spin To Win

Hall A, Booth A3000
Chance to Win Prizes
10:00 a.m. - 3:00 p.m.

VISIT ALL 3 HALLS!



Hall C: Welding, Tube & Pipe, Thermal Spray

Hall B: Forming & Fabricating, Finishing, METALFORM

Hall A: Forming & Fabricating, Finishing, METALFORM, Welding



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Welders Take To Torch

Three young U.S. welders will find out today if they advance to the next stage of the Skills USA welding competition. In addition to the six U.S. participants — Andrew Cardin, Cody Fojtik, Isaiah Gaspar, Joe Mechaelsen, Jacob Miller, and Andrew Swafford — three international guests from Belarus, China, and the United Kingdom took part in the hands-on, three-day competition.



A variety of welding scenarios—plates, pipes, T-joints, grooves, pressure vessels, and aluminum and stainless steel tigs — had to be completed using arc welding and gas-metal arc welding.

Eight of the nine participants will be on hand today at Booth A3338 in Hall A from 9 a.m. to 12 p.m. Stop by to check out their craftsmanship. Winners will be announced at an awards ceremony tonight. ■

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1

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2

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3

NEW COMPACT AUTOMATION

Mazak will demonstrate a new vertical automation system on an OPTIPLEX 3015 Fiber laser-cutting machine. Mazak was the first company to patent a Flexible Manufacturing System for laser machines and leads the industry with a wide range of solutions. Over 700 Mazak laser machines are installed in automation systems in North America.



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From the Manufacturing Floor to the Cloud: Big Data Integration

A recent survey revealed that 97% of CEOs rank innovation as one of their top 3 priorities. As apps and cloud computing continue to grow in popularity, manufacturers can benefit from adopting this technology, according to speakers at a session yesterday hosted by Google.



Derik VanVleet of Cloud Sherpas, a Google cloud computing partner, explained how manufacturers can be an agent of change by adopting cloud computing and platforms like Google.

“Be a Netflix, not a Blockbuster,” said VanVleet. He was referring to how Blockbuster video wasn’t able to respond to market disruptors like Netflix and eventually went bankrupt.

VanVleet explained how data is being transferred to the cloud — where a company’s information is stored on centralized servers that are accessed by the internet instead of on dedicated servers at a company’s location that require native software. The benefits of this practice is that data can be accessed anywhere and at anytime, without the need of

specific software applications or needing to be in the office to log on. Google’s suite of services, including email, calendaring, video chat, mapping, and its cloud-based document storage system help businesses integrate all of these services on one platform in a secure environment.

“You don’t have to upload everything to the cloud,” VanVleet said, as many programs like Salesforce and similar SAS systems can communicate with Google products and put only what’s needed on the cloud.

Adopting to the cloud environment is a journey, VanVleet explained. His company’s strategy is to first advise customers of what’s available after a needs assessment, then implement, integrate, and enhance the cloud-based system. ■

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Explore The Floor
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RUN4MFG 5K Charity Run

FABTECH Partners Unite to Support Manufacturing Education



AWS, FMA, SME, PMA, and CCAI recruited more than 90 people to raise funds for their educational foundations yesterday in Centennial Olympic Park at the 3rd Annual RUN4MFG 5K. The five associations collaborated to plan this event to support the future of the manufacturing industry.



The 5K course route proceeded through the heart of downtown Atlanta in beautiful Centennial Olympic Park. The Park's Fountain of Rings plaza and Great Lawn provided a spectacular setting for a downtown run and the skyline a perfect backdrop. FABTECH attendees and exhibitors were able to participate as the course is conveniently located adjacent to Georgia World Congress Center.

The goal of the RUN4MFG was to shed new light on the need for skilled workers in the industry and provide a stimulating environment to promote the missions of

the five educational foundations.

A special thank you to all who participated in Monday's event and to the event sponsors: Select-ARC, YRC Freight, Therma-Tron-X, Inc., CNA, Witt Technology for Gases, FREEMAN, Lapham-Hickey Steel & Waukesha Metal Products.

Congratulations to the winners!

First Place Male: Matt Bollinger, JMT

First Place Female: Audra LeBeau, FREEMAN

Second Place Male: Herbert Plank, ASMAG

Second Place Female: Nancy Stager, SELECT-ARC

Third Place Male: Cerys Hawkins, Metal Science Technologies Pty LTD

Third Place Female: Kristin Lehnhoff, SOWESCO

Plan to RUN4MFG at FABTECH 2015 in Chicago!

FABTECH 2014 Exhibitor Video Contest Winner

The FABTECH 2014 exhibitor video contest ended with four exhibitors attracting the most interest from the 20 entrants. FABTECH exhibitors were given one minute on camera to deliver their best pitch on why their booth is a "must-see" for show attendees. The top contenders are:

Sawblade — Booth B4011

Air Products and Chemicals Inc. — Booth C1138

Web Talent Marketing — Booth B253

GE Inspection Technologies — Booth C158

See these videos online at <http://tinyurl.com/nhldj8l>

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Tips on How to Choose the Right Powder Coating System

By Josh Strickland and Mike Schuerer, Reliant Finishing Systems

One of the most common questions asked of those in the powder coating integration industry is whether to use a manual batch-type system or an automated line.

The answer isn't always easy: batch systems and automated lines use different approaches to powder coating, each with their own advantages.

For those unfamiliar with the terms, an "automated system" (or automated line) is a powder coating system that moves parts automatically through the various steps of the powder coating process. These steps usually include using a chemical wash to prepare the surface of the parts, drying the parts, applying the powder coating media, curing the powder coated finish onto the parts, then allowing them to cool.

The parts typically move in one direction from device to device, and all of these tasks are done to different parts at the same time. A "batch system" allows the operator to manually prepare and accumulate parts, then coat and cure the parts in batches. The parts are typically moved from one device to another by hand using carts.

Here are some of the most useful tips for deciding whether a batch or automated system best suits a coater's needs.

Consider the volume of work and the nature of the parts being coated. If you're dealing with thousands of similarly sized parts per shift, an automated system is probably your best bet. The



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more varied the shape and size of the parts, the less advantage an automated system typically offers. A batch system provides significant benefits in terms of equipment cost and workflow versatility, but relies on workers to move parts, prep parts and apply powder coating media. So, if the volume of parts is quite large, the advantages of a batch system are lost.

Determine how quickly you'll need parts to be powder coated. If the coating process outpaces the manufacturing process, a batch system is ideal. If the powder coating process delays output, an automated system may help. You can coat large quantities of similar items quickly since parts don't have to be handled between stages. If the automated line is designed for rapid throughput, a constant flow of parts can be coated at a rate that usually can't be matched by manual techniques.

Evaluate floor space. Batch systems generally take up less room, so they're better for businesses that can't spare extra space. Batch systems sometimes use one oven to do the work of both drying and curing parts, which further reduces cost and saves on floor space. By using ovens where the parts move back and forth multiple times inside relatively short but wide enclosures, some automated lines fit into surprisingly tight spaces. But most automated lines involve restricted access to at least some key components, especially in cramped spaces. This drives maintenance and repair costs up.

