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SHOW DAILY

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OFFICIAL SHOW NEWS | WEDNESDAY, NOVEMBER 20, 2013

Fighter Pilot Strategies Offer Soaring Potential for Manufacturers

“Is flawless execution possible when flying an F18 fighter jet?” asked Scott “Intake” Kartvedt, a former Blue Angels pilot at yesterday’s keynote presentation. “It is for us when lives are on the line.”

Yet can the meticulous planning the U.S. military takes to ensure safer flying practices be brought to shop floors and manufacturing facilities? Kartvedt answered with a resounding yes, and spent the next hour explaining how.

He represents Afterburner, a group of military experts that helps businesses apply the zero-tolerance-for-error principles of military aviation into business process management tools. Flying multi-million-dollar airplanes at supersonic speeds and fabricating sheet metal into automotive parts are



two wildly different tasks. However, according to Kartvedt, the organizational execution behind them doesn’t have to be.

Looking every part the pilot in his Navy flight suit, he shared a video

of two planes in a dog fight simulation exercise. While both pilots in the video had an array of instrumentation and technology at their disposal, they

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U.S. Manufacturing Gains Invigorate Industry

The United States is seeing a resurgence in manufacturing as supply chains get shorter and the need for quality increases. Does that qualify as a manufacturing renaissance? That and other questions were the topic of conversation at Monday’s **State of The Industry Executive Outlook**.

“I don’t feel we hit the ball out of the park with manufacturing,” said Bill Adler, president of Stripmatic Products, a metal stamping business in Cleveland, Ohio. Continuing the baseball metaphor, he made a point of not



wanting to be picked off at second base.

“Low-cost energy production will give the U.S. a sustainable competi-

tive advantage for the coming years,” said MetaKote President Jeff Oravitz. “This is a tremendous moment for the country to elevate the importance of manufacturing.”

Reshoring from Asia to North America also will provide more reliability in manufacturing supply chains, Adler said. Mexico will play a larger role than it has in the past.

Economist and panel moderator Alan Beaulieu noted that manufactur-

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FABTECH Launches Campaign to Help Illinois Storm Victims

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DON'T MISS TODAY!

New Product Presentations

10:00 a.m. – 4:30 p.m.

FABTECH Theater, Grand Concourse

Solutions for a Qualified Workforce Pipeline

12:30 p.m.,

FABTECH Theater, Grand Concourse

Welding Wars Competition

9:30 a.m. – 4:45 p.m.,

Booth N2293

Professional Welders Competition

Awards, 11:00 a.m.,

Booth N2299

AWS 2013 Robotic Arc Welding Contest

Awards, 3:00 p.m.,

Booth N2099

Cocktails & Comedy

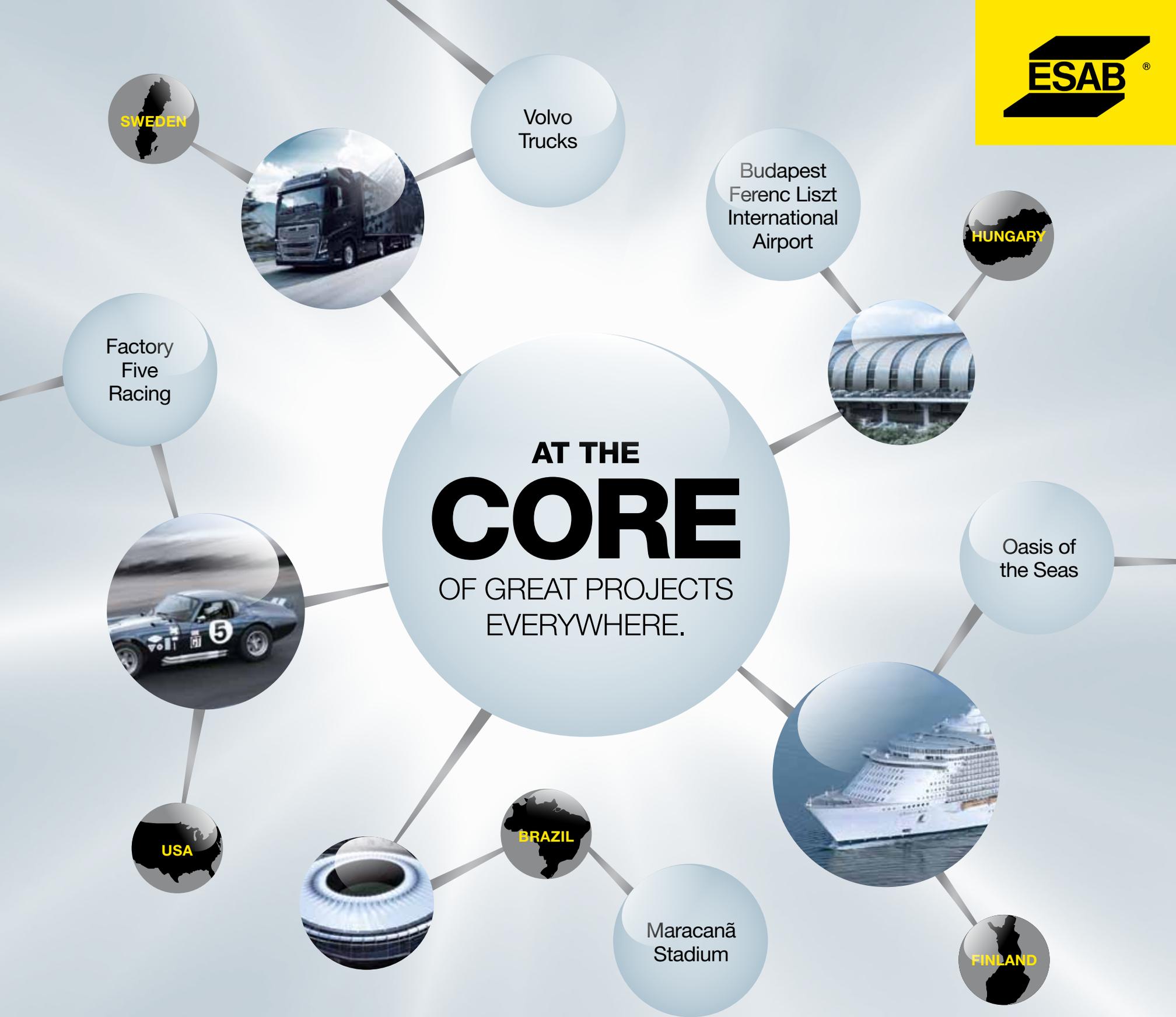
5:00 – 6:30 p.m.,

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

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FABTECH Attendees Look To New, Improved Technologies

Technology that drives higher productivity, consistent performance and shorter lead times continues to dominate conversations on the FABTECH show floor. Facing a continued skilled labor shortage, manufacturers and fabrication shops are looking for ways that would help them gain a leading edge.

more parts cheaper. They are fast and effective, and they are there every day. I can work them 24 hours a day if I have to. It looks like it will be about a two-year payback on the investment, so it's a no-brainer." Lasers and presses also are catching Lucas's attention. "The technology for presses has come a long way in the last few years," he said.



