



The Official

SHOW DAILY

North America's Largest Metal Forming, Fabricating, Welding, and Finishing Event

OFFICIAL SHOW NEWS | MONDAY, NOVEMBER 18, 2013

Renaissance Or Not, Manufacturing is Here to Stay

How to Help the Manufacturing Sector Grow

Last year, the U.S. manufacturing sector was called, “The Comeback Kid.” The sector added half a million jobs over the last three years and people started to take notice. Manufacturers were helping to lead the country out of the recession. Now, the challenge is to turn “The Comeback Kid” into a consistent and steady player, an effort that will require stable support — even during the inevitable slumps — so that American manufacturing can continue to grow and thrive.

Despite a slowdown over the past year, manufacturers across the U.S. are reporting steady growth. The most widely recognized gauge of U.S. manufacturing is the Institute for Supply

Management’s (ISM) Manufacturing Survey in which a measurement over 50% indicates that business is growing. At the height of the recession in December 2008, the PMI Index for manufacturing was 33.1%. In July 2013, the Index was 55.4%.

We can see the growing strength of U.S. manufacturing at industry trade shows, too. FABTECH, the largest



metal forming, fabricating, welding and finishing show in North America, experienced the greatest single day attendance in its history at its Las Vegas

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North America's Newest Export: FABTECH Expos

Gaining a competitive advantage is one of the primary reasons that FABTECH attendees give when asked why they attend FABTECH, North America’s largest metal forming, fabricating, welding and finishing event. Whether you’re checking out the new products, networking with industry pros or finding cost-saving ideas and strategies that will make a difference in your business, FABTECH is the go-to place in the U.S. to see and learn what’s new in

metal forming, fabricating, welding, and finishing.

But why not bring all these great business advantages to the rest of the world?

The manufacturing sector is a global industry and that’s why FABTECH is broadening its reach to help buyers and sellers connect in markets around the globe. The FABTECH sponsors are now offering programming throughout the year — and the world. FABTECH shows will take place in Canada, India

and Mexico all in the first half of 2014.

“Manufacturing is a global business and its essential for any company to understand the sector from a global perspective,” said FABTECH show co-manager, John Catalano. “That’s why the FABTECH sponsors have created these international opportunities to help manufacturers showcase their technologies to new markets. These shows should be on everyone’s schedule, whether you are considering expanding your business into inter-

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DON'T MISS TODAY!

Keynote – Navigating the Fiscal Reality
9:00 a.m., Ballroom S100

State of the Industry
12:30 p.m.,
FABTECH Theater,
Grand Concourse

New Product Presentations
10:30 a.m. – 5:00 p.m.
FABTECH Theater,
Grand Concourse

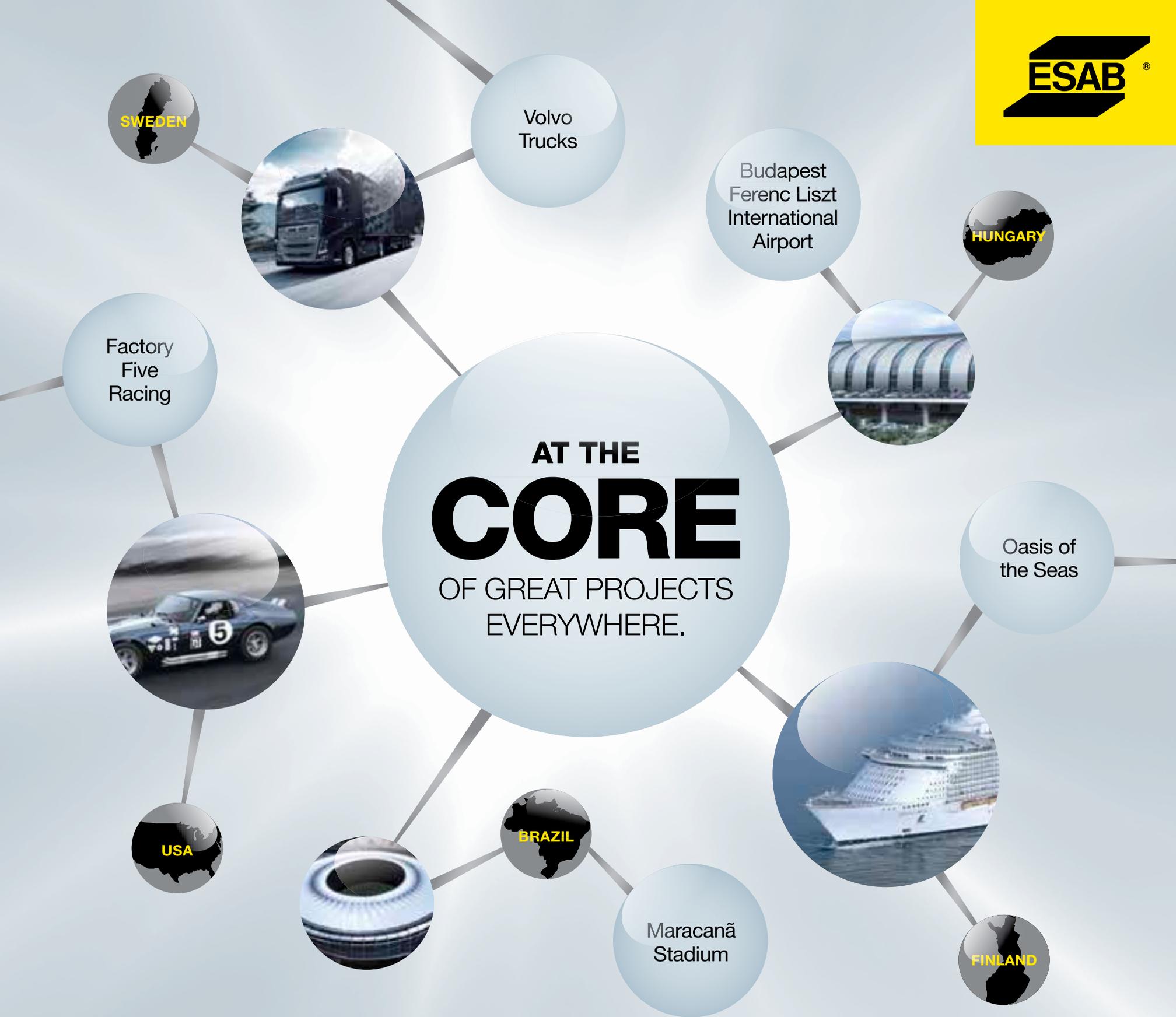
Professional Welders Competition
10:00 a.m. – 5:30 p.m.,
Booth N2299



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From world-class football stadiums to award-winning airport terminals, ESAB has played a pivotal role in many impressive projects around the globe. See these stories come to life at FABTECH 2013.

Here's what else you can look forward to when ESAB comes to FABTECH.

- Don't miss exciting demos of Heliarc® for AC/DC GTAW (TIG) welding
- Be here for live demos with the Warrior™ multi-process welding machine
- See live demos of PowerCut® manual plasma cutting systems
- Check out new products and processes from Welding Automation and Cutting Systems
- Get a first look at Marathon Pac™ 2 – engineered for productivity and ease of use
- Have a look at our newest PPE, including the Warrior™ Tech welding helmet



To find out how our welding and cutting solutions can help with your next project, visit esabna.com/fabtech2013 and stop by booths N1449 and N1145 in the North Hall.