Budget is always a primary consideration. Batch systems are significantly cheaper than comparable automated lines, usually costing less than half as much, so if your budget is tight it might be best to start with a batch system. Batch equipment requires more manpower, but also tends to have lower maintenance costs. Batch systems can also provide lower operating costs because you only use equipment as it is needed. With automated systems there is almost always a constant process of coating taking place, so relative operating costs can increase if the system is not being used to full capacity.

No matter what type of system is used, have a plan for growth and size your equipment accordingly. ■

For more information, please visit Reliantfinishingsystems.com or WhatisPowderCoating.com.

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Hypertherm Introduces New Products, Provides Education on Plasma, Laser, and Waterjet

Hypertherm, a U.S. based manufacturer of plasma, laser, and waterjet cutting systems, introduces its new products and technologies at FABTECH. In addition, attendees can consult with Hypertherm's cutting experts; compare parts cut with plasma, laser, and waterjet; watch live cutting demonstrations and more.

The new products include a system that combines a powerful plasma unit with a generator and compressor for cutting in remote areas. In addition, Hypertherm introduces a HyPerformance HPRXD Plasma torch that features a shorter assembly for use on 3D profiling equipment. Hypertherm unveils a new Built for Business Integrated Cutting Solutions performance application that builds upon the capabilities of Hypertherm's True Hole, True Bevel, and Rapid Part technologies. This new application is designed to automatically deliver parameters that will improve the cutting performance throughout the life of the system regardless of the operator. Finally, the company demonstrates the newest enhancements to its lineup of CNCs, torch height controls, and its recently introduced ProNest 2015 CAM software.

"There are multiple industrial cutting options and many factors to consider, starting with general business goals but also specific requirements for material type and thickness, production capacity, cut quality and more," said Reese Madden, director of corporate marketing for Hypertherm. "As a manufacturer of plasma, laser, and waterjet cutting systems, we are in a unique position to explain the relative merits of various cutting processes and, working with our partners, help prospective customers better assess their cutting needs."

Hypertherm experts will present a record number of presentations as part of FABTECH's official educational program. Presentations will feature Hypertherm experts in the areas of plasma, waterjet, automation, CAM software, and sustainability. Hypertherm's Jim Colt will once again lead a comparative cutting tour on the show floor.

Hypertherm will exhibit in Hall "B", booth B3147. In addition, Hypertherm partners will conduct live demonstrations of plasma, laser, and waterjet cutting from more than a dozen booth locations in all three exhibit halls.

About Hypertherm

Hypertherm designs and manufactures advanced cutting products for use in a variety of industries such as shipbuilding, manufacturing, and automotive repair. Its product line includes plasma, laser and waterjet cutting systems, in addition to CNC motion and height controls, CAM nesting software, and consumables. Hypertherm systems are trusted for performance and reliability that result in increased productivity and profitability for hundreds of thousands of businesses. The New Hampshire based company's reputation for cutting innovation dates back nearly 50 years to 1968, with Hypertherm's invention of water injection plasma cutting. The 100 percent associate owned company, consistently named one of the best places to work in America, has more than 1,300 associates along with operations and partner representation worldwide. ■

Magic Rack/ Production Plus Corp Introduces its "Magic Rack MP"



Stop by booth B615 to see the newly patented "Magic Rack MP" designed specifically for E-coat applications as well as other finishing systems. Also on display are new Heavy-Duty racks designed to hold up to 600 pounds with a removable dolly, handle, crossbars, and hooks. Discover the significance and savings in "racking" parts vs. "hanging" parts. Engineers available to discuss coating/racking problems. ■



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Donaldson Company, Inc. Introduces Downflo® Evolution (DFE) Dust Collectors

The Downflo® Evolution cartridge dust collector requires fewer filters and a smaller footprint compared to traditional cartridge collectors. It delivers operational excellence with its MaxPulse™ Cleaning System, airflow design and Ultra-Web® media.

From the originator of the cartridge collector, Donaldson Torit introduces the Downflo Evolution. With the DFE's airflow design, MAXPULSE™ cleaning system, unique filter shape, and Ultra-Web® media, customers benefit from a smaller collector with fewer filters and lower cost of ownership.

The DFE provides breakthrough cleaning performance, resulting in improved filtration capacity without sacrificing filter life or increasing

compressed air consumption. Typical pulse-jet cleaned dust collectors deliver only a fraction of the compressed air energy to filtration media. The proprietary MaxPulse cleaning system maximizes delivery of cleaning all effective filtration media.

The DFE filter's unique triangular shape positions more filter media at the bottom of the cartridge element so pulse-cleaning energy directs the ejected dust toward the containment vessel. The Ultra-Web nanofiber media captures contaminants on the surface of the media less than one micron in size. ■

Learn more at the Donaldson Torit - Donaldson Company Inc in booth # B4265.



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Gema Introduces OptiFlex®2 CF Funnel Unit Designed for Spraying Small Amounts of Powder Coatings

Gema, the global leader in powder coating technology, announced the introduction of the OptiFlex®2 CF Funnel Powder Coating unit, designed for spraying small quantities of powder.

As the newest model in the OptiFlex2 Series family, this compact unit is designed for spraying small quantities of powder coating materials. OptiFlex2 CF is the perfect choice for any powder coating business that sprays small amounts of powder, and is ideally suited for laboratory or quality control environments which only spray a few grams of a wide variety of chemistries and colors.

The unit is built around the proven OptiFlex2 technology, including the OptiStar gun control unit and OptiSelect powder gun, and produces high quality coating results with any powder. Another key feature is the semi-automatic cleaning. Using Gema's PowerClean technology, this unit is capable of quick and effective cleaning in 20 seconds or less.

Precision control of all coating parameters and "On-gun" powder adjustment allow the OptiFlex2 CF unit to generate a stable and consistent output producing high quality and repeatable coating results. Suitable for all types of powders, the CF unit comes standard with a 250 ml funnel, or an optional 600 ml funnel is available.

For more information, stop by the Gema booth # B641. OptiFlex® is a registered trademark of Gema.



About Gema

Gema, a Graco Inc. company, is the global leader in powder coating technology. From manual units to fully automated systems, Gema offers solutions to satisfy customers in a wide variety of end markets. Gema has worldwide headquarters in St. Gallen, Switzerland and a broad worldwide distribution network. Gema operates its North American Headquarters from Indianapolis, Indiana.

About Graco

Graco Inc. supplies technology and expertise for the management of fluids in both industrial and commercial applications. It designs, manufactures and markets systems and equipment to move, measure, control, dispense and spray fluid materials. A recognized leader in its specialties, Minneapolis-based Graco serves customers around the world in the manufacturing, processing, construction, and maintenance industries. ■



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Workforce Development Trucks Roll into FABTECH

Workforce development initiatives are hitting the road in order to attract a new generation of welders into the industry. Several trucks and trailers will be making their Atlanta debuts at FABTECH this year and hoping to appeal to those interested in pursuing a career in welding.