Rex Krumwiede, Design Engineer, Wagner Machine, Champaign, Ill.

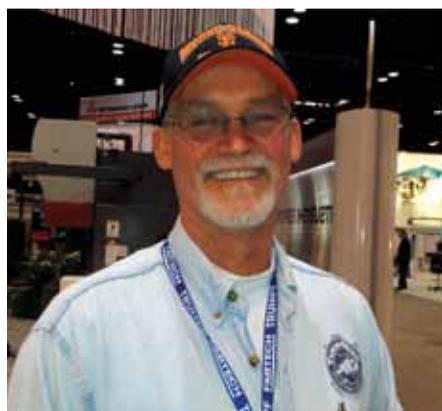
Researching automation offerings was one of the reasons to attend FABTECH for Rex Krumwiede, design engineer with Wagner Machine in Champaign, Ill. "We're looking to automate our machine cells," he said.

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Dan Luckey, Vice President Sales and Marketing, MS Metal Solutions, Grand Haven, Mich.

"Customers want a wider variety of products, in more finishes, in smaller quantities, and cheaper. We all have to find ways to meet those demands and still make a dollar," said Dan Luckey, vice president of sales and marketing for MS Metal Solutions in Grand Haven, Mich. Luckey perceives one of the fastest growing markets to be robotic automation. "Robot sales are up," he said. "We're seeing companies pursue different directions in multiple areas of manufacturing and assembly processes."



Greg Lucas, Plant Manager, Valley Chrome Planting, Inc., Clovis, Calif.

Technological advances, particularly in robotics, were also high on the priority list for Greg Lucas, plant manager for Valley Chrome Planting Inc. in Clovis, Calif. "I'm looking for technology I can use a year or two from now," he said, "but it has to be something that saves me money." Lucas already has spent around \$400,000 this year and expects a similar budget next year. He said, "Robots allow me to produce

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Robots Ignite Welding Wars On Show Floor

Sparks continue to fly at yesterday and today's welding competitions in the North Hall of McCormick Place. As students battle it out at the all new Welding Wars for a chance to take home some serious tools, entrants across the aisle are vying for free CRAW certification in the first-ever AWS Robotic Arc Welding Championship.



Eric Mikolajczyk, Troy Carpenter and David Ferris at Welding Wars

Welding Wars

"The worst thing you can do is not win. But if we won, it would be cool," said Eric Mikolajczyk, a 23-year-old competing in the Welding Wars along with his teammates and friends Troy Carpenter and David Ferris. The trio hails from Streator, Ill. and has studied at Illinois Valley Community College. "We studied the print before. We weld every day so it's no big deal."

Each team of three will fabricate a weldment on a supplied print using GTAW, GMAW and plasma cutting, with sheared and cut material provided, within a time limit of two hours. The projects are judged on the accuracy of print specifications, weld size, overall weldment appearance, craftsmanship, professionalism and safety. "We also watch how they work together," said Jim Greer of the American Welding Society (AWS), advising participants to check their

Jesse James (of TV's *Monster Garage* fame) style at the door. "If you're laughing and teasing, that's all good. That's how professionals work. But any temper problems will count against them." Single and group sign-ups are available. Winners will walk away with prizes from Tweco, Lincoln Electric, and ESAB.

Robotic Arc Welding Championship

Both skilled robotic welders and newbies are welcome at the new AWS Robotic Welding Championship. "This is an opportunity for anyone who wants to try their hand at welding with a robot to come in," said Kevin Summers, automation sales specialist with Miller Welding Automation. "There's no reason to be intimidated by automation. These robots are easier to program than your cell phone."

Participants get a crash course in robot programming and can apply their skills at welding a CRAW weld coupon from a print, as specified in AWS D16.4. "You move your robot to position with a Gameboy-like control and hit record," Summers said. "When you're done, the robot will repeat the path over and over."

The projects are then judged for accuracy of the weld length and profile, as well as the speed of work. Participants must also take a multiple-choice quiz. First prize will be free tuition for full certified robotic arc



Contestant Paul Buchholz with Basic American Medical Products uses a flashlight to examine his work.

welding (CRAW) training and the official exam.

"It's my first time at FABTECH, and when I saw this, I decided to see where I place," said Mathew Matuschka, a programmer with D&S Manufacturing in Black River Falls, Wis. Matuschka has been a programmer for eight years. "Any time we can, we try to put in a robot. It's the best way to make money."

The Robotic Welding Championship is taking place at **Booth N2099** and the Student Welding Wars at **Booth N2293**. Entry fee is \$10 per student. Winners will be announced this afternoon. ■

"FABTECH Attendees Look To New, Improved Technologies"

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"We're getting into five-axis machining, which is opening more doors for us and allows us to run those cells at night."

Three-dimensional (3D) printing is the biggest trend that's impacting attendee Nicholas Okruch, senior design engineer with GE Appliances in Louisville, Ky. "From the prototyping standpoint, it's the most important thing that has come along in a long time," he said. "It's not exactly a Star Trek replicator yet, but things that used to take weeks now take a couple of days." This allows the design team to take bigger creative risks which can ultimately lead to better products.

Okruch said, "They don't have to take that long cycle time of creating a tool. They can just try something and if it doesn't work, try it again. Producing a



Nicholas Okruch, Senior Design Engineer, GE Appliances, Louisville, Ky.

prototype overnight is not uncommon." Okruch is excited about the opportunities that 3D printing brings to just about any manufacturing process. "I consider it almost a field of dreams," he said. "If you have one [a printer,] engineers will figure out ways to use it." ■

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Bridging the Skills Gap: Lincoln Electric Takes a Stand on Education Initiatives

The manufacturing and industrial sectors face a people problem. They need more skilled workers, and they need them now.

Attracting, hiring and retaining qualified talent in the skilled labor pool challenges today's employers as they face a significant gap between their needs for talent to keep their businesses thriving and the qualified candidates available to them. As a 2011 study by Deloitte and the Manufacturing Institute notes, 600,000 jobs went unfilled that year, with the biggest shortage in skilled production jobs, including welders and operators. The survey's respondents also said they expected the gap to grow larger over a five-year period.