Telwin's World

From the Chilean copper mines to the Jumeira Palm Island in Dubai, from the Russian-European, South-Stream gas pipeline to the bodyshops all over the world, from the suspension bridge in Bristol to your home's gate, there's a common denominator: a Telwin's product.

For more than 50 years, Telwin is the international leader in the production of MMA, MIG-MAG, TIG welding machines, spot welding machines, plasma cutting systems, battery chargers and starters. Telwin is present in all 5 continents, in more than 120 countries in the world, with the widest range of products in the market to satisfy any customers' need.

Telwin's products are conceived, developed and manufactured in the "Home of Welding", the widest European industrial site of the sector with



its 120.000 sqm. of space. Technology, experience, research, logistic are the four cardinal points which guarantee Telwin its market's leadership.

The strong vocation for innovation has become reality thanks to the heavy investments in advanced productive systems (i.e. complete automation of the transformers' production) and in products' know-how (i.e. re-engineering of inverter models) that enable Telwin to offer competitive, performing, high-quality machines, in line with the highest international standards. All Telwin products are certified by the most important organizations in the world (TÜV, GOST, CSA, etc..) confirming the excellence of a company system certified ISO 9001:2008 for the quality and OSHAS 18001:2007 for the workers' safety.

Telwin's technological research means not only safety but also performances: immediate welding arc stability control, synergic functioning, different pulse modes, entirely

customized settings, are only a few examples of advanced know-how applied to the products.

With the widest catalogue in the world, more 250 machines, Telwin offers specific solutions to meet every working needs, from the industrial field to the car bodyshop, from the professional to the DIY fixing.

The catalogue is part of a wide documentation which illustrates characteristics, functions, applications, accessories, spare parts, etc. of each product, in order to give a comprehensive knowledge of Telwin's range. The internet site: www.telwin.com, constantly updated, is a further source of information for a quick, easy and

intuitive comprehensive view of Telwin's world.

Stop by **booth N670** in the North Hall to get a first-hand experience of Telwin SPA innovation. ■

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ESAB Showcases New HELIARC® Inverter-based Welding Machines

ESAB Welding & Cutting Products spotlights the new Heliarc® product family of inverter-based welding machines designed for high quality AC/DC GTAW (TIG) and SMAW (Stick) welding at FABTECH 2013, Booth N1449.

Inverter-based Technology

The new Heliarc uses inverter technology, which delivers significantly increased energy efficiency and superior functionality in a package that is lighter and smaller than an old SCR technology machines and competitively priced versus other AC/DC inverters.

Superior TIG and Stick Performance

Heliarc welding machines provide superior AC/DC GTAW (TIG) and outstanding AC and DC SMAW

(Stick) performance, including cellulose (E-XX10, E-XX11) electrodes. Easy-to-achieve, optimized arc settings enable the operator to weld aluminum using a pointed tungsten. The tungsten remains pointed improving arc starts, heat input and arc stability, thus assuring high quality welds.

Heliarc's pulse control allows for smaller HAZ (Heat Affect Zone), better control of the weld pool, and less plate deformation.

In AC GTAW mode, the power source uses high frequency (HF) only to initiate the arc, compared to older power source technology which requires HF to be continuous. Heliarc's fast switching AC process removes the need for HF during welding, reducing electrical noise and the risk of interference to surrounding electronics. High frequency can be switched off in favor

of ESAB's live TIG arc start method when welding in areas where high frequency is not permitted.

Enhanced AC balance controls provide significantly improved cleaning or penetration compared to conventional AC/DC power sources. Heliarc provides an AC frequency control which focuses the arc for narrow weld beads and faster travel speed. Reducing the weld bead has significant advantages in reducing cost, as well as in reducing welding consumable and arc time, results in improved efficiency and operating profit.

Heliarc also features AC Pulse (GTAW) TIG from 0.4 up to 2Hz ideal for welding thin aluminum. High speed DC pulse GTAW (TIG) provides a smooth welding output which is precisely controlled to deliver faster travel speeds and more penetration. Increasing the pulses per second also improves arc stability and perfects inter-fusion between base and filler material.

Easy Setup and Operation

Heliarc's control panel is easy to setup and operate. Five clear, logical work zones on the control panel allow the operator to choose the options and settings needed for fast set up and excellent arc control. The machine's in-

ternal communication is entirely digital for high accuracy and repeatability.

All controls are centrally located. Easy-to-use buttons provide slope down, pulse current, background current, pre-gas, post-gas, pulse and duty options. The machine's memory can store and recall up to 60 user-defined welding programs.

Range of Models

Three Heliarc models comprise the new product family, including the Heliarc 281i, a 280 Amp unit for single-phase 230 connections; the Heliarc 283i, a 280 Amp unit for 3-phase 460 connections; and the Heliarc 353i, a 350 Amp 3-phase 460 unit for increased power when welding thicker materials.

For more information stop by the ESAB booths in the **North Hall, N1145, N1449**, visit www.esabna.com or call 1-800-ESAB123. ■



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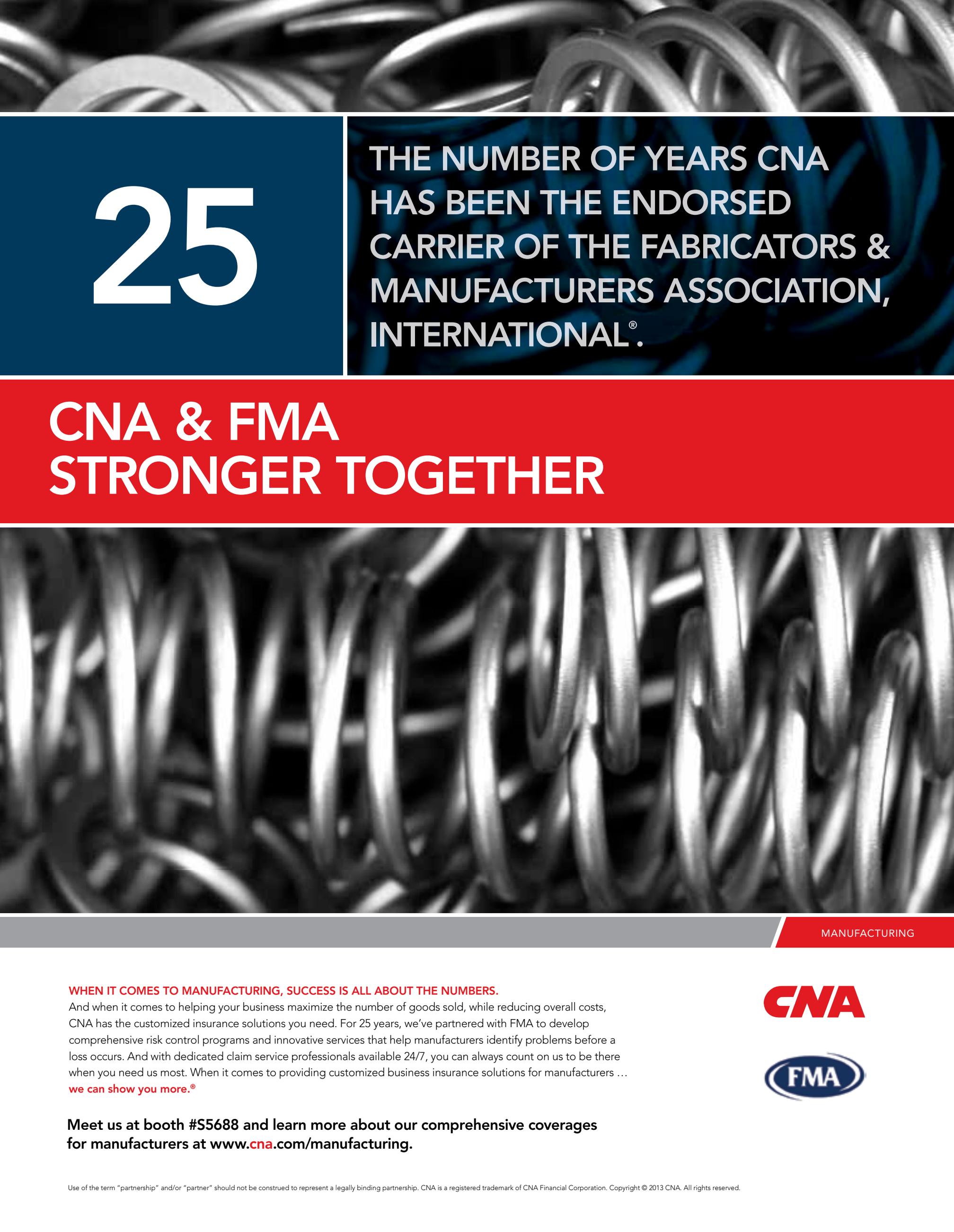
FABTECH 2013 Exhibitor Video Contest Winner:

Xiris Automation Booth N2217



FABTECH exhibitors were given one minute on camera to deliver their best pitch on why their booth is a "must-see" for show attendees. Xiris Automation came out on top with 4,282 votes! Scan this QR code to see the winning video, and make plans to stop by booth N2217.





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Meet us at booth #S5688 and learn more about our comprehensive coverages for manufacturers at www.cna.com/manufacturing.

“Manufacturing is Here to Stay” continued from page 1

show last year. By the end of this week, FABTECH expects to break records for attendance and exhibit space with more than 35,000 attendees and 1,500 exhibitors covering more than 600,000 net square feet of floor space at McCormick Place.

There is still debate among analysts in the media as to whether the U.S. manufacturing sector is truly enjoying a renaissance. Some say that the future is bright, while others assert that the current uptick pales in comparison to the massive loss of manufacturing jobs at the beginning of the 2000s. Both are missing the point.

The simple fact is that manufacturing continues to be an important force in the American economy, helping to drive innovation, investment and job creation. Research done by The Manufacturing Institute points out that the manufacturing sector's economic multiplier effect is higher than that of many other sectors because every dollar in final sales of manufactured goods adds \$1.48 in economic output from other sectors of the U.S. economy.

The American public also believes in the importance of manufacturing. In a 2012 Deloitte survey, 90 percent of respondents rated manufacturing as “important” or “very important” for both their personal economic prosperity and our country's standard of living. Further, when asked what type of facility they would choose to open in

order to create new jobs in their community, respondents ranked manufacturing high on their lists, putting it even ahead of energy, technology and health care.

The challenge for the industry and for policymakers, then, is how to put the manufacturing sector on a long term path toward growth and expansion.

When talking to manufacturers, here is what we hear:

- Give businesses certainty. Businesses cannot make long term plans and investments when there is uncertainty over what their tax rate will be, what regulations are pending and what level of health care costs they will need to pay. Providing certainty for manufacturers who need to understand their obligations should not be a partisan issue.
- Remember small manufacturers in tax reform. Eighty-one percent of manufacturing businesses in the U.S. are S-Corporations or other forms of pass-through entities, according to the S-Corporation of America. S-Corporations are different from C-Corporations in that they are not taxed separately from their owners. So tax reform proposals that only deal with corporate taxes and not individual taxes would leave out the large number of manufacturers organized as S-Corporations, putting these companies at a severe disadvantage.

• Don't sacrifice innovation and capital investment in the name of tax reform. Manufacturers often depend on tax credits when making important decisions that require advance planning like purchasing new machines and hiring more employees. Many of these tax credits have already expired multiple times, only to be renewed at the last moment. And many are hanging in the balance again. This back-and-forth on crucial programs like the Research and Development Tax Credit, the Section 179 Equipment Expensing Deduction and the Bonus Depreciation tax deduction is devastating to small and medium-sized manufacturers who utilize these policy tools to make the big investments that ensure their competitiveness in the years ahead.

• Teach young workers the skills needed for manufacturing careers. Manufacturing jobs are good, high-paying jobs, but manufacturers can't find workers with the skills needed for available jobs. As a result, there are tens of thousands of job openings in manufacturing today. And, with an aging workforce, this problem is only going to get worse.

The source of this problem is complex. One aspect is an education system that has eliminated shop courses and often steers kids away from two-year technical colleges and vocational schools. Another component is the misconception that manufacturing is a

dirty, dangerous and dying industry. We as manufacturers need to do a better job in selling the sector to young people by changing perceptions about manufacturing. If we don't effectively promote our sector, no one else is going to do it for us.

Manufacturers are incorporating innovative techniques to fight these problems: The American Welding Society works with the Boy Scouts of America to offer a Welding merit badge, the Chemical Coaters Association International offers scholarships to students studying Polymeric Science and Manufacturing Day, coproduced by the Fabricators & Manufacturers Association, International, the National Association of Manufacturers and NIST-MEP, encourages manufacturers to open their doors and invite their communities inside to experience modern 21st-century manufacturing facilities. Policies should be enacted that support these and other efforts by manufacturers to bolster the future of American manufacturing.

Recognizing the need for coordination among key institutions addressing the skills gap, the SME Education Foundation is developing innovative partnerships involving organizations, businesses and exemplary schools to provide a comprehensive community-based approach to manufacturing education.

Create a manufacturing strategy for the U.S. The U.S. is one of the only industrialized countries in the world that doesn't have an industrial strategy to build and grow a sustainable U.S. manufacturing sector. Such a strategy is essential to protect our national security and strengthen our economy in the long run.

Increase cooperation between manufacturers and the military to find skilled workers. Thousands of servicemen and women will be coming home in the coming years as the U.S. winds down operations in Afghanistan. These soldiers often have skill sets and interests that closely align with the goals of American manufacturers.