The American Welding Society's Careers in Welding Trailer has made its first trip to Atlanta since it was unveiled at the 2011 FABTECH Show in Chicago. The 53-foot trailer is the only mobile exhibit on the road today that offers an educational experience combined with career information to educate visitors on the opportunities available in the welding industry.

Fitted with five virtual welding simulators, visitors can grab a welding gun and helmet equipped with internal monitors and put their skill to the test. Similar to a video game, the virtual welder then receives a score, allowing them to compete against others on board for the highest score.

"The Careers in Welding Trailer is a fun and interactive way to go around the country to recruit young people and give them opportunity to explore what welding is all about," said Monica Pfarr, corporate director, workforce development, American Welding Society.

In addition to the welding simulators, the trailer has 650 square feet of exhibit space that includes a social media kiosk, a display wall featuring industry trivia questions, and scholarship and school locator information.

More than 65,000 visitors have had the opportunity to visit the trailer as it has made its way around the country in the past two years. FABTECH attendees are invited to stop by the trailer in Hall A, booth A2612, and test their skill.

Also debuting at FABTECH Atlanta this year is the OTC Daihen Mobile Solution Center. The 22-foot truck combines tutorial demonstrations with hands-on exhibits to introduce the company's latest welding technologies. During the show the truck will be statically displayed and outfitted with four models of the latest Welbee arc welding power sources featuring one-of-a-kind nanotechnology, a heavy duty plasma cutter and a fully functional FD-V6 arc welding robot.

"We have demonstrated OTC welding technologies in North America since 1975 beginning at the AWS show and this is our 'New Next Step' to more effectively communicate the world's latest arc welding technologies," said Bill Guest, vice president, sales and marketing, OTC Daihen. "This is also evident in our FABTECH



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A new compact cutting machine and high-productivity robotic welding cell with new tandem MIG welding process at FABTECH 2014 showcase leading-edge ESAB technology designed to meet today's production requirements.

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SMALL GANTRY, MULTI-PROCESS CUTTING MACHINE

The new SGX is a compact, automated cutting machine for plasma and oxy-fuel cutting, designed with ESAB's renowned technology made affordable for the small fabricator or manufacturer.

This rugged, high-performance machine carries up to three tool stations: up to two oxy-fuel torches and one plasma station that can be equipped with ESAB's m3-IGC Precision Plasma System for high-quality cutting up to 50 mm (2 in.) thick on mild steel, 38 mm (1.5 in.) on aluminum, and 25 mm (1 in.) on stainless steel.

A compact, rugged, easy-to-use design

Performance and accuracy are assured with a heavy steel beam, precision-machined mating surfaces, and linear rail. This rugged design ensures smooth motion, accuracy and long-term machine durability. SGX enables higher productivity with rapid cut-to-cut cycle times through the integration of dual-side, high-speed AC drives and a fast torch lifter.

SGX is engineered to meet your needs:

- The machine's compact design minimizes floor space requirements. One-meter rail increments keep the footprint small to maximize production space.
- Simple, automated operation makes the SGX easy to operate. A built-in process database in ESAB's Vision® T5 CNC fully integrates ESAB plasma and oxy-fuel process controls into an easy-to-use touch-screen interface.
- An oxy-fuel gas control automatically switches between low preheat and high preheat pressure. Ease-on cutting oxygen handles piercing of thicker materials.
- Gas controls are conveniently located at the side of the machine, where the operator has easy access and can see the torches while making adjustments.

Options to optimize production

SGX can be configured with a wide range of plasma options, from simple air-plasma systems up to fully automatic 360 Amp multi-gas plasma systems. The machine can be equipped with ESAB's m3 Plasma® for cutting up to 50 mm (2 in.) in mild steel. The m3 Plasma system achieves superior cutting results over a wide range of material types and thicknesses, and produces a high-quality cut face with low dross, requiring little secondary clean up. It features an automatic gas control integrated with the process database on the CNC for fast and easy process setup without the guesswork.

SGX is available in sizes to cover plates up to 2.5 m (8 ft.) wide, and up to two 6 m (20 ft.) long plates end-to-end. ESAB's newest cutting machine is offered with a choice of downdraft tables or water tables for dry or under-water plasma cutting.

HIGH PRODUCTIVITY PRE-ENGINEERED ROBOTIC WELDING CELL

The latest robotic welding solutions from ESAB include the Swift Arc SL side-load robotic welding cell with new tandem Swift Arc Transfer (SAT™). This pre-engineered robotic welding cell offers high flexibility and high throughput in a complete robotic welding system.

Flexible, automated welding solution

ESAB's Swift Arc SL side-load robotic cell with new tandem SAT delivers travel speeds well beyond the limits of normal spray arc welding for high-productivity automated welding. Swift Arc SL is designed for robotic welding of large parts at high production rates. Dual trunions manipulate parts from two sides, allowing welded parts to be unloaded and new parts to be loaded during the welding process for continuous "arc on" time.

Tandem SAT increases throughput

Enhancing the speed and productivity of the robotic cell is a new tandem SAT process that uses twin welding wires running simultaneously through the cell's robotic torch to deliver exceptionally high deposition rates. This high-productivity MIG welding process produces flat welds with good penetration and without undercut. Its low heat input results in less deformation. Less part deformation and limited spatter minimizes post-weld labor helping lower production costs.

Continuous production through superior wire feeding

The SAT process uses ESAB's OK AristoRod™ non-copper coated wires to reduce contamination of the feed system with copper particles. This results in dependable feeding properties and a consistently stable arc at high welding currents and wire feed speeds.

The Swift Arc SL is part of ESAB's Swift Arc series of pre-engineered, robotic welding cells available in four models: Swift Arc AL (angle-load), Swift Arc FL (front-load), Swift Arc SL (side-load) and Swift Arc ML (mobile learning) robot cells. Each

pre-engineered cell is a robust welding system that because of its modular configuration can be delivered and installed quickly. The robotic system comes ready-to-weld. Just hook up the input power gas and wire to start welding.

A complete work cell

ESAB's total systems approach provides a complete work cell that includes power source, technical support, close integration with robotics partner KUKA, and a knowledgeable applications team.

ESAB partners with KUKA to bring to market the latest in robotic welding technology. This partnership delivers high performance solutions with more standardized features for steel, stainless steel, aluminum or other non-ferrous GMAW applications. These robotic packages are easy to use and easily programmed for enhanced productivity and quality.

See these new products and processes in action at FABTECH booths C2444, C2454, and C2466 or visit www.esabna.com for more information.



INTRODUCING THE SGX: A compact CNC cutting machine that's heavy on features but light on your wallet.