"The solution to finding the right people to fill these open positions immediately and keep them filled into the future," notes Carl Peters, Lincoln Electric's Director of Technical Training. "The question is, how do manufacturers attract this much-needed talent to the skilled trades?"

Peters says it's a matter of cultivating awareness on two levels – to those potential workers who are unemployed and also to today's youth, who will be the workforce of tomorrow. Lincoln Electric has made workforce development within the welding industry a primary focus for many years, Peters says.

Lincoln Electric's approach to train-



ing and development support focuses on all ages, embracing the concept of both directing young students on fulfilling career pathways and also supporting lifelong learning efforts.

"Over the years, we have recognized the challenges our industry faces in terms of quality, safety, productivity and the recruitment of qualified workers," Peters says. "We have responded with innovative programs and solutions that cross a variety of sectors from Career Technical Education programs at the high school level to community colleges to in-house training programs that



manufacturers run themselves. We even assist with military welding training initiatives. It's crucial to understand the many facets of the skills gap and how to bridge industry's needs."

From dedicated education programs with FFA and Boy Scouts of America to exciting new technology for welding classrooms and laboratories, including virtual reality arc welding training systems, robotic education cells, posters and DVDs, and even curriculum development and Teacher Observer and Train-the-Trainer programs, Lincoln Electric is making its mark in

education and training support initiatives industry-wide. The team under Peters also operates the Lincoln Electric Welding School, the first welding school established in the U.S. in 1917.

"Lincoln Electric has developed strong relationships throughout the welding sector and beyond," Peters notes. "When it comes to getting the latest information or welding-equipment technology into the hands of aspiring welders, or even experienced operators looking to enhance skills, we offer diverse solutions for career and technical education centers, colleges and workforce training initiatives. All of these comprehensive solutions provide full-scale welding industry experiences that can help a student go directly from the classroom to the real-world welding booth."

Peters says that Lincoln Electric strives to help the manufacturing industry eliminate the skilled-labor shortage and direct tomorrow's workers into lasting careers, but that no single company can do it alone.

"We at Lincoln Electric are committed to being a key player in bridging the skills gap today and into the future," Peters says. "We know other companies are doing the same. We need to work together to keep manufacturing jobs in the running as dynamic, exciting career options."

To learn more about Lincoln Electric's education offering, including the VRTEX® family of virtual reality welding training solutions, visit **Booth N1411.** ■

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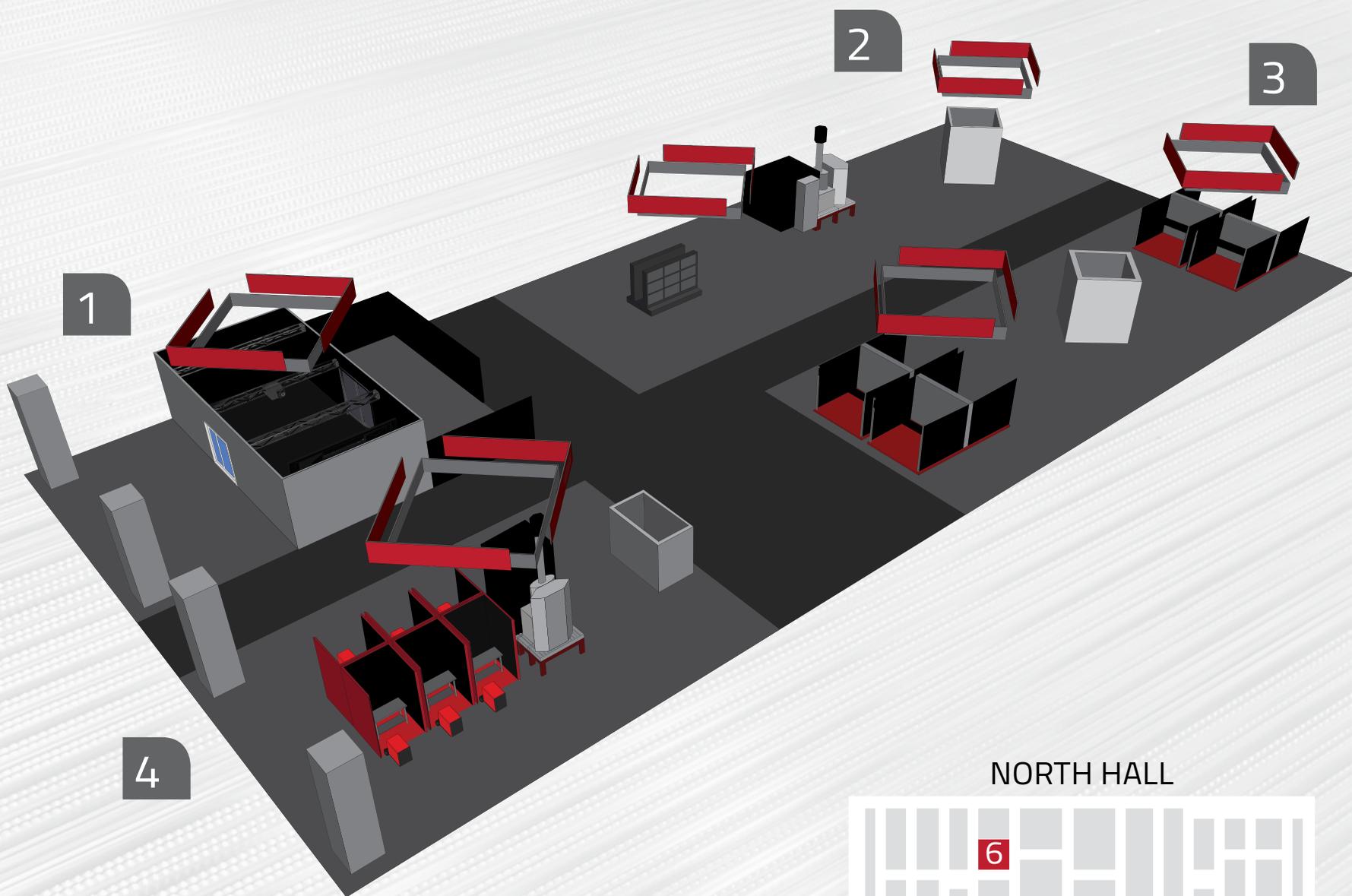
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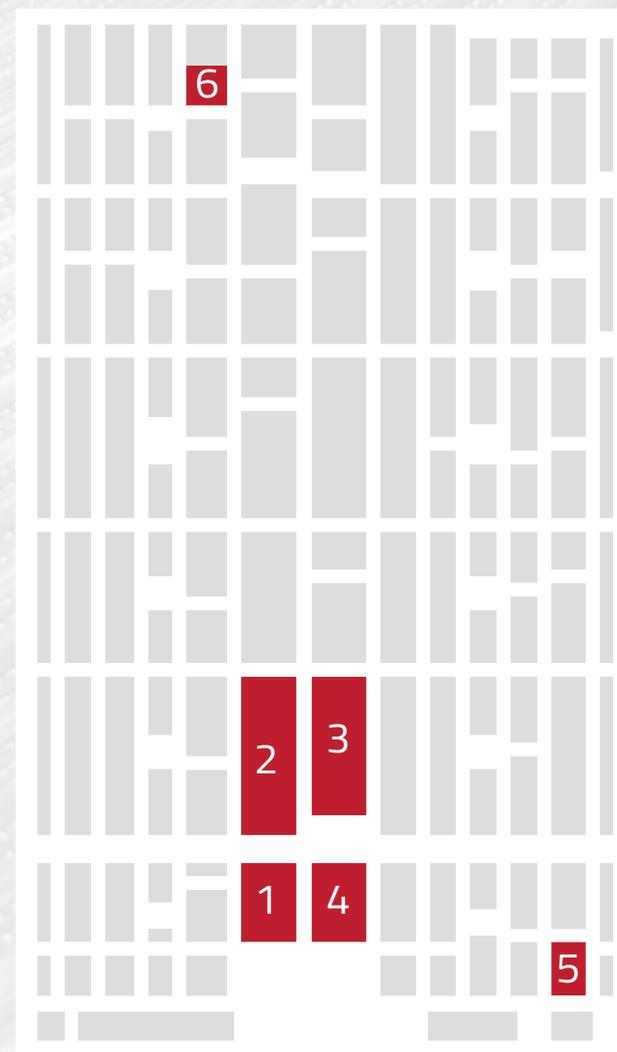