Renaissance or not, the growing manufacturing sector continues to help drive the U.S. economy. You'll witness manufacturing's vitality on display first-hand throughout all four days at the FABTECH Exposition and Conference. Enjoy the experience. ■

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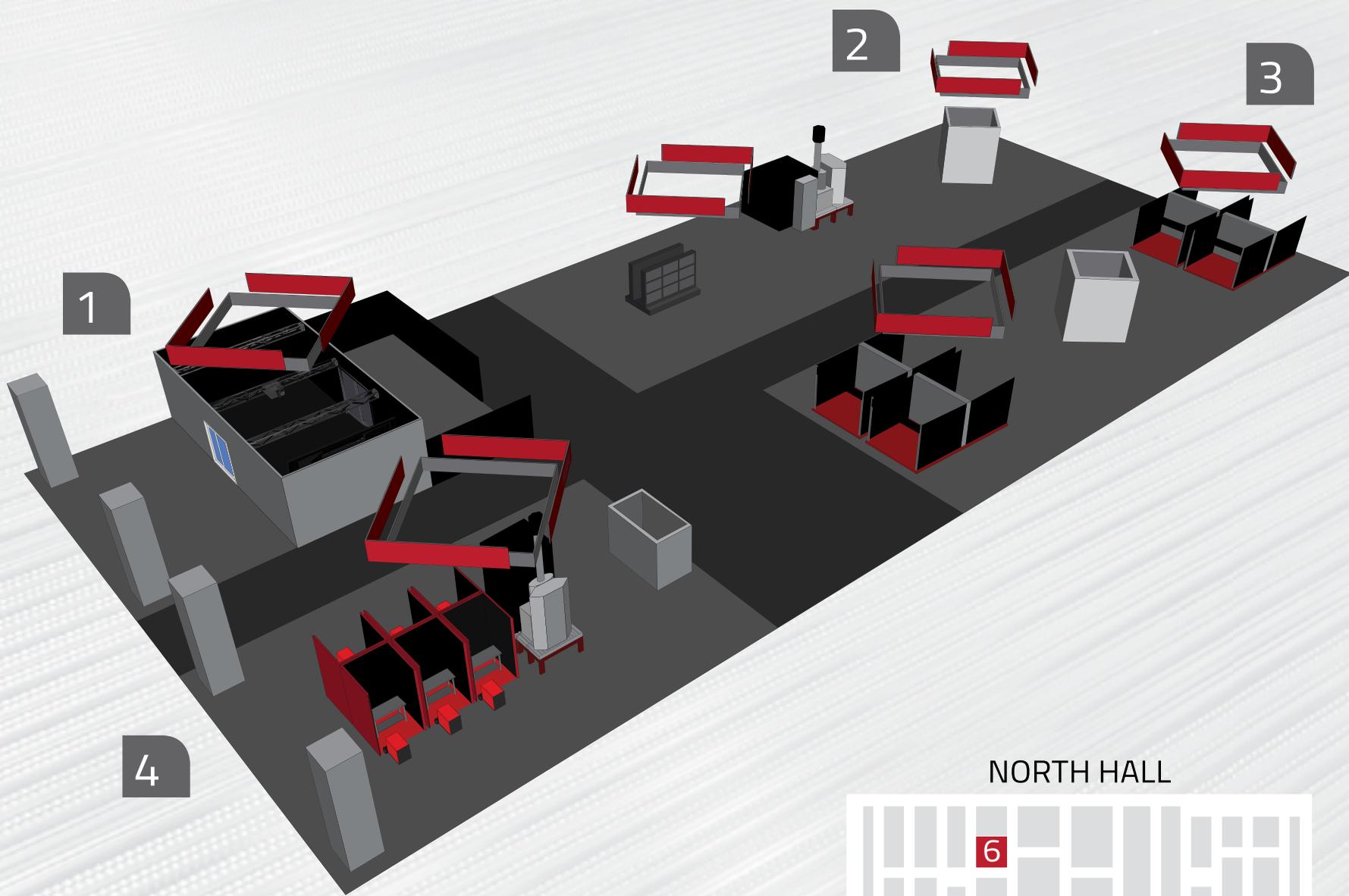
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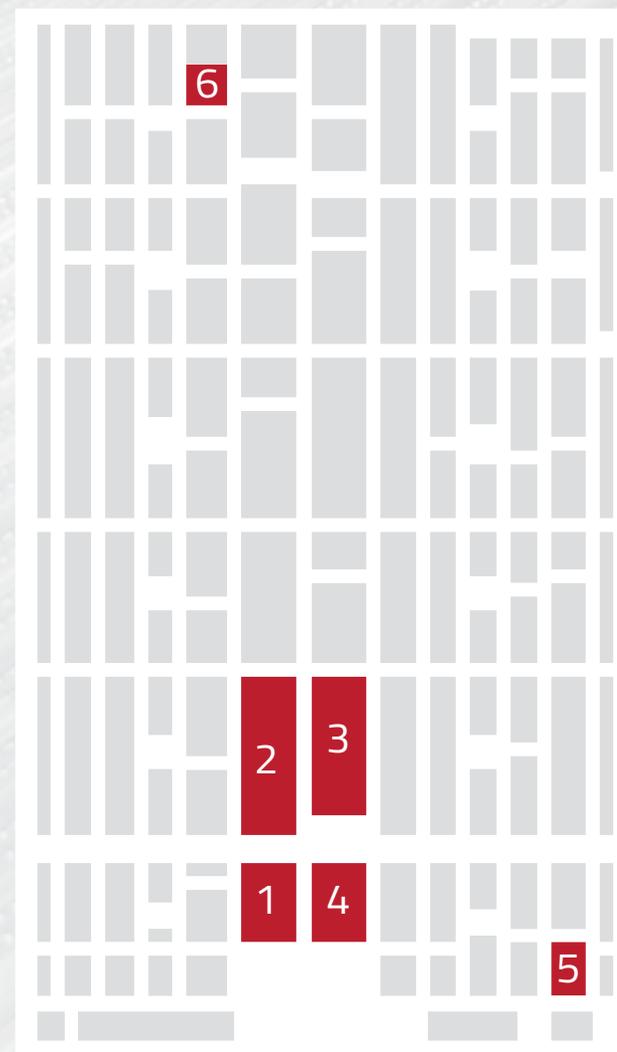


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Meet the Only UL Recognized Risk Engineer at “Lean and Safe”

It's hard to find the time to take advantage of all the opportunities FABTECH offers. But there is one topic you won't want to miss.

Brian Roberts, a UL Recognized Risk Engineer from CNA, the endorsed business insurance carrier for the Fabricators & Manufacturers Association, International (FMA), will be speaking on ergonomics, Lean manufacturing and the Aging Workforce as part of the new “Lean and Safe: A Winning Combination” ses-

sion in the Job Shop Solutions track on **Tuesday, November 19 at 10:30 a.m. in Room S401a.**

CNA is the only carrier with Manufacturing risk specialists who have earned the Recognized Risk Engineer designation from UL, a world leader in advancing safety. The UL Recognized Risk Engineer (RRE) program blends insurance coverage knowledge with risk management principles to build risk engineering solutions. UL granted this designation to recognize

the highest standards in evaluating risks, potential hazards and loss-prevention controls.

Brian Roberts will present his insights on how manufacturers can incorporate simple operational adjustments to keep employees safe and improve efficiency, particularly with an aging workforce. His insights will be matched by perspectives from Kelly Langdon of Buhler Aeroglide Corp and Steve Aaamodt of SICK, Inc.