- **Compact design:** The SGX requires minimal floor space. One-meter rail increments keep the footprint small and maximize production space.
- **Rugged:** Performance and accuracy are assured with a heavy steel beam, welded and machined construction, and linear rail.
- **Ease of use:** ESAB's Vision® T5 features an easy-to-use touchscreen and built-in process database for simple plasma and oxy-fuel setup.
- **Precision:** As an option, the SGX can come equipped with m3 Plasma® technology for high-quality cutting up to 50 mm (2 in.) thick on mild steel, 38 mm (1.5 in.) on aluminum, and 25 mm (1 in.) on stainless steel.

To learn more, go to esab-cutting.com

ESAB Cutting Systems / esab-cutting.com / 888.372.2288



SEE US AT
FABTECH 2014
AT BOOTHS
C2444, C2454
AND C2466.

POWER



There's a new team in town. The joining of ESAB and Victor brings together five heavy hitters. Now all the welding and cutting solutions you need are available from one company – ESAB.

Here's what you can look forward to in our booth at FABTECH.



Achieve aluminum welding perfection with the new Aristo® MIG 4004i Pulse and AlcoTec® NT wire.

- Developed with the experts at AlcoTec
- 50 pre-programmed synergic lines specifically designed for aluminum
- Complete control with the ability to customize your own lines



Enlist the WARRIOR™ Multi Voltage unit with the new Mobile Feed and WARRIOR Dual Feed.

- Versatile unit with 230V 3-phase or 460V 3-phase power
- Mobile Feed extends reach moves wire feeding farther away from the power source
- Dual Feed increases productivity through a dual-feed system for multiple processes



LINEUP.



Get blown away by SGX – the latest small gantry cutting machine.

- Heavy steel beam, welded and machined construction, and linear rail ensure stability and accuracy
- Fully integrated Vision® T5 CNC has an easy-to-use touchscreen and built-in process database for simple plasma and oxy-fuel setup
- Small footprint requires minimal floor space
- Dual-side, high-speed AC drives and torch lifter deliver faster positioning for higher productivity for quicker cut-to-cut cycle times



The Tweco Spray Master™ meets its match with new, extended-life Velocity™ consumables.

- Velocity tip lasts longer and plays the dual role of tip and diffuser, allowing gas to flow through the tip and cool it by 30 percent
- Superior arc performance thanks to fewer electrical connections, better electrical contact, and a cooler tip
- Higher productivity with less downtime with fewer tip changes, less splatter, and less cleanup



Get ahead of the curve with the Swift Arc Side Load robotic welding cell with innovative, high-speed Tandem Swift Arc Transfer (SAT™).

- A cost-effective option for robotic welding of large heavy parts
- Tandem SAT translates into extreme deposition rates and great penetration in a single pass
- Tandem arc torch has an innovative design and top-notch cleaning system



Innovative Victor EDGE™ Series regulators offer unmatched safety and advanced performance.

- Protected by patented industry-leading SLAM technology, this is the only regulator that is built to withstand a fall and direct impact
- Patented high-contrast gauge face offers the greatest amount of contrast available to allow users to see needle positioning from a distance
- High-strength alloy bonnet offers three times the yield strength as brass for even greater safety assurance

See us at FABTECH 2014 at booths **C2444, C2454, and C2466.**

Workforce Development Trucks Roll into FABTECH

booth this year where we are demonstrating a multitude of new technologies that are a must see at this year's event. We are a world leader in arc welding power sources and seamlessly integrated robotic devices, and we plan to show these user friendly technologies and superior weld results to the best of our ability."

The new Mobile Solution Center was designed to

visit OTC Daihen's North American distributors and end users. The company also intends to include events at welding educational institutions. OTC recognizes the depletion of skilled welders is threatening our welding industry, and hopes that the contribution will help connect students with end users, and their welding supply distributors for potential career opportunities. ■

continued from page 12

The OTC Daihen Mobile Solution Center will be hosting events across the southern U.S. through March 2015, followed up by a spring / summer tour throughout the northern states. FABTECH attendees can visit the truck on the outside walkway between halls B and C.



FF JOURNAL MAGAZINE BOOTH B5302

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Article #5: Develop Better Products Using The Science Behind the Solution

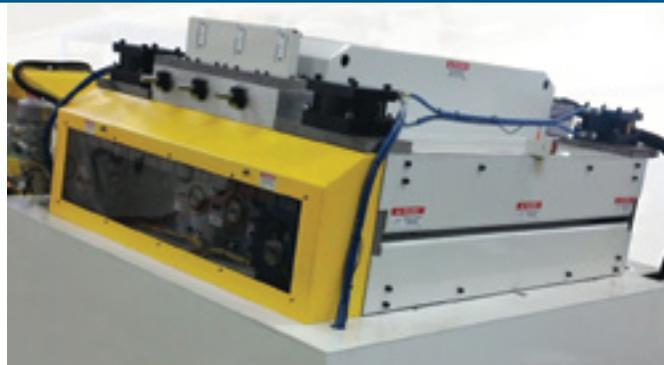


Our new HD Series Power Straighteners – designed specifically for processing AHSS

At COE Press Equipment, we believe that there is always a better way. So, we've recently applied our engineering knowledge and application experience to design a series of straighteners specifically aimed at overcoming the challenges of processing Advanced High Strength Steels (AHSS).

HD Series Processing Capabilities

Thickness from .010" – .620"
Widths up to 78" Wide
Yield Strengths up to 1000Mpa



Visit booth #B1624 to see the technology behind our new HD Series Straightener.

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**The COE Code... putting the focus on you
and your coil processing needs.**

Spotlight on Oerlikon Metco

Oerlikon Metco, a global leader in Surface Engineering Solutions, offers thermal spray and advanced surfacing equipment, integrated systems, materials, coating services and consultative support to develop coating solutions that withstand harsh environments and meet customers' needs to control costs.

Providing solutions for wear control, corrosion prevention, thermal insulation, electrical insulation and conduction, clearance control, repair and restoration solutions, their coatings improve performance and increase the efficiency and reliability of our customers' products.

The company supplies a broad range of materials encompassing high-temperature brazing, laser cladding, PTA, weld overlay and matrix materials in powder or wire forms.

Oerlikon Metco serves a number of industries worldwide including power generation, aviation, oil & gas, mining, heavy machinery / hydraulic, automotive, and other industrial markets. ■

Stop by Booth #C1108 to learn more about Oerlikon Metco and its innovative products and services.



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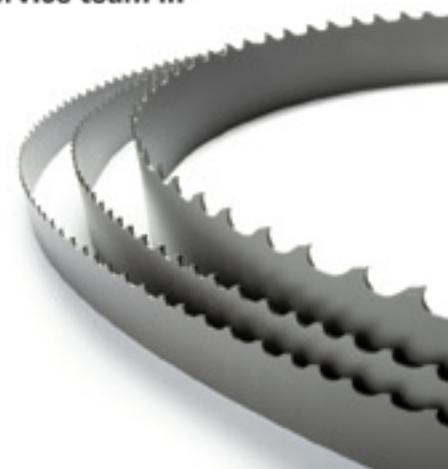
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EVEN YOUR COSTS.**

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*vs. prior LENOX model

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LENOX 



EDUCATION PROGRAM

On-site registration for paid educational events is available in Hall A/B registration lobby (forth level) and Hall C lobby.