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Ardleigh Minerals, Inc. Provides One-Stop-Shop Recycling Services

Ardleigh Minerals, Inc. is a buyer and recycler of by-product, off specification, and obsolete materials from the aerospace industries and other operations that use thermal spray processes. Since its inception, Ardleigh Minerals has found its niche by providing one-stop-recycling services for these operations. All recyclable materials, all on one truck, all of the time.

The purchasing and recycling of

thermal spray powder, filters, and powder bottles are but some of the many commodities that Ardleigh Minerals manages for its customers. Ardleigh Enhanced Application Value is obtained by developing new and unique uses for these materials as raw materials in other industrial processes, closing the sustainability loop.

Ardleigh Minerals actively works with Federal and State environmental

regulatory agencies to clarify all issues related to characteristic hazardous wastes being classified as non-hazardous materials when recycled.

In addition, a number of Ardleigh customers have been able to achieve small generator status due to the comprehensive recycling programs developed by Ardleigh.

Ardleigh maintains corporate offices in Beachwood Ohio with facilities

throughout the United States.

FABTECH attendees can find out more about Ardleigh Minerals and the recycling services provided by stopping by **booth N417** in the North Hall. ■



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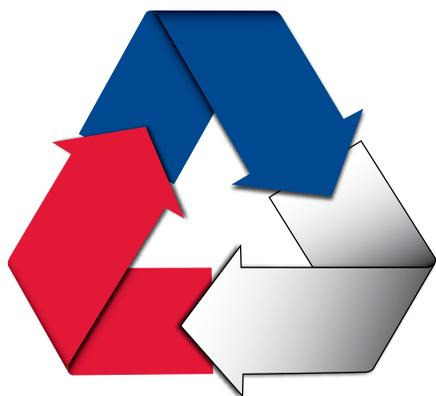
Kelly®, a leading employment provider, will be on-site at **booth N1299** and in the **North Hall lobby**. Representatives will be on-hand to speak with job seekers about career opportunities nationwide with manufacturers in top industries including automotive, aerospace, pharmaceuticals, petrochemical,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

Don't Miss Tonight's Networking Event!

Cocktails and Comedy

Doors open: 5:00 p.m.

Show: 5:30 p.m. – 6:30 p.m.

Location: FABTECH

Theater, Grand Concourse

Complimentary admission and beverage ticket included with show badge.

Connect with your peers and enjoy a night of laughs at the annual **FABTECH Cocktails and Comedy event**. The event features a veteran group of Chicago's elite short-form improvisers known for specializing in quick-witted, hilarious shows as seen at ComedySportz Theater, Second City, the Improvised Shakespeare Company, and more. The lively interaction between performers and the audience will have you falling out of your seat with laughter. **You won't want to miss it!** ■



Magswitch Innovation

For Magswitch, FABTECH is a great time to focus on the year ahead and catch up with business associates and friends in the global community. Not only does this event allow us to reconnect with those most involved with our products, it provides the opportunity to evaluate the competitive landscape in metal joining and fabrication.

At FABTECH you will get a first look at several innovative applications using Magswitch technology. In welding and fabrication, great partners like FANUC Robotics are taking our technology into new applications. Global OEMs like Lincoln Electric are using our magnetic grippers to save energy and increase efficiency. Our automation tools, released in the US two years ago by our great partner H.H. Barnum Company in Michigan, are today in testing or integration with every global automotive OEM.

We continue to develop our proprietary technology, exploiting the competitive advantages across our

welding, fabrication and automation tools and expanding globally into new markets. Our strategic R&D team is already commencing design of the next platform of Magswitch technology for each and industry due for release over the next 2 years.

It's great to see investments in new technology across the industry in NAFTA, restoring the competitive manufacturing capability in areas of cost and quality. From my perspective, it is important never to adopt a "banker mentality" in our business — the quarterly EBIT and bonuses remain important, but never at the long-term sacrifice of innovation and R&D. At Magswitch Technology, we employ more engineers (2:1) than sales staff, globally, including our factory employees close to 1 in 8 are engineers. They contribute to R&D, new product development, manufacturing design, quality standards through to customer solution delivery.

As countries join the "war for new jobs", R&D investment will grow

as a primary focus. This drives the future of our corporations, employment and economic stability. In 2013 we will finalize plans for a new facility dedicated to global R&D for Magswitch Technology, furthering our commitment to the development of tomorrow's solutions and continuing to "Change The Way Things Are Done".

At FABTECH you will see our new line of Heavy Lifters, including a two ton lifter that weighs less than 130 pounds and amazingly has capability to turn on and lift a 1/2 inch Steele sheet. The bigger we go with these lifters, the wider the performance gap against old technology lifters. Stay tuned for a four ton unit in 2014.