Helping Manufacturers Stay “InControl”

“I was a plant manager for many years, so I believe I have a unique perspective into the daily challenges of our manufacturing customers,” said Franklin Maccotan, Manufacturing Program Director for CNA. “The team at CNA is truly focused on one goal — to use our insurance and risk management expertise to help manufacturers avoid a disruption to their business, and drive their focus on operational efficiency, employee safety and supply chain management.”

With that in mind, CNA's risk control manufacturing specialists produced a research study called *InControl: Manufacturing — A Risk Profile*.

The study is based on an analysis of data collected from facility surveys and actual claim data from CNA's experience insuring more than 12,000 manufacturers nationwide. Each section of the report outlines recommended policies and procedures to help manufacturing firms mitigate their risks.

As the only insurance carrier with a specialized insurance program for manufacturers endorsed by the FMA, CNA participates on the FMA Safety Council.

“Through our affiliation with FMA, we've learned a lot about metal fabricators, what drives them, and the characteristics they seek in an insurance carrier,” said Maccotan. “Using that knowledge, we've designed an insurance program that responds to the unique needs of metal fabricators, demonstrating our commitment and expertise in this industry.”

Be sure to stop by **booth #S5688** to learn more about how your operation can benefit from CNA's insurance program, and receive a free copy of the InControl study. Or visit CNA online at www.cna.com/manufacturing to learn more. ■

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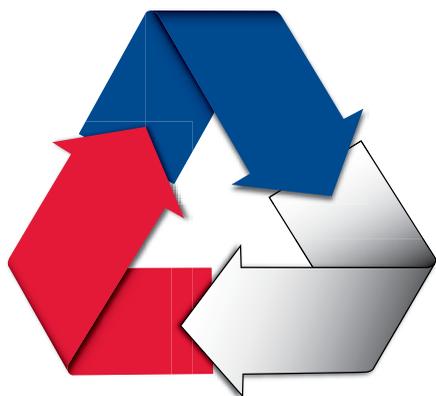
Kelly®, a leading employment provider, will be on-site at **booth N1299** and in the **North Hall lobby**. Representatives will be on-hand to speak with job seekers about career opportunities nationwide with manufacturers in top industries including automotive, aerospace, pharmaceuticals, petrochemical, medical device, food and beverage, semi-conductors and more. Visit our booth to:

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Corporate offices are located in Beachwood, OH. Facilities are located in Charlotte, Cleveland, Houston, and Phoenix.

See us at **FABTECH 2013 Chicago Nov. 18-21 Booth N417**

Unique to Repeat

Sharpe Products Has the Capabilities to Meet Tube Bending and Tube Laser Cutting Needs

Sharpe Products is an ISO 9001:2008 certified manufacturing company offering many unique custom pipe and tube bending, laser cutting, and fabrication services using the latest state-of-the-art bending machinery and technology in the tube bending industry. Serving a wide range of OEMs, including the automotive and medical industries, the bending team has experience bending steel, stainless steel, aluminum, copper and more, up to 6" O.D. (outside diameter).

Sharpe's bending team uses the most unique and innovative tube bending machinery and technology making it possible to efficiently produce complex and challenging bent parts. All-electric CNC bending machines have unique capabilities including high accuracy and repeatability along with multi-radius stacking and rolling, and hole-punching. The 3D tube bender uses single die technology that allows flexibility in part design, unmatched by traditional forms of bending. It is capable of creating multi-radii bends without tooling and little to no distance between bends and the ability to produce angles greater than 180 degrees. The E-turn tube bender has the widest flexibility because of its in-process right and left bending with fixed and variable radius. The twin head compression bender simultaneously forms



two bends and is ideal for high speed manufacturing of symmetrical shapes.

The 3,000 watt fiber optic tube laser has unique cutting capabilities and increased production speed versus traditional CO₂ tube lasers. This laser allows us the cutting of highly reflective materials such as copper, brass, bronze, galvanized pipe and aluminum along with the traditional materials steel, and stainless steel up to 6" O.D.

To help complete a project Sharpe offers custom tube fabrication services. A few of these services include high speed cutting, end-forming, and welding. Sharpe's expert team is capable of produc-

ing end-forms including beading, expanding, reducing, flaring, and swaging up to 7" O.D.

In alignment with Sharpe's ISO Quality Management System, quality inspection processes are in place for every type of quality level needed. From 100% fixturing on the BluCo to detailed reporting from the Tube Inspect S and 3D laser scanner, customers are given confidence that Sharpe manufacturing processes are undergoing quality verification check points throughout product development.

The Sharpe Team is ready for any project from prototypes to high volume production. For customers that have a continuous need for their products, inventory management programs such as kanban, and stock and release programs are available.

For more information about Sharpe Products, stop by **booth S3490** in the South Hall or call (262) 754-0369 or visit www.sharpeproducts.com. ■

Midsize Manufacturers Expect Revenue Gains to Continue for the Rest of 2013

Prime Advantage, a buying consortium for midsized manufacturers based in Chicago, has released the findings of its 12th semiannual Group Outlook Survey, revealing financial projections and top concerns of its member companies for the rest of 2013. The results show continued optimism about revenues and employment despite concerns about federal regulations and fiscal policy uncertainties.

Ninety-seven percent of respondents reported they expect revenues to be better than or equal to the first half of 2013. Forty-two percent anticipate revenue growth will be higher in the second half of the year than it was in the first half.



One out of three companies expect capital expenditures to increase in the second half of 2013. Fewer than 3 percent are planning layoffs in the next six months, and 47 percent expect to hire.

While concern about rising costs of raw materials has declined, 62 percent of respondents believe fiscal policy uncertainties have affected their business and the overall economy negatively. ■

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Brooklyn Shop Fabricates the Spire of One World Trade Center

By Tim Heston, *The Fabricator*

Sam Kusack remembers leaving his industrial loft, a humble Brooklyn workspace where he had recently launched Kusack Architectural Metals, or Kammetal Inc., to pick up some supplies at the local hardware store. Browsing for tools, he glanced up and looked through the pane glass storefront, and there it was: a monstrous plume emerging from one of the towers in lower Manhattan. He recalled how eerie it felt. The store clerk, his friends, no one really knew the details yet. He remembered returning to his loft workshop and climbing up to the roof for a better view, where he witnessed the horror.

In May of this year, Kusack and his employees stood outside the company's current facility in Brooklyn's Red Hook neighborhood, near the Battery Tunnel, also with a clear view of lower Manhattan. This time they witnessed the American flag-draped spire — with the stainless steel skin they engineered and fabricated — being hoisted atop One World Trade Center.

The media circus covering the event didn't visit the shop, and it was just as well. Employees weren't looking for attention. They instead looked on, smiled, and enjoyed a quiet sense of accomplishment. Then they turned around, went back inside, and



A welder at Kammetal, a Brooklyn fabricator, works on the uppermost part of the spire before it was hoisted atop One World Trade Center in May. Photo courtesy of Kammetal Inc.

got back to work. Four years ago the business employed about seven people, including two project managers, which wasn't enough to handle the workload.

"My brother Alastair wasn't working at the time, and I needed a project manager, so I asked if he wanted to help me out," Kusack said. A Caltech engineering graduate, Alastair started part-time but eventually got more in-



The completed spire sits on Kammetal's shop floor. It was hoisted into place atop One World Trade Center earlier this year.

involved, becoming vice president and eventually Sam's business partner.