THURSDAY, NOVEMBER 13		SCHEDULE-AT-A-GLANCE	
TECHNOLOGY	8:00 a.m. – 10:00 a.m.	10:30 a.m. – 12:30 p.m.	1:30 p.m. – 3:30 p.m.
FINISHING	C70: NEW! Powder Coating Best Practices I Room B201	C80: NEW! Innovations in Testing I Room B201	C90: Fast Color Change I Room B201
	C71: NEW! Paint Hooks & Racking: They Do Make a Difference B Room B202	C81: NEW! Understanding Pipe & Tube Coatings & Applications I Room B202	
	C72: NEW! Innovations in Liquid Finishing I Room B203	C82: NEW! Building a Quality Pretreatment System I Room B203	
STAMPING	S70: NEW! Advancements in Material Control Using Cushion & Lubricant Technologies I Room B209	S80: NEW! Enhancements in Coil Processing I Room B209	
	S71: NEW! Creating an In-House Metalforming Training Academy I Room B210	S81: NEW! Electroplating Tutorial for Metal Forming Manufacturers of Electronic Connectors I Room B210	
LASERS & CUTTING	F70: Laser Joining Solutions I Room B214	F80: NEW! BEAMS: Delivery and Solutions B Room B214	
LEAN	F71: Lean Tools: Quick Changeover and TPM. I Room B203	F81: NEW! Lean: Adapt and Develop a Continuous Improvement Strategy and Culture B Room B203	
MANAGEMENT	F72: NEW! Leveraging Business Value B Room B207	F82: Valuation Parameters and Strategies for Fabricators A Room B207	
SUSTAINABLE MANUFACTURING	F54: NEW! Lean Sustainable Practices for Manufacturers I Room B213	F83: NEW! Sustainable Lighting Solutions I Room B213	
JOB SHOP SOLUTIONS	F73: NEW! Utilizing Part Simulation in the Job Shop B Room B208	F84: NEW! Data Management for Lean Operational Efficiency I Room B208	
FORMING & FABRICATING		F85: NEW! Rethinking Bending and Forming: Alternative Technologies A Room B212	
TUBE & PIPE	F75: Principles of Tube and Pipe Fabricating B Room B211		
WELDING			
SEMINARS	W20: Welding of Stainless Steel (Avoiding Weld Defects) • Room C208 8:00 a.m. – 4:30 p.m. W22: Build It Better • Room C201..... 8:00 a.m. – 4:30 p.m. W23: Corrosion of Welds: Causes and Cures • Room C212 8:30 a.m. – 3:00 p.m.		
CONFERENCES	W27: Additive Manufacturing • Room C205..... 8:00 a.m. – 4:30 p.m.		
RWMA SCHOOL	W28: RWMA Resistance Welding School – Day 2 • Room C110 8:00 a.m. – 3:45 p.m.		
PROFESSIONAL PROGRAM	W32: Session 14: Advances in Weld Overlays and Hardfacing • Room C202, 210-211..... 8:00 a.m. – 11:30 a.m. Session 15: Progress in Sensing and Control..... 8:00 a.m. – 11:30 a.m. Session 16: CIMJSEA Developments in Weld Modeling..... 8:00 a.m. – 11:00 a.m. Session 17: Developments in Friction Stir Welding – 2 1:30 p.m. – 4:00 p.m. Session 18: Updates on Industrial Technology – 2 1:30 p.m. – 4:00 p.m. Session 19: Advances in Weld Modeling – 2 1:30 p.m. – 3:30 p.m.		
EDUCATIONAL SESSIONS	W37: AWS Educational Sessions • Room C213..... 8:00 a.m. – 4:00 p.m.		
SPECIAL PROGRAMS	AWS Certification Exam (advance application required) • Room C301-302..... 7:00 a.m. – 6:00 p.m. AWS U.S. Invitational Weld Trials • Booth A3338..... 8:00 a.m. – 12:00 p.m. Thermal Spray Wire Arc Demonstration (Hourly) – Day 3 • Booth A2927 9:00 a.m. – 4:00 p.m. Robotic Arc Welding Demonstrations • Booth A225..... 9:00 a.m. – 4:00 p.m.		

EDUCATION PROGRAM HEADQUARTERS: AWS, Room C206 • FABTECH (FMA, SME, PMA, CCAI), Room B206

Protech Features Waterarmor™ Functional Thermoplastic Powders

The Protech Group of Companies is one of the world's largest producers of powder coatings, both thermoset and thermoplastic. With manufacturing facilities and licensees throughout the world, the Protech/Oxyplast brand is one of the most recognizable within the coatings market. Through the years, our brand has grown to epitomize a quality product backed by an unsurpassed dedication to customer service as well as a vigorous commitment to research and development. Protech continues to expand its product lines and constantly strives to provide the service that our customers have grown to expect.

This year at FABTECH, we are happy to feature at our newest line of thermoplastic coatings—Waterarmor™. Waterarmor™ functional thermoplastic powders are the ideal solution for coating pipes used in the transport of potable water. These products are NSF approved (pending) and are Bisphenol A (BPA) free. Waterarmor™ can be applied to the exterior of ductile water pipes and the interior and exterior of ductile fittings. They may also be applied to the interior and exterior of steel pipes and steel fittings. Waterarmor™ coatings are formulated to provide excellent protection against UV exposure and are extremely durable versus weathering. They also furnish excellent impact and chemical resistance. Waterarmor™ powders can be sprayed on or applied using a fluidized bed and no primer is required for these coatings. These powders are environmentally friendly and are proudly manufactured in North America. ■

Drop by booth, #B247, to learn more about this product and the wide array of Protech powder coatings.

Overton Industries Tube Forming Systems

Overton Industries is a family-owned, 3rd generation, manufacturing company established in 1968. Based in Mooresville, IN, Overton Industries has 3 divisions. The Tool & Die Division concentrates on the design and build of precision high speed, blanking, powder metal, and progressive dies, and runs high speed production on Bruderer presses. Plastic Injection Molds designs and builds molds for the automotive, consumer products,

and energy industries. Tube Forming Systems, located in Franklin, IN, is dedicated to fabricators of tubular products for the Automotive, Water Processing, and Tube & Pipe Production Markets. TFS has 5 distinct segments: End Forming Equipment & Tooling, Tube Mill Tooling, Tube Dies, Short Run Tube Production, and Automation & Cellular Integration. *Visitors can learn more about all of Overton Industries products at booth #C764.* ■



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First Look at 2015 New Products!

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for information and product demos

New Products from PFERD!



PFERD has developed more than 300 new and innovative products since the release of TOOL MANUAL 21. These products are all described in a new, 40-page full color brochure. Get your free copy at the PFERD booth today! Product demonstrations are running in the booth!