In December, we will introduce our first cable-free shallow field super heavy lifter. With a de-stack capability at 3mm and the ability to lift three

tons, this remote-operated tool is the solution the welding professionals have been anticipating. For the several thousand owners of our electric hand lifter, we are currently developing the next tools for this product range. We listened to your input and you will be very happy with what 2014 brings.

In addition to more innovative products, 2014 marks the introduction of the Magswitch Preferred Dealer Program, created to provide marketing and training opportunities to dealers who aim to be experts in all facets of the Magswitch product line.

We look forward to catching up. Please call me on +720475 6886 if we have not already touched base. ■

– David H. Morton
Magswitch group CEO

FABTECH Panel to Focus on Building an American Manufacturing Workforce for the Future

Workforce development is one of the key challenges manufacturers face to remain competitive in today's global economy. And although manufacturing jobs are good, well-paying jobs, manufacturers can't find workers with the skills needed for tens of thousands of available positions, and they are looking for answers. Solutions for a Qualified Workforce Pipeline will be held at 12:30 PM today, Wednesday, November 20 and will include leading manufacturing professionals who will discuss ways education, industry and government can work together to build and strengthen the future manufacturing workforce pipeline.

This can't-miss event for FABTECH attendees will feature industry innovators Stacey DelVecchio, manager of product development and global technology for Caterpillar; Joe Lampinen, director of engineering services APG at Kelly Services; Scott Mazzulla, vice president for planning and development — CWI at the Hobart Institute of Weld-

ing Technology; and Jeannine Kunz, director of training and development at SME. The panel will be moderated by Pam McDonough, president/CEO of the Alliance for Illinois Manufacturing/North Business & Industrial Council.

"We work to ensure that FABTECH features timely and relevant discussions every year, and there is no greater challenge facing workers today than workforce development issues," said show co-manager John Catalano. "The Solutions for a Qualified Workforce Pipeline panel will outline recommendations for developing employees of tomorrow to meet the skilled labor needs of today's manufacturers."

The workforce development panel and other panel discussions are free and open to all FABTECH 2013 attendees. Find a complete show schedule of Special Events at fabtechexpo.com/specialevents. ■

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Wheels of Fortune

Once a supplier to international companies, Florida manufacturer now makes and coats its own aftermarket wheels.

By Tim Pennington, Products Finishing

When Stiefel Aluminum, a smelter located just north of Tampa, Florida noticed it was shipping more and more aluminum to other parts of the world for production of aftermarket wheels, it also sensed a void in that manufacturing process here in the U.S.

When the company dug deeper, it discovered that 80% of the aftermarket wheel manufacturing business used to be done in the U.S., but now that 80% is done overseas, and often not very well.

In late 2012, that number led Stiefel to launch SB Manufacturing in Dade City, Fla., an operation that is now in full production with a goal of producing more than one million wheels per year. Besides die-casting, machining and heat-treating the wheels, SB also has complete powder and water-borne liquid finishing lines that enable it to be a completely vertically integrated manufacturer.

"We're going to be running 24 hours a day, seven days a week," says Phil Tolsma, finishing manager for SB. "Our business is really going to boom, because our customers were just really tired of buying overseas scrap."

More Than 100 Molds the First Month

In just the first month of full production, Tolsma says the company is in



The powder primer on the wheels is cured in an IR oven.

the process of producing more than 100 molds for aftermarket wheels, including a steady supply of Mazda and Nissan replica orders. More commercial customers are coming online every day, he says. Wheels are a

huge part of the aftermarket industry which has seen continued growth the past several years.

It is for this reason that Stiefel Aluminum began thinking several years ago about getting into the aftermarket

wheel industry, after having supplied other manufacturers with aluminum for decades.

The company created SB Manufacturing and researched several sites for a plant location, including in Ohio, Kentucky and Florida. SB was able to work out a suitable agreement with officials in Dade City to take over a building that formerly housed an orange juice manufacturer.

Lured by Incentives

The city actively went after SB and approved an incentive plan from the Florida Qualified Target Industry tax refund program. The company also was the first business locating in Pasco County to receive its Brownfield Job Creation Bonus. These performance-based state incentives mean that the refunds are awarded after job requirements have been met. William Kelley, SB general manager, said about 75 workers will eventually be employed at the plant.

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FABTECH Bistro

Hungry?

Located in Room S103 and on the show floor in the North Hall, the FABTECH Bistro offers assorted menu options including fresh and healthy lunch options, international cuisine and regional favorites — all at a reasonable price. Purchase lunch tickets at booth N1101 in the Grand Concourse lobby, or for more information call (312) 791-6810. ■

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This new series features advanced automation and tool change options to meet virtually any production need.



LCG 3015 AJ

(Two) Fiber laser systems — The LCG features automated load/unload and the leading-edge ENSIS model is equipped to cut thicker materials



HD 1003 ATC

Hybrid Drive press brake with Automatic Tool Changer (ATC)



FLCAJ 4020

High-speed, high-precision fiber laser



EG 6013

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A Special Dog Visits FABTECH

This year FABTECH has a very special visitor who is unfamiliar with fabricating, but possesses very fine observation powers – Fenix, a guide dog in training by Eric Loori of Freedom Guide Dogs. Mr. Loori provides trained guide dogs that would normally cost a person up to

\$50,000 on average, to the blind, visually impaired and with other disabilities at no cost. To date, he has placed over 300 dogs. But it's not enough. You might say Eric is like a dog on a bone, stubborn to yield in his quest to place more dogs and help more people.

Founded in 1992 by husband and wife team Eric and Sharon Loori, Freedom Guide Dogs is a 501 (c)3 non-profit organization based in Upstate New York, which breeds, raises, trains and places guide dogs with the blind and visually impaired through a



Sgt. Eric Martz and Deacon, his Freedom guide dog.

distinctive program called Hometown Training™.

Traditional guide dog schools use a facility-based method of training where the blind person must go to the school for a 3-4 week period to train with a guide dog. In contrast, Hometown Training™ brings a trained guide dog directly to the blind person's home where experienced trainers work with them for 2-3 weeks in their own familiar environment. Freedom Guide Dogs provides this all at no cost to the client.

The Freedom Guide Dogs For Veterans Program, also a huge pet project of Eric's, recognizes, appreciates and supports the service and sacrifices of all service members past and present. "In recognition of those who have fought for our freedom, Freedom Guide Dogs will place a guide dog at no cost, anywhere in the continental United States with a veteran who has lost vision in the line of duty," said Mr. Loori.