"We now do a lot of engineering and product prototyping, design development, and project management," Sam said, adding that the company evaluates drawings to ensure components can be fabricated and installed reliably and cost-effectively, while maintaining the designer or architect's original vision.

In 2007 Kusack moved the business into its current space in Red Hook,



Sam Kusack of Kammetal inspects the mating joints during final assembly of the One World Trade Center spire.

not far from the water. Soon the shop began to land bigger jobs, including one large contract for furniture, lighting, and miscellaneous fabrication for a national restaurant chain. Today the shop employs about 25, including six welders.

In 2012 a project manager from DCM Erectors, the company responsible for building the new World Trade Center, wanted to talk to the Kusacks about fabricating the architectural encasement surrounding the top 50 feet of the building's spire. The design called for 0.25-in.-thick stainless steel panels of abutting triangles as well as several glass panels encasing a rotating beacon to light the New York skyline. The cladding enclosed the spire's core, which DCM fabricated from structural tubes.

The initial plan was to fully weld these laser-cut triangular sections, but that didn't allow for thermal expansion or other environmental effects; it gets windy 1,776 feet in the air. This

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See us at FABTECH Chicago Booth N2271

continued on page 16

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HG 8025

High-speed, ultra-precise press brake



Booth S901



“North America’s Newest Export: FABTECH Expos”

continued from page 1

national markets, interested in overseas technology, or simply wanting to check out the international competition.”

Three international shows are planned for 2014 so that you can truly experience FABTECH 365 —

all year around. Shows include:

FABTECH Canada, the only exclusive fabricating, welding, metal forming and finishing event, will take place March 18-20, 2014 at the Toronto Congress Centre. FABTECH Canada gives you all the tools you

need to improve productivity, increase profits and find new ways to grow in today’s competitive business environment.

The inaugural **FABTECH India** will take place on April 10-12, 2014 at the New Delhi’s Pragati Maidan



exhibition complex in New Delhi. The show, which will be held every three years, will be co-located with the India Institute of Welding’s Weld India Exhibition, the premier metal fabrication exhibition in the world’s tenth-largest economy. About 250 international exhibitors and 10,000 attendees are expected at this inaugural event, many representing India’s fast-growing industries, such as energy, refining, infrastructure, and manufacturing.

FABTECH Mexico will take place on May 6-8, 2014 at the Centro Banamex in Mexico City. The show, sponsored by the Fabricators and Manufacturers Association, Int’l (FMA) and the SME, will locate once again with the established AWS Weldmex and METALFORM Mexico. The Coatech show, supported by CCAI, will again co-locate with FABTECH Mexico, adding to the Finishing technology offered and further expanding the show. The combined events are expected to include over 450 exhibitors, 100,000 net square feet of floor space and attract over 12,000 attendees from the U.S., Mexico and Central America.

“FABTECH Chicago is a truly international event, drawing thousands of buyers and sellers from around the world to view the latest in manufacturing technology and innovation,” said FABTECH show co-manager, Mark Hoper. “Thanks to this international program, exhibitors can showcase their technologies in the home markets of potential buyers and partners. It’s a win-win for our U.S. and international FABTECH attendees.”

For additional information on these shows, visit www.fabtechexpo.com. ■

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New Product Presentations

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MONDAY, NOVEMBER 18

Time:	Company	Technology	Topic
10:30 a.m.	Mazak Optonics	Fabricating/Tube and Pipe	Reducing Laser-cut Tube & Pipe Cost of Parts
2:15 p.m.	Faccin USA	Fabricating	Advanced Technology in Plate Rolling to Increase Productivity
3:00 p.m.	GEMA	Finishing	35 Second Color Change for a Portable Box Unit
3:45 p.m.	FluidForming Americas	MetalForming	Frictionless Metal Forming Without a Press
4:30 p.m.	Fronius USA LLC, GmbH	Welding	AccuPocket- Cordless MMA Welding

TUESDAY, NOVEMBER 19

Time:	Company	Technology	Topic
10:15 a.m.	TRUMPF	Fabricating/Laser	New TRUMPF Technology Takes Solid-State Laser Cutting to a Whole New Level
11:00 a.m.	Graco Inc.	Finishing	ProMix PD2K - Positive Displacement Proportioning System
11:45 a.m.	Hypertherm	Fabricating	Integrated Waterjet Cutting
1:30 p.m.	Schuler Inc.	MetalForming	Laser Blanking Lines with DynamicFlow Technology
2:15 p.m.	AMADA	Laser	FLCAJ 3015 High Speed, High Precision 2kW Fiber Laser
3:00 p.m.	Lincoln Electric	Welding	APEX(TM) 3000 Orbital Welding System

WEDNESDAY, NOVEMBER 20

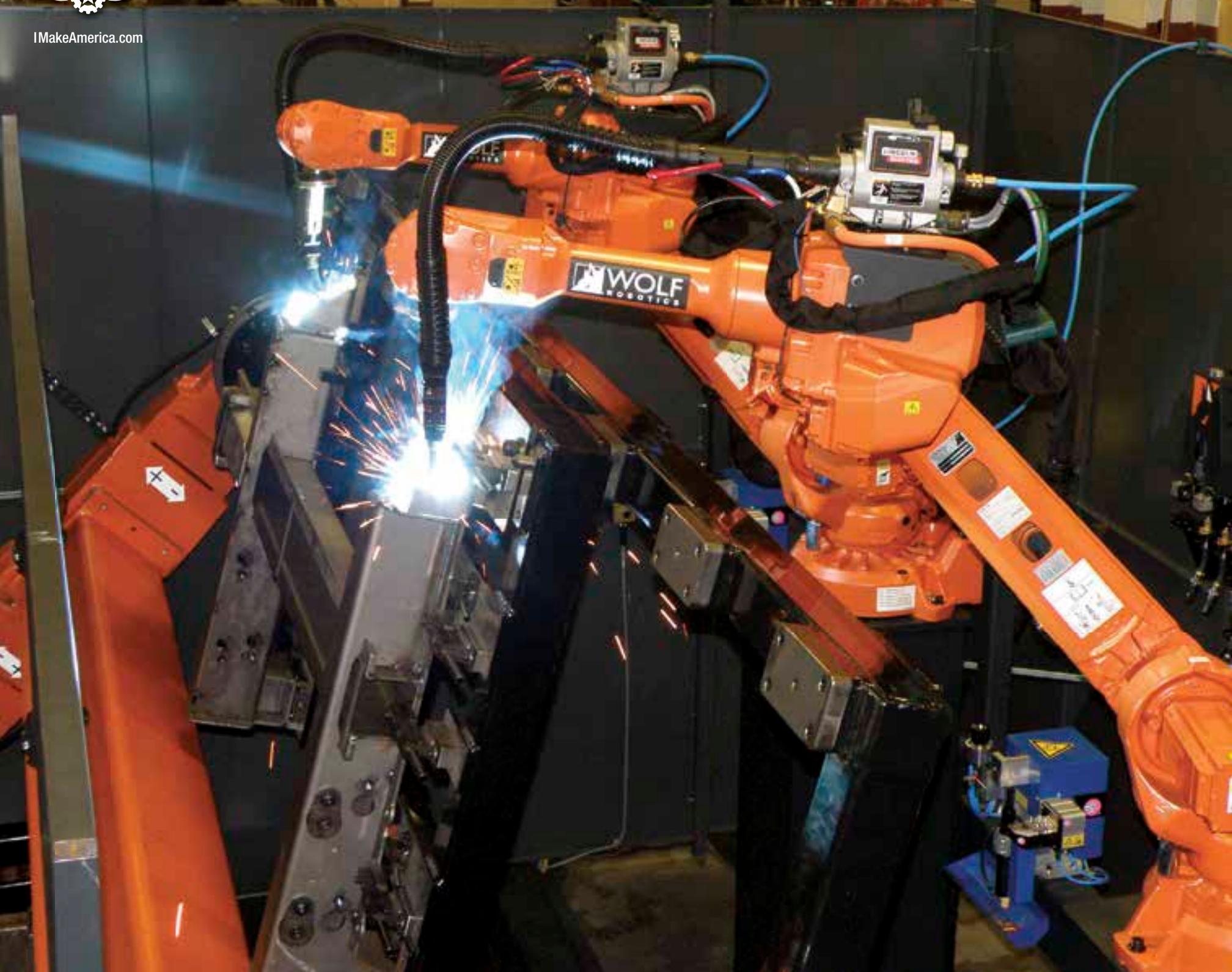
Time:	Company	Technology	Topic
10:00 a.m.	Norton Abrasives	Welding/Fabricating	Reshaping the World of Metal Fabrication
10:45 a.m.	IntelliFinishing	Finishing	Software for management of your paint system and part flow
2:15 p.m.	AMADA	Fabricating	HD-ATC Hybrid Drive Press Brake with Automatic Tool Changer
3:00 p.m.	TRUMPF	Fabricating/Bending	TRUMPF TruBend Cell 7000 – High Speed Automated Bending Cell
3:45 p.m.	OTC Daihen	Welding	Nanotechnology Digital GMAW Machines