- POLIFAN® CURVE 6" and 7"
- TC Burs with STEEL Cut
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COMBICLICK® Quick Change System

Rough Grinding to Mirror Finish, COMBICLICK® Does It All.

- Coated Abrasive Discs
- **NEW** Non Woven Discs
- **NEW** Polishing Discs



TRUST BLUE

ESAB Highlights CNC Cutting, Welding Automation with New Products, Processes

New compact cutting machine, high-productivity robotic welding cell showcase ESAB's latest offerings at FABTECH.

Booths C2454, C2466 Forming & Fabricating

ESAB provides complete solutions for more efficient and productive mechanized cutting and welding automation operations.

Compact, Rugged, Easy to Use

The new SGX is a compact, automated cutting machine for plasma and oxy-fuel cutting designed with ESAB's leading-edge technology made affordable for the small fabricator or manufacturer.

This rugged, high-performance machine carries up to three tool stations: up to two oxy-fuel torches and one plasma station that can be equipped with ESAB's m3-IGC Precision Plasma System for high-quality cutting up to 50 mm (2 in.) thick on mild steel, 38 mm (1.5 in.) on aluminum, and 25 mm (1 in.) on stainless steel.

Simple, automated operation is achieved with the built-in process database in ESAB's Vision® T5 CNC, which fully integrates ESAB plasma and oxy-fuel process controls into an easy-to-use touch-screen interface.

Dream Machine

SGX enables rapid cut-to-cut cycle times through the integration of dual-side, high-speed AC drives and a fast torch lifter. One-meter rail increments keep its



The new SGX cutting machine from ESAB is compact, rugged and easy to use for plasma/oxy-fuel cutting.

footprint small and maximize production space. An oxy-fuel gas control automatically switches between low preheat and high preheat pressure. Ease-on cutting oxygen allows for piercing thicker materials.

SGX is available in sizes to cover plates up to 2.5 m (8 ft.) wide, and up to two 6 m (20 ft.) long plates end-to-end. ESAB's newest cutting system is offered with a choice of downdraft tables or water tables for dry or under-water plasma cutting.

High-productivity Automated Welding

ESAB continues to advance welding automation with innovative solutions for robotic welding. The Swift Arc SL side-load robotic cell with new tandem Swift Arc Transfer (SAT™) delivers travel speeds well beyond the limits of normal spray arc welding for high productivity automated welding. Swift Arc SL is designed for robotic welding of large parts at high production rates. Dual

trunions manipulate parts from two sides, allowing welded parts to be unloaded and new parts to be loaded during the welding process for continuous "arc on" time.

New Tandem Swift Arc Transfer

Enhancing the speed and productivity of the robotic cell is a new tandem SAT process that uses twin welding wires running simultaneously through the cell's robotic torch to deliver exceptionally high deposition rates. This high-productivity MIG welding process produces flat welds with good penetration and without undercut. Its low heat input results in less deformation. Less part deformation and limited spatter minimizes post-weld labor helping lower production costs.

The SAT process uses ESAB's OK AristoRod™ non-copper coated wires to reduce contamination of the feed system with copper particles. This results in dependable feeding properties and a consistently stable arc at high welding currents and wire feed speeds. ■

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- ▶ Resist Abrasion, Adhesion, and Fretting
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- ▶ Improve Corrosion Resistance
- ▶ Improve Electrical Conductivity and/or Resistivity
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- ▶ Rebuild Worn or Mis-Matched Parts

• BENEFITS:

- ▶ Better Performance
- ▶ Longer Component Life
- ▶ Decreased Maintenance
- ▶ Inventory Reduction
- ▶ Reduced Replacement Costs
- ▶ Less Downtime – More Production

• TYPICAL APPLICATIONS:

- ▶ Hard Chrome Replacement
- ▶ Roll Surfacing
- ▶ Cutting Edges
- ▶ Wear Surfaces
- ▶ Corrosion Resistance
- ▶ Localized Coating and Dimensional Restoration



Demonstrations every hour on the hour. Industry representatives will be available to answer questions. Attendees will receive a 36-page "What Is Thermal Spray?" publication which highlights processes and industries served.

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Boston Consulting: Robot Spending Projected to Surge

By Bill Koenig, Senior Editor, ME

Worldwide spending on robots is projected to surge to \$26.9 billion next year and \$66.9 billion in 2025 from \$15.1 billion in 2010, Boston Consulting Group said in a study.

“Because robots can sharply improve productivity and offset regional differences in labor costs and availability, they’ll likely have a major impact on the competitiveness of companies and countries alike,” according to the study, originally published last month.

Countries “with a greater number of robotic programmers and robotic infrastructure could become more attractive to manufacturers than countries with cheap labor,” the study’s authors, Alison Sander and Meldon Wolfgang, wrote.

The increase in robot demand stems from declining prices and improved performance, according to Boston Consulting.

“As robots become cheaper, smaller, and more energy efficient, they gain flexibility and finesse, increasing the breadth of potential applications,” Boston Consulting said.

The consulting group also projected spending by category:

- **Military:** \$7.5 billion in 2015 and \$16.5 billion in 2025 from \$5.1 billion in 2010.
- **Industrial:** \$11 billion in 2015 and \$24.4 billion in 2025 from \$5.8 billion in 2010.
- **Commercial:** \$5.9 billion in 2015 and \$17 billion in 2025 from \$3.2 billion in 2010. The category includes medical, surgical, agricultural and construction robots.
- **Personal:** \$2.5 billion in 2015 and \$9 billion in 2025 from \$1 billion in 2010. Included are robots for security, cleaning and education.



About 40% of industrial robots are in the auto industry, according to the study. “China is the fastest-growing market for industrial robots, likely due in part to the country’s realization that it can no longer compete on low-cost labor alone,” Boston consulting said. More countries are “turning to automation of everything from industrial and agricultural production to human caretaking.” ■

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We control the cloud

The technology behind the cloud keeps Gema out in front

Not all powder clouds are created equal – in fact, many create less-than-desirable results. Factors such as powder type, part geometry, application environment and operator skill can all affect coating consistency. Results vary widely and can severely impact your operation’s bottom line.

Gema’s powder coating technology has been precisely designed to do one thing – deliver the right powder cloud for any given application.

Gema’s manual and automatic powder coating systems work seamlessly to merge the right cloud density with the right particle charge and air balance. Gema gives anyone the confidence to spray any powder on any part in any place.



View case studies and videos at GemaPowderCoating.US/Cloud

Gema

Magswitch Innovation

FABTECH represents a line in the sand each year. It is a time to reflect on what we have achieved, what we have created, and to determine how we measured up against the expectations of our customers. Equally important, FABTECH gives us the opportunity to assess our competition and make critical decisions to ensure we stay on the cutting edge of technology. I look forward to catching up with friends, our great distribution partners and most importantly our loyal Magswitch customers.