Freedom Guide Dogs brought a well-trained guide dog named Deacon to Sgt. Eric Martz at his home in North Dakota. Before losing his sight in a road-side bomb explosion, Sgt. Eric Martz served with the National Guard in Iraq. "In the Army we train with a buddy, you entrust your life with that soldier. Deacon is my new battle buddy. I put my life in his hands getting around town," commented Sgt. Martz.

Over the past few years Freedom Guide Dogs has grown with the help and generosity of dedicated supporters, but funding is an ever-present

continued on page 20

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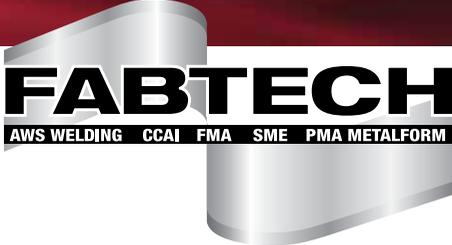
WEDNESDAY, NOVEMBER 20

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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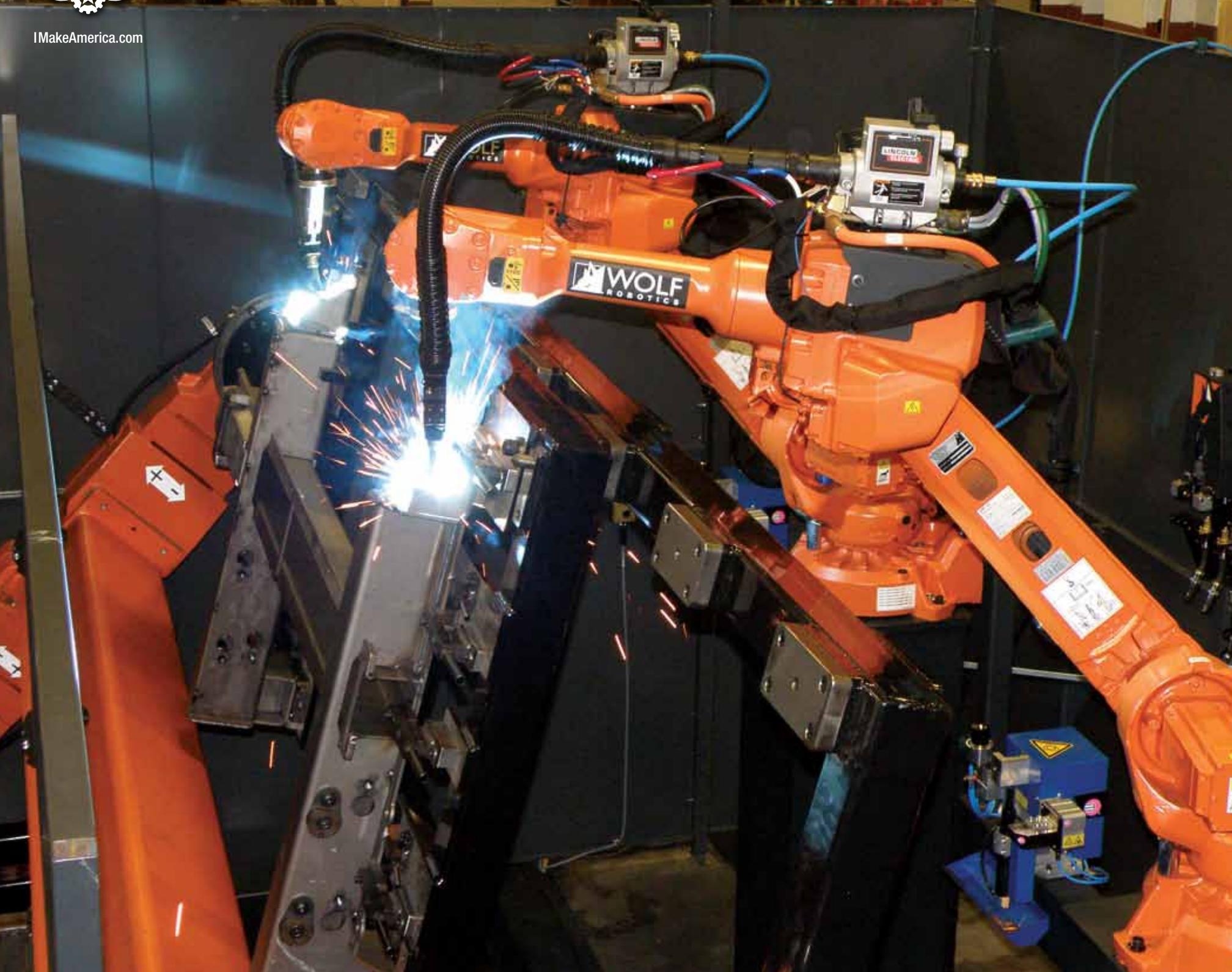


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“Wheels of Fortune” continued from page 10

After working out the details of the new facility—which is comprised of three 78,000-square-foot rooms that will house machining, finishing and warehousing/packaging—Tolsma was brought in to set up the finishing operations. A 30-year veteran of the finishing industry, Tolsma’s prior experience was coating ammunitions, so

the aftermarket wheel sector was new ground for him. His first order of business was to purchase a used finishing line from a wheel manufacturer previously located in Ohio. That line was then taken apart and shipped to Florida where Tolsma’s crew re-assembled it and upgraded a few of its fixtures.

Improving the Finishing Line

“There definitely was some work that needed to be done on the line,” Tolsma says. “It was built in the early 2000s, but it was originally installed in Michigan and ran for five years, then torn down and moved to Ohio.”

The finishing line—which actually had been three separate 1,000-foot lines—had been idle since 2009, so



Wheels receive a liquid paint from a rotary bell.

Tolsma had to replace some pumps and filters to get it operational again. He then reassembled it into a line that is just over 2,000 feet in length, which required new drive motors for the system.

When it came to the spray equipment, SB called on Finishing Brands of Toledo, Ohio, to install all new parts. The new installation includes products such as DeVilbiss, Ransburg, BGK and Binks spray-finishing, fluid-handling and electrostatic-spray equipment.

Starting with Scrap

The SB manufacturing process starts with the melting of scrap aluminum, and then the liquid metal is transferred and injected into four, low-pressure die-cast molding machines. After flash is removed from the castings and inspected, the castings are heat-treated, machined and sent into a 12-stage wash operation set up by Chemetall to enhance performance.

According to Tolsma, the eight-hour wash process was developed to replace hexavalent chrome technology for pre-paint aluminum preparation. He says it leaves a colorless, non-staining film that performs well with both full-painted and machine-faced wheels. Tolsma says SB chose the Chemetall process because it is a “green” process that has been in use since 2002 on more than 100 million wheels with equivalent or better field performance than hex-chrome technology for pre-paint aluminum preparation.