THURSDAY, NOVEMBER 21

Time:	Company	Technology	Topic
10:00 a.m.	RoboVent	Fabricating	Breakthrough Air Cleaning Technology - RoboVent's Vortex 3
10:45 a.m.	SERVO Robot Inc.	Fabricating / Laser	DIGI-I/Z - Servo-Robot New 3D Laser Vision System for Multi-Pass Welding Automation
11:30 a.m.	Trilogy	Fabricating	iPunch - CNC Ironworker Programming



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“...the Spire of One World Trade Center” continued from page 10

would have made any such fully welded structure susceptible to cracks.

So the Kusacks met with a consulting engineer to develop another approach. “We had tight constraints in terms of how much space we had to work with designing the connections [between the panels and interior structure],” Sam said. That

space had to be tight to meet design requirements and the designer’s artistic intent.

Before they began fabrication, the Kusacks had the structural frame 3-D laser-scanned to capture an exact digital image of the spire’s existing tubular core. “Because we had [the substructure] scanned, we could

go into the detail and use 3-D CAD on the front end to work around our constraints,” Sam said. “We spent a lot of time engineering the connection system.”

Unfortunately, during the middle of all this, Hurricane Sandy blew in. The facility, just a few yards away from the water, flooded significantly

and put equipment out of commission in short order. The company worked with its vendors to repair and replace equipment, and within a month the project marched onward. And earlier this year workers stood on a street—previously flooded and awash with debris after the super-storm—now dry, clean, and with a clear view of the rising spire atop One World Trade Center.

The Kusacks look a bit like they could have stepped off the set of “Dead Poets Society” or from any number of real-life New England prep schools. But their pursuit isn’t any less intellectual. That’s because it’s not just about hands-on skill. It’s about paying attention to detail, communicating, shepherding a project to its fruition, and relating to people’s sense of style and creativity.

It’s a tough combination to find for Kammetal and most job shops like it. But the people who do develop and nurture the talent reap the rewards. The people at Kammetal have it. If they didn’t, they probably wouldn’t have fabricated a piece of history. ■

Images courtesy of Kammetal Inc.

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Conference-At-A-Glance

On-site registration for paid educational events is available in the Grand Ballroom (S100), West Transportation Lobby, and the 2.0 level concourse.

MONDAY, NOVEMBER 18			
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		C20: Running Efficient Paint Systems B Room S403b	C30: NEW! BEST PRACTICES: Choosing the Right Technology for Your Paint Line I Room S404a
		C21: NEW! FINISHING ESSENTIALS: System Design Basics B Room S404a	C31: FINISHING ESSENTIALS: The Importance of Cleaning Prior to Pretreatment & Pretreatment Troubleshooting B Room S404a
		C22: Trends in Industrial Coatings A Room S404d	C32: NEW! Emerging Technologies A Room S404d
STAMPING	S10: NEW! Precision Punching and Cutting Technology B Room S405a	S20: NEW! In-Die Electronics II Room S405a	S30: NEW! An Engineering Approach to Design II Room S405a
CUTTING			F30: NEW! Cutting: Dual Process Integration A Room S402b
LASERS	F10: NEW! Trends and Advances in Laser Technology B Room S402b	F20: Fiber/Solid State or CO₂ Laser Technology II Room S402b	
FORMING & FABRICATING	F11: Tooling Solutions for Metal Fabrication II Room S402a	F21: Roll Forming Best Practices B Room S402a	F31: Roll Form Tooling & Troubleshooting A Room S402a
JOB SHOP SOLUTIONS	F12: Cost Estimating for the Job Shop B Room S401a	F22: Designing Parts for Sheet Metal B Room S401a	F32: NEW! Material Handling Solutions for the Job Shop B Room S401a
AUTOMATION & ROBOTICS	F13: Using Robotics in Metal Forming and Fabrication II Room S405b		F33: NEW! Automation Solutions for Press Brakes with Tech Tour II Room S405b
LEAN	F01: WORKSHOP: NEW! Driving the Lean Transformation...Are You Prepared for Change? II Room S404bc		
	F14: NEW! Lean Principle: Strategic Planning and Organizational Alignment II Room S401d	F24: NEW! Lean Principle: Visual Workplace II Room S401d	F34: NEW! Lean Principle: Developing People and Processes B Room S401d
MANAGEMENT	F15: NEW! How Much Is Your Company Worth? A Room S403a	F25: NEW! Leading Your Organization to Profitability II Room S403a	F35: NEW! Sustainable Manufacturing in the 21st Century II Room S403a
TUBE & PIPE		F27: NEW! Forming Stainless Steel Tubes II	
WELDING			
SEMINARS	W10: API 1104 Code Clinic • Room N227a		1:00 p.m. – 5:00 p.m.
	W11: Metallurgy Applied to Everyday • Room N138		8:30 a.m. – 4:30 p.m.
CONFERENCES	W23: Welding Dissimilar Metals • Room N135		8:15 a.m. – 2:30 p.m.
PROFESSIONAL PROGRAM	W28: Session 1: Automation and Sensors • Room N139		1:00 p.m. – 5:30 p.m.
	W28: Session 2: NSF-CIMJSEA - Welding Metallurgy • Room N140		1:00 p.m. – 5:00 p.m.
	W28: Session 3: Applied Technology I • Room N230a		1:00 p.m. – 5:30 p.m.
EDUCATIONAL SESSIONS	W34: AWS Educational Sessions • Room N131		8:00 a.m. – 5:00 p.m.
SPECIAL PROGRAMS	W38: AWS Education Program Q&A FREE • Room N227b		2:00 p.m. – 3:00 p.m.
	W39: Brazing Symposium FREE • Room N137		1:00 p.m. – 5:00 p.m.
	AWS Professional Welders Competition – Day 1 • Booth N2299		10:00 a.m. – 5:30 p.m.