Last year we showcased an amazing new “shallow field” technology, born out of a challenge to our engineering team. The challenge I presented was to develop a tool that was easier to use, lighter, safer and exponentially stronger on thin material. Our Engineering Team was able to accomplish this task which will make commercialization possible this year. Magswitch “shallow field” technology will be on display at the ORS Nasco booth (C1666) and represented in a variety of products including our brand new MagDrill bases. We have patents pending on this innovative pipe and curved surface mag-drill technology. Witness a significantly lighter tool that can achieve full performance on under 1/4" material thickness. That's 600 and 1200 lbs. of grip on less than 1/4" thick material in a small, lightweight package! These tools will reset the performance hurdle by setting a new standard for mag-drill bases.

Magswitch has taken this same technology, added electric remote control and is launching a range of shallow field lifters. These lifters provide up to six tons of safe working load and full power is achieved, not on 2" steel, but on under 1/4". These amazing tools

will change the way that sheet steel is handled. All Magswitch tools are fail safe, living up to the safety brand that is synonymous with Magswitch Technology. See an example of this remarkable technology offered by one of our great partners, Praxair booth (C3134).

Innovation does not stop here, as Magswitch is renowned around the world for our impact on how ships are being built. We will have some of our amazing shipyard tools on display at the ORS Nasco stand. Come and talk to our team today, you will love what you see.

This past January we opened a new R&D center in Germany dedicated to developing the next generation of robotic tools for the automation industry. Automation is an industry with increasing cross-over into welding and fabrication. Other great Magswitch partners, Fanuc (booth C2056) and Lincoln Electric (booth C2044), are some of the companies you will see utilizing Magswitch tools as part of their quality solutions. This year I challenged our R&D engineering team to deliver the next generation of automation technology that will take Magswitch forward for the next ten plus years. I asked for 50% lighter, lower cost to manufacture, increased maintenance free life cycle and significantly increased energy efficiency, thus allowing our customers to more easily comply with the stringent ISO 50001 energy standards. In the future, an airless production system is going to become a reality.

Our Constant Improvement Process (CIP) has led to the launch of our new welding ground clamps. These newly designed grounds offer a 25% better thermal rating and the line has been expanded to include an 800 amp unit. See these and other new products at the ORS

Nasco booth (C1666). See our weld rail systems at the Bug-O Systems booth (C2106) and the amazing pivot system at the Gullco booth (C3005).

This year, we launched the “Magswitch Preferred Dealer Program”. Thanks to a great group of independent welding distributors in the industry, we are delivering a higher standard of support to our partners.

Two years ago we looked to on-shore, which we achieved this year in our new line of Magswitch Heavy Lifting Systems, proudly made in the USA. We will continue to bring manufacturing back to the US at every opportunity, after all that's what FABTECH is all about....love this show!

Lastly thanks to the world's best team of people who inspire me to come to work every day and deliver the magic that is Magswitch. 2014 has been a great year for Magswitch and we look forward to utilizing this new technology to catapult us to record breaking growth in 2015. ■

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

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FABTECH Cares, a charitable fundraising campaign in connection with the FABTECH 2014 Expo in Atlanta, works to raise funds in support of Workshops for Warriors, a 501(c)(3) non-profit organization dedicated to training, certifying, and placing veterans in manufacturing careers. Join the campaign! Your contribution will benefit U.S. military veterans and assist them in obtaining jobs in the manufacturing sector.



JUNE 12TH, 12:37 P.M.

A LUNCH INTERRUPTED AND A COMMITMENT KEPT

IN AN INSTANT, DAN PARK REALIZED THE VALUE OF HIS CNA INSURANCE POLICY

Dan picked up the phone and then dropped his fork. The supplier he was counting on for the materials he needed to meet a client's deadline was not able to deliver on time due to a fire in his plant. That's when Dan remembered he had dependent property coverage as part of his policy with CNA. After a quick review of his supply chain plan, specially built for him with his independent agent and CNA experts, Dan was able to call a new source for the materials, and CNA even picked up the cost to expedite shipment, allowing Dan to meet his client obligations without leaving his chair. Enjoy your lunch, Dan.

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Local Metal Artist Reminds Show Attendees to Slow Down and Look Around

A herd of artistic flair is welcoming FABTECH attendees to the Georgia World Congress Center. In the C-Hall Concourse attendees will notice a herd of welded steel goats appropriately named “The Herd.” The popular art installation which is normally a fixture on the Atlanta BeltLine, a former railway corridor around the core of the city, has made its way to the FABTECH show to greet both art and welding enthusiasts.

Local Atlanta artist Phil Proctor created the steel goats by welding together steel, stainless steel and raw metal.

“The concept behind the project is that you have seven goats with their heads to the ground while eating but one goat is aware and looking around. It reminds people to take a moment and look around so you can interact and see what’s going on around you,” said Proctor.

Proctor hopes that as show attendees circle the FABTECH show floor in search of new products and services, they too will take a minute to appreciate what’s going on around them. In fact, from the minute many show attendees touched down in Atlanta, they may have noticed Proctor’s talent.

An AWS certified welder with a master’s degree in fine arts, Proctor has public art projects on display all across the city starting in the ground transportation holding area just outside the west end of Hartsfield-



Jackson’s main airport terminal. He also has a 75 foot linear sculpture, “Linkage,” located at Lindbergh City Center, one of Atlanta’s busiest MARTA stations. “Linkage,” incorporates aluminum and copper plates that represent the expansive reach of MARTA and the way it links communities together through the ease of transportation. Several other pieces created by Proctor currently dot the Atlanta BeltLine.

As an artist who learned welding through sculpture, Proctor’s permanent art installations can also be seen throughout the southeast as well in other countries

across Western Europe. And it’s not just public art pieces he’s interested in, Proctor who owns Atlanta-based Nucleus Sculpture Studios, has welded a variety of items including furniture, signage, stair cases, and sets for the television and movie industries.

Most recently Proctor worked on set pieces for the popular Hunger Games movies which were filmed at several Atlanta locations. Proctor led a team of welders that built the infamous Cornucopia, a giant horn-shaped cone with a curved tail that is filled with supplies and weapons that could help tributes in the movie survive the annual Hunger Games. The Cornucopia was built inside the Georgia World Congress Center and a lot of the filming also happened there.

Proctor enjoys working with “solid” materials such as metal and also likes playing upon the concepts of energy and physical space.

“If it can be bent, twisted, and reshaped into something weird, that’s kind of my thing, says Proctor.” ■

To meet Proctor and see more of his metalwork, visit him in the C-Hall Concourse in booth C7.

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Show Diversity Benefits Newcomers

At their Gaston, North Carolina based Machine and Welding Supply Company, Branch Manager Daryl Bass and Sales Manger Mike Spain (pictured top) are constantly reviewing the literature for all the new products and technologies being developed throughout the industry. But, it wasn't until they arrived at FABTECH on Tuesday, that they were able to see it all on display.



"The exhibits are just amazing," Bass said. "We can see and touch things. We can see how things are changing. The amount of equipment, the staffing and set up in the booths is simply amazing."