Powder and Liquid Finishing

The finishing process starts with an Akzo Nobel epoxy powder coating, followed by a liquid topcoat and then an acrylic powder clear coat. The wheels are run through the 2,000-foot line at 4 feet per minute and conveyed to a powder primer application using four automatic guns mounted on vertical reciprocators. This is followed by

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continued on page 19

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Conference-At-A-Glance

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WEDNESDAY, NOVEMBER 20

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! Innovations in Powder Coating Application Equipment A Room S403b	C80: FINISHING ESSENTIALS: Manual Powder Coating B Room S403b	C90: Cost Saving Measures for Powder Coating A Room S403b
	C71: NEW! Innovations in Pretreatment A Room S404a	C81: Efficient Curing With Infrared for Industrial Finishing B Room S404a	C91: NEW! FINISHING ESSENTIALS: Impacting Our Environment A Room S404a
	C72: NEW! Innovations in Mechanical Finishing A Room S404d	C82: NEW! Improving Transfer Efficiency in Liquid Finishing Operations I Room S404d	C92: NEW! Is Powder Over E-Coat Right for You? I Room S404d
STAMPING	S70: NEW! Regulatory Compliance I Room S405a	S80: NEW! Traceability and Production Efficiency B Room S405a	S90: NEW! Game Changing Technology to Increase Productivity I Room S405a
CUTTING	F70: NEW! Innovations in Plasma Cutting I Room S402b	F80: Comparative Cutting with Tech Tour B Room S402b	
LASERS			F90: NEW! Laser Joining Considerations with Tech Tour I Room S402b
FORMING & FABRICATING	F71: NEW! Press Brakes for Operators I Room S402a	F81: NEW! Press Brakes for Engineers A Room S402a	F91: NEW! Punch Press Technology with Tech Tour B Room S402a
JOB SHOP SOLUTIONS	F72: NEW! Business Solutions to Streamline Your Job Shop I Room S401a	F82: Plate Fabrication B Room S401a	
AUTOMATION & ROBOTICS	F73: Automation: Robotic Material Handling for Lean High Mix/Low Volume Shop B Room S405b		
LEAN	F74: NEW! Lean Tools: Quick Changeover and TPM I Room S401d	F84: NEW! Lean Tools: 5S Workplace Organization and Standardization B Room S401d	F94: NEW! Lean Facility: Operating for Increased Profitability I Room S401d
MANAGEMENT	F75: Marketing for Fabricators I Room S403a	F85: NEW! Achieve Your Sales Goals B Room S403a	F95: NEW! Grow Your Business Using the Web and Social Media I Room S403a
	F76: NEW! Workforce: Preparing Next Gen Leaders I Room S404bc	F86: NEW! Workforce: Boost Performance Through Employee Engagement I Room S404bc	
TUBE & PIPE			F97: NEW! Principles of Tube Bending B Room S405b
WELDING			
SEMINARS	W17: Welding of Stainless Steel - Avoiding Weld Defects • Room N138		8:30 a.m. – 4:30 p.m.
	W20: Advanced Visual Inspection Workshop • Room N230b		8:30 a.m. – 4:30 p.m.
	W19: ASME Section IX, B31.1 & B31.3 Code Clinic – Day 2 • Room N230a		8:30 a.m. – 4:30 p.m.
	W21: Build it Better – Day 1 • Room N134		8:30 a.m. – 4:30 p.m.
CONFERENCES	W24: So You're the New Welding Engineer – Day 2 • Room N227b		8:00 a.m. – 5:00 p.m.
	W25: Thermal Spray Basics FREE • Room N127		1:00 p.m. – 4:00 p.m.
RWMA SCHOOL	W27: RWMA Resistance Welding School – Day 1 • Room N227a		
PROFESSIONAL PROGRAM	W30: Session 9: High Energy Density Welding Processes • Room N139		8:00 a.m. – 11:00 a.m.
	Session 10: Applied Technology II • Room N140		8:00 a.m. – 11:00 a.m.
	Session 11: Welding Metallurgy II • Room N139		1:30 p.m. – 5:30 p.m.
	Session 12: Arc Welding Processes • Room N140		1:30 p.m. – 6:00 p.m.
	Session 13: Solid-State Welding Processes • Room N135		1:30 p.m. – 6:00 p.m.
EDUCATIONAL SESSIONS	W36: AWS Educational Sessions • Room N131		
SPECIAL PROGRAMS	W41: AWS Prayer Breakfast • Room N137		7:00 a.m. – 8:30 a.m.
	AWS Professional Welders Competition – Award Announcement • North Hall, Booth N2299		11:00 a.m. – 11:30 a.m.
	Welding Wars Competition – Day 2 • North Hall, Booth N2293		9:00 a.m. – 5:00 p.m.

“Wheels of Fortune” continued from page 16

a trip through a 20-foot IR oven that has three separate lines.

“The oven not only cures the powder primer, but it does double-duty to age-harden the wheels to the correct hardness,” Jacobsen says.

When the primer is cured, the wheels move into a new water-based liquid finishing operation supplied by Finishing Brands that features a Ransburg Aerobell high-speed rotary atomizer mounted on a short-stroke reciprocator that can operate to speeds as fast as 60,000 rpm. Jacobsen says the rotary bell produces a very fine atomization and transfer efficiency of 90+ percent, which he says virtually eliminates overspray.

A Ransburg Control Pac is used to control the high-voltage, shape-air turbine speed and digital outputs to trigger the bell, and a PLC system is used for automatic part tracking and triggering of the applicators. The fluid flow and automatic color change is controlled by a single-channel Ransburg flow metering system with a fiber optic flow meter. This system is designed to precisely deliver the correct amount of paint, and automatically changes and flushes the system when the recipe changes.

That’s important, because SB uses numerous colors and hues. More than 100 different recipes can be loaded into the system and accessed remotely near the spray station, or at the main control panel which also operates the IR curing modules located inside the convection oven. All facets of the recipe, including flow rate, atomization air, bell speed, etc., are accessible from the control panel. The voltage isolation for the waterborne coating being sprayed is provided by a Ransburg Aquablock 2 system.

Two Binks stationary, pneumatically-controlled automatic spray guns provide a focus spray in the recessed area of the wheel, while three Binks pumping systems supply material to Ransburg color-change stacks set up for six-color operation. The three pumping systems include a wall-mounted diaphragm pump with 55-gallon pickup tube, a back pressure regulator, and the necessary tubing and fittings.