Lincoln: Calculating the ROI of a Robotic Welding System

The trend toward automation is accelerating as companies all over the world realize it's a necessity in order to remain competitive. As production demands increase, manual methods are becoming less viable. A robotic welding system can help you remain competitive by decreasing manufacturing costs, increasing throughput and increasing weld quality.

Robotic welding is no longer only considered for high-volume part producers, such as automotive suppliers. Even companies that produce small batches of a number of different parts may be able to take advantage of automation since the technology has advanced the past few years. A complete cell can start at approximately \$90,000 – making it more affordable than you might think. In most cases, robots show a return on investment (ROI) in just six months.



When many companies try to justify the costs of investing in a robot, they often only calculate what they pay their employees in hourly wages plus benefits. They fail to consider the fully burdened labor rate, which also takes into consideration such things as the cost of the building, taxes, utilities, transportation, maintenance and supervision — all the costs of doing business. When factoring in the fully burdened labor rate, it could be as much as \$80 to \$90 per hour per employee as compared to the employee's direct rate of pay, which may only be \$35 to \$40 per hour.

Increase productivity and efficiency

Robotic automation can improve throughput of your entire factory. Did you know that welding with a robot can be two to five times faster than other methods? This could result in two to five times the number of parts completed every hour. Utilizing a

robotic welding system for the right applications can allow employees to move to another position that might add more value and further increase production. Robots easily take on the burden of tedious, repetitive jobs and free up skilled welders to work on complex weldments that are not suit-

able or cost effective for robotics. As capacity is increased, there is the potential to bring in more work to fill in the hours opened up by automation.

continued on page 21



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The Chaplain and the Fabricator

Consider this hypothetical situation: A fabricator's best press brake operator shows up late for work. When he does come in, he looks dazed, unfocused. A few hours later, he looks down at the workpiece in his hands and realizes he just formed a flange backward, along with the 40 flanges before it. Then a supervisor

from the assembly department comes running. A batch from earlier in the shift was formed out of tolerance and somehow slipped by quality control. The brake technician grows tense, closes his eyes, and looks down.

Not today. Please. Not today.

He may have been incredibly productive for years, with an uncanny eye



for detail and quality workmanship. Then one day he comes in late and

starts producing bad parts. A typical investigation might point to "operator error," and scores of root-cause-analysis experts have developed methods that move the conversation away from finger-pointing. When conducting an exercise like the "five whys," the experts steer away from the blame game and toward the objective process side. They don't ask who screwed up, but concentrate on what happened and how, and how the process can be improved to prevent the problem down the road. It's all about the process, not the person.

But hypothetically, just as a mental exercise, what if those five whys took another path — a personal one? Why did the operator bend the parts backward? Because he was having a bad day. Why was he having a bad day? Because his mother is ill, and no one is at home to take care of her. Why can no one take care of her? Because she doesn't live near immediate family or close friends. Why doesn't she have family nearby? Because they all moved away. Why did they move? To find work.

Such a direct, personal inquiry lacks so much tact and professionalism that it borders on the absurd. It's an impersonal approach to a personal problem. All the same, it does reveal that, yes, a personal problem exists. And no matter how good working conditions are, an employee's personal life can affect workplace productivity.

To address this, many companies offer employee help lines, such as 800 numbers workers can call in times of crisis or of personal strife. It's a valid service, but one that Gil Stricklin, a retired U.S. Air Force chaplain, thought lacked a human touch. So in 1984 he launched Plano, Texas-based Marketplace Chaplains USA, which provides workplace chaplains on a contract basis.

Many are ordained clergy, but their roles as chaplains differ from that of a pastor or priest. Considering the founder's background, it isn't surprising that their role borrows from some basic ideas behind military chaplaincy. Marketplace's chaplains aren't

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“ROI of a Robotic Welding System”

continued from page 19

Improve quality and tracking

A robot is consistent and accurate – it will put the same weld in the same spot every time, which can help a company realize increased quality and efficiency. With today’s robotic software, companies can improve the tracking of manufacturing processes. One example allows you to monitor, record and report weld data on a “real time” basis. If the weld characteristic falls outside acceptable limits, the robot is alerted, the failure is recorded and an email alert can be sent over the Internet to a central location in the plant.

These are just a few of the many factors that can be calculated when researching if a robotic welding system is right for your operations. As the economy continues to change, companies must start to think differently about their operations. It may be simpler than you think to justify robotic automation if your goals are to decrease manufacturing costs and increase weld quality.

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“The Chaplain and the Fabricator”

continued from page 20

active evangelists. They do talk about religion, but only if the people they’re talking to ask about it first. They primarily offer workers a listening ear and compassionate conversation. They’re there to talk through tough problems and refer or recommend social service or assistance programs, if needed.

“It’s also a voluntary service,” said Art Stricklin, Marketplace’s vice president of public relations. “No one has to interact with the chaplain.”

“From the start we meet with the company leadership and let them know we are a neutral party. We do not represent the company, the HR department, or the CEO. We need that sense of neutrality when we’re talking with employees about their personal concerns.” So said Tim Presson, division director who oversees the western Texas region, where the company sends chaplains to several metal fabricators on a regularly scheduled basis.

“They first may just talk about the big game and chat informally,” Stricklin said. “But eventually they may come up and say, ‘Hey, I need to talk to you about my son.’”

Stricklin added that “a chaplain can’t get you promoted; he can’t get you fired. And the boss doesn’t know who’s talking to the chaplain. It’s voluntary, it’s confidential, and it’s non-denominational.”

Shop floor workers can’t just leave the machine they’re tending to talk to

a chaplain. So when chaplains arrive, they may walk the shop floor, wave, say a few brief pleasantries, and, if the employee wishes, schedule a more in-depth meeting during breaks or after the shift ends.

“We’re very conscious of not interrupting their productivity,” Presson said. “We realize they’re paid to do a job. So if the discussion is of a personal nature, and they need to visit with a chaplain beyond what the brief visit there at the work site would accomplish, then we set up a meeting outside of work or during breaks, at their convenience.”

Marketplace’s chaplain services also tap into a national network. Consider again the hypothetical press brake operator having a bad day because of his ill mother. He can talk to his workplace chaplain who, in turn, can contact another workplace chaplain near where his mother lives. The chaplain can’t cure his mother’s illness, but he can knock on her door, just to check in. It’s not much, really. But as sources explained, to a worried press brake operator hundreds of miles away, it can mean the world. ■



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