"We are here so that we can go back and help our company and our customers," he said. "We would encourage anybody concerned with innovation, production, and safety to attend."

Their company furnishes industrial gas and welding supplies like CO₂ for restaurants, helium for balloons, and mixed gases for welding. They also sell safety and protective equipment.

"The booths are so well staffed," said Spain. "There is always someone who can answer your questions."

Working as a contract manager for woman-owned Machine Tools USA in Cobbs Creek, Va., Amy Dubois' (bottom left) job is to help manufacturers land contracts with the federal government.

"We are experts in helping our clients bid on government contracts and manage the process once they do," she said. Most of her clients manufacture such products as water jets, electronic discharge machines, chillers and high-speed mills.

Her first trip to FABTECH has opened her eyes to the scope of the industry. She has attended some educational programs that are "right on target" with the types of technologies her company and clients sell.

Rodney Ducote (bottom right) is Sourcing Manager for FMC Technologies in Houston. At

his first ever FABTECH Expo, he is learning about and comparing changes in technology and finding areas where there is room for improvement.

"I am always sourcing goods and equipment, particularly welding equipment," he said. "I spent the entire first day in Building C."

"Next time, I may plan to stay over an extra day to be able to take more of it in," he added.



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Explore The Floor



Spin To Win

Stop by Booth A3000 in Hall A for a chance to win cash or prizes. All attendees are eligible for one spin and the booth is open today from 10 a.m. until 3 p.m. Check out the many other exhibits and activities happening in Hall A while there.



Robotic Arc Welding

FABTECH attendees have been taking some manufacturing robots for a test drive in Booth A2825 in Hall A. A three-day competition has tasked novice and experienced users with operating basic maneuvers on two different robotic welders, as well as a written test. Darin Sumpter of Shureline Construction never ran a robotic welder before, but caught on enough to perform welds using menu-driven commands.

FABTECH Radio

Economist Chris Kuehl and FABTECH co-manager Mark Hoper talked about the recent Capital Spending Survey during yesterday's 1 p.m. FABTECH radio broadcast from Booth B5438 in Hall B. Kuehl noted how larger companies with more than 500 employees are doing the best. Traditionally these are the most cautious, so when they move it indicates the whole market is moving. While European and Asian markets are struggling, Kuehl says, U.S. manufacturing is growing at 3.5%.



To 3D or Not 3D

Consultants from T. A. Grimm & Associates in Cincinnati offered insights yesterday on the pros and cons of Additive Manufacturing/3D Printing during separate talks on tactical and strategic applications for manufacturing in Booth A2427 in Hall A. They told listeners that they envision an "evolution" rather than "revolution" in manufacturing thanks to the



increased affordability and recent enhancements to the technology. They encourage production manufacturers to "start by producing things you need on a regular basis. Things like jigs, fixtures, pallets, trays, and robot end-effectors."

Live Thermal Spray

Although not a new technology, many are unfamiliar with thermal spraying. See how metal can be applied to a variety of surfaces at Booth A2927 in Hall A. Uses for this process include providing a nonskid surface, thermal barrier, or creating a harder, tougher final material. This application also can be used to spray a protective layer over welded areas to prevent corrosion.



Cutting Contest

Isaac Carrion of Houston uses both a plasma cutter and oxy acetylene torch to transform a rectangular piece of quarter-inch metal into an oval with stenciled letters and images. The cutting contest, hosted by ESAB in the trailers between Halls B & C, has drawn a steady stream of industry pros and students from vocational schools. Entrants are judged on the time it takes to complete the cutting and the quality of the finished work.

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State of the Industry

continued from page 1

acknowledged that trends in staffing or adding suppliers can change depending on business cycles.

"It makes sense to have some outsourcing," said Whelan. "As a manufacturer, it is not feasible for us to have all the processes in house. We may think we are good at everything, but we tend to be more successful when we stick to our core competencies and let our business partners help us develop our end product."

"We are working on flexible work schedules," said Whelan. "We want to get extra capacity out of our machines by utilizing nontraditional scheduling patterns."

Fledderman noted that a certain percentage of his workforce is "temporary," so that the company can manage its cyclical highs and lows. ■

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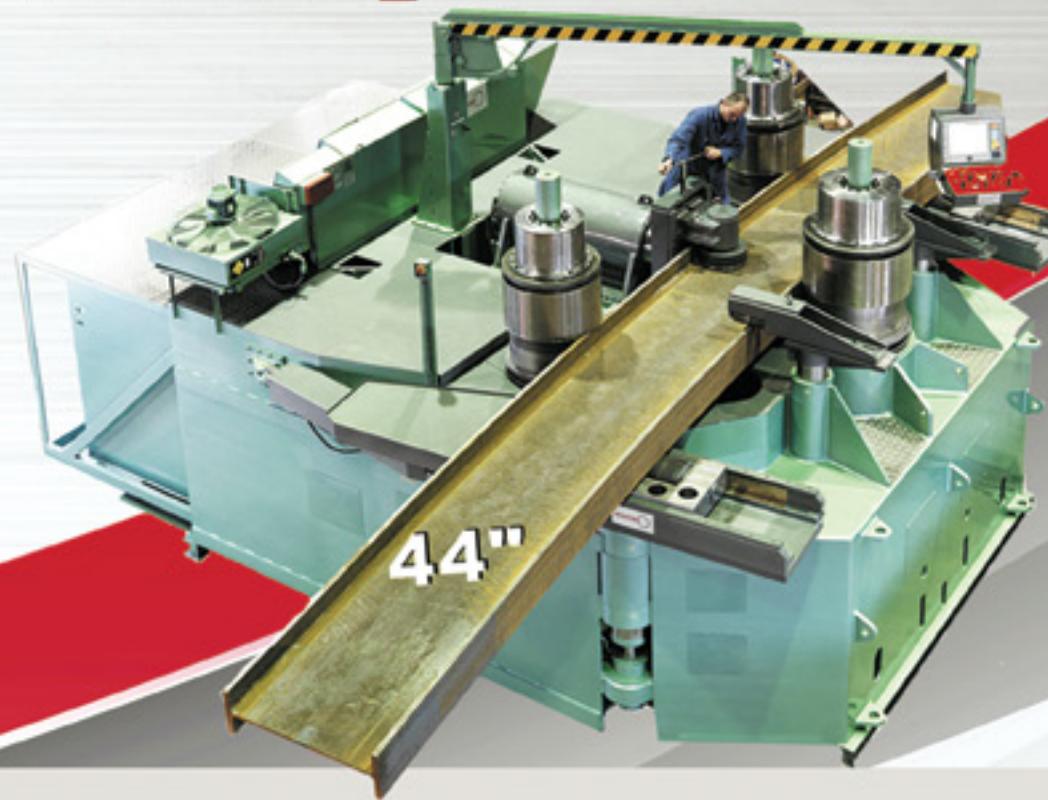
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