Final Clear Powder

The now-liquid-coated wheels are then conveyed into the second lane of the gas convection oven prior to a final clear powder-coating operation using four powder-coating guns. SB also installed

BGK IR heater panels to provide the initial stage of the final curing process in the gas convection oven to set the acrylic clear coat and prevent possible contamination of the liquid finish.

When the wheels roll off the finish line, they will be sold here in the U.S. as well as overseas in Italy, Japan and

other countries that have a high use for aftermarket products.

“It was a real luxury to be able to build the system from scratch and get some very high-quality suppliers in to help us get the line functioning properly,” Tolsma says. “We’ll do well in this market because we have qual-

ity wheels, and customers will know it from the first time they see the fit and finish.” ■

Products Finishing is the official publication of CCAI. This article appeared in the October 2013 issue.



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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.



“Special Dog Visits FABTECH: Freedom Guide Dogs”

continued from page 12

challenge. Freedom receives its funding through foundations, organizations, corporations and individuals. You can make a donation to Freedom Guide Dogs on their website at <http://freedomguidedogs.org>. In addition, a person or business can become a member of the 365 Club if they donate \$365 to Freedom Guide Dogs to support the cost of guide dog equipment for one guide dog placement.



Fenix, a Freedom guide dog in training.

Freedom Partnering

With program growth, there comes a need for financial growth. Corporate funding gives Freedom the stability for continued growth in their specialized Hometown Training™ program. By working with Freedom Guide Dogs to create a custom, affordable partnership, a corporate sponsorship can provide the opportunity to communicate your company's appreciation and support of a great cause.

Freedom Guide Dogs fundraiser partner opportunities are also available to help carry out its mission. A Freedom fundraiser partner will have the opportunity to aid in Freedom's growth and development while receiving branding rights to all of Freedom's merchandise, vehicles, facilities and more.

Stop by Freedom Guide Dogs' FABTECH display at the show entrance to meet Fenix and Mr. Loori or to learn more about how you can help. ■

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“U.S. Mfg. Gains Invigorate Industry”

continued from page 1

ing has risen to 11.9% of U.S. Gross Domestic Product, up from its low of 11%. While this increase is a welcome sign, it will cause some growing pains.

One concern among all panelists was the recruitment and retention of skilled laborers. Despite using a lot of automation, Adler’s company looks for job candidates that have partial college educations in Engineering. There has to be some skill level, he said. Those people who are willing to learn and are trainable are more valuable to us.

Oravitz taps younger employees within MetoKote who can work their way through the organization. He finds that more effective than recruiting talent from the outside.

All agreed that it’s up to U.S. manufacturers to do a better job explaining there are tremendous career opportunities within the industry, citing the need to educate parents, kids, and teachers that today’s factories are worlds apart from those of only a few decades ago.

Political and economic uncertainties could dampen the fragile recovery gains made in manufacturing. “Those kind of uncertainties make it difficult to decide to buy new machinery or start on new buildings,” Oravitz said.

While the Affordable Care Act will have a huge affect on the economy, Beaulieu said, it won’t be as deep as past tax increases enacted by Harry Truman, George H. W. Bush, and Ronald Reagan. “It will take time to adjust to this,” he said, “But it won’t be the end of manufacturing and growth of the country.”

When asked about 3D printing by an audience member, none saw its increased use as threats to high-volume manufacturing applications. If anything, Adler and Oravitz agreed, it will be extremely beneficial for prototyping and tooling uses.

More than half of the audience members raised their hands when asked if they felt positively about the future of manufacturing in the United States, a positive sign that indicates a hopefully continued trend. ■



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“Fighter Pilot Strategies Offer Soaring Potential for Manufacturers”

continued from page 1

were looking outside for each other about 90 percent of the time.

“If you lose sight, you lose the fight,” Kartvedt said. The analogy repeated itself several times throughout the energized presentation. Not losing sight of a mission and its objectives was paramount to success he said, adding that rarely does a mission go as planned. Kartvedt emphasized the four pillars that support a mission’s success: planning, briefing, execution, and debriefing. Those factors were involved in every one of the 4,300 hours he spent flying with the U.S. Navy.

Bringing the right people in during the planning stage is essential. Kartvedt told of a past client who had a project that included its offshore call center. When Kartvedt and Afterburner asked the client to include staff from the call center during the project’s planning stages, the client said that wasn’t necessary. They finally included the call center employees and found their input invaluable. Not only is including the right people during the planning stages vital, but so is getting their buy-in.

Other important stages of planning were: having a clear mission objective; identifying both internal and external threats; identifying available and required resources like training, leadership, technologies, and fiscal resources; evaluating lessons learned from



past experiences, developing a course of action and tactics; and finally, planning for contingencies like “what if?” scenarios.

Kartvedt stressed not getting hung up on one thing, what he likes to call channelized attention. He used the real-life example of a commercial airline accident where the pilot, copilot, and navigator were so consumed with trying to fix a faulty bulb on the instrument panel they were unaware that they had disengaged the plane’s auto pilot, an oversight that resulted in a fatal crash for all on board.

This is where briefing comes into play. Communication is vital once a

plan has been formed. Distractions, especially in our age of advanced technology, make losing sight of the project, which was flying the plane in the previous example, so much easier.

The actual carrying out of a project or mission is the execution stage. Kartvedt suggested constant mutual support, cross checks, checklists, and most importantly, communication, during this phase. He likened project execution to a fighter jet’s instrument panel. While keeping the plane aloft is the primary goal during flight, other readings can’t be ignored, like speed, altitude, fuel supply, etc.... While businesses may have revenue as their main



George Schaeffer, left, won a raffle prize of one day of Afterburner training.

objective of a “mission,” they also must look at “gauges on the instrument panel” like costs, labor, efficiencies, sales, customer service, and innovation.

Execution isn’t a project or mission’s endpoint, Kartvedt said. Debriefing is a fantastic opportunity to learn how to do things better the next time around. This also can be an area where the ego can be detrimental. He cited a personal example of how he felt singled out by his Blue Angels superiors during a post-flight debriefing. He admitted his flying that day was subpar, but he also observed oversights committed by other pilots. When he told his bosses that he wasn’t alone in flying poorly that day, he was reminded that the criticism “wasn’t personal, it was professional.

“I learned then it wasn’t about who was right, but what was right,” Kartvedt said. “When you move beyond that, it’s amazing how your organization can grow.”

The importance of debriefing can’t be overlooked, he stressed.

The presentation concluded with a raffle. The winner, George Schaeffer of Schaeffer Industries in Mira Loma, Calif., will have a team of Afterburner experts consult with his company onsite. Visit www.afterburner.com to learn more about available flawless execution tools. ■